

DRAFT PROGRAM EIR
FOR THE SIX BASINS STRATEGIC PLAN
(State Clearinghouse No. 2018091020)
Volume 1

Prepared for:

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List of Abbreviations and Acronyms

Acronym	Definition
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
1,1,1-TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene
1,2,3-TCP	1,2,3-trichloropropane
6BWM	Six Basins Watermaster
AB	Assembly Bill
acre-ft	acre feet
acre-ft/yr	acre feet per year
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plans
ALUC	Airport Land Use Commission
ANSI	American National Standards Institute
AOA	air operations area
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
BACM	best available control measures
BACT	best available control technology
BAU	business as usual
bgs	below ground surface
BLM	Bureau of Land Management's
BMP	best management practices
BOUW	burrowing owl
C2F6	hexafluoroethane
C2H3Cl	vinyl chloride
C2H6	ethane
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAC	California Administrative Code
CAGN	California gnatcatcher
CalARP	California Accidental Release Response Plan
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAO	Cleanup and Abatement Order
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code

Acronym	Definition
CBWM	Chino Basin Watermaster
CCAA	California Clean Air Act
CCR	California Code of Regulations
C&D	construction and demolition
CDA	Chino Basin Desalter Authority
CDFG	California Department of Fish and Game Code
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality's
CEQA	California Environmental Quality Act
CEQA Plus	NEPA-like State Environmental Review Process
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES	CalEnviroScreen
CESA	California Endangered Species Act
CF4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC	California Fire Code (Section 4.8)
CFC-113	Trichlorotrifluoethane
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH4	Methane
CHRIS	California Historic Resources Inventory System
CHWP	Claremont Hills Wilderness Park
CTMP	Construction Traffic Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon monoxide
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
COHb	Carboxyhemoglobin
COPCs	constituents of potential concern
CPD	Claremont Police Department
CPUC	California Public Utilities Commission
Cr-6	Chromium-6
CRA	Colorado River Aqueduct
CRHR	California Register of Historical Resources
CSDLAC	County Sanitation Districts of Los Angeles County
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVP	Central Valley Project

Acronym	Definition
CVWD	Cucamonga Valley Water District
CWA	federal Clean Water Act
CWC	California Water Code
CWM	Conjunctive Water Management
CWSRF	Clean Water State Revolving Fund
CY	calendar year
dB	decibel
dBA	A-weighted decibels
DDW	California Department of Drinking Water
DIPAW	deep infiltration of precipitation and applied water
DLR	detection limit for reporting
DMA	Disaster Mitigation Act (2000)
DMV	California Department of Motor Vehicles
DOE	Federal Department of Energy
DOT	Federal Department of Transportation
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIA	California Energy Information Administration
EIR	Environmental Impact Report
EJ	Environmental Justice
EMFAC	Emissions Factor Model
EO	Executive Order
EPA	US Environmental Protection Agency
ERU	SWRCB Environmental Review Unit
ESA	Federal Endangered Species Act (Section 4.4 Biological Resources)
ESA	Phase I Environmental Site Assessment (Section 4.8, Hazards)
F	Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHA	Fire Hazard Abatement
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
ft-bgs	feet below ground surface
ft-msl	feet above mean sea level
GAC	granular activated carbon
GCC	Global Climate Change
GDE	Groundwater Dependent Ecosystems
GHG	greenhouse gas
GM	Gravel mine

Acronym	Definition
gpm	gallons per minute
GSWC	Golden State Water Company
GWh	gigawatt hour
GWP	Global Warming Potential
H ₂ O	water
H ₂ S	hydrogen sulfide
HDT	heavy duty truck
HFC	hydrofluorocarbons
HFC-23	fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
hhd	heavy-heavy duty truck
HHMD	LA County Fire Department Health and Hazardous Materials Division
HMBEP	Hazardous Materials Business Emergency Plan
hp	horse power
IBC	International Building Code
IEPA	California Integrated Energy Policy Report
IEUA	Inland Empire Utilities Agency
INCE	Institute of Noise Control Engineering
InSAR	Interferometric Synthetic Aperture Radar
IPR	indirect potable reuse
ISTEA	Intermodal Surface Transportation Efficiency Act
IX	ion exchange
Judgment	Six Basins Stipulated Judgment
kg	kilogram
kWh	kilowatt hours
LA	Los Angeles
LACDWP	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation District
LARWQCB	Regional Water Quality Control Board – Los Angeles Region
lbs	pounds
lbs/day	pounds per day
LCA	Life-cycle Analysis
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LCHB	Lower Claremont Heights Basin
LDA	light-duty auto
Leq	equivalent continuous (average) sound level
LHD	light-heavy duty vehicle
Lmax	maximum level measured over the time interval
Lmin	minimum level measured over the time interval

Acronym	Definition
LOSG	Live Oak Spreading Grounds
LST	Localized Significance Thresholds
LUST	leaking underground storage tank
LULUCF	Land Use, Land Use Category, and Forestry
LVFD	La Verne Fire Department
LVPD	La Verne Police Department
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
MDT	medium duty truck
meq/L	milliequivalents per liter
mg/L	milligrams per liter
mg	million gallons
mgd	million gallons per day
MHD	medium-heavy duty truck
MLD	Most likely Descendent
MMTCO _{2e}	million metric ton of carbon dioxide equivalent per year
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MTCO _{2e}	metric tons of carbon dioxide equivalent
MTCO _{2e} /yr	metric tons of carbon dioxide equivalent per year
mt/yr	Million tons per year
MW	megawatts
MWh	megawatts per hour
MWDSC	Metropolitan Water District of Southern California
MWEL0	California Department of Water Resources Model Water Efficient
N ₂	nitrogen
N ₂ O	nitrous oxide
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NF ₃	nitrogen trifluoride
NHMP	Natural Hazards Mitigation Plan
NHPA	National Historic Preservation Act
NHRA	National Hot rod Association
NIOSH	National institute for Occupational Safety and Health
NL	Notification Level
NO	nitrous oxide
NO ₂	nitrogen dioxide
NO _x	Nitrogen oxides

Acronym	Definition
NOA	Notice of Availability
NOC	Notice of Completion
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTSB	National Transportation Safety Board
NTU	Nephelometric Turbidity Units
O ₂	oxygen
O ₃	ozone
OBMP	Optimum Basin Management Program
OEHHA	Office of Environmental Health Hazard Assessment
OES	Governor's Office of Emergency Services
OHWM	Ordinary High Water Mark
ORC	Occidental Research Corporation
OSFM	Office of the State Fire Marshal
OSY	Operating Safe Yield
Pb	lead
P-C	Production-Consumption Region
PCB	polychlorinated biphenyls
PCE	Tetrachloroethene (Chapter 2, Existing Conditions, Chapter 3, Project Description)
PCE	Primary Constituent Level (Section 4.8, Hazards)
PCE	passenger car equivalent (Section 4.14, Transportation)
PFC	perfluorocarbons
PFYC	Potential Fossil Yield Classification
PID	Project Identification
PM _{2.5}	particulate matter 2.5 microns in diameter or less
PM ₁₀	particulate matter 10 microns in diameter or less
ppb	parts per billion
PPD	Pomona Police Department
ppm	parts per million
ppt	parts per trillion
ppv	peak particle velocity
PRC	Public Resources Code
PSG	Pedley Spreading Grounds
PV	photovoltaic
PVPA	Pomona Valley Protective Association
RAFSS	Riversidian Alluvial Fan Sage Scrub
RCRA	Federal Resource Conservation and Recovery Act
RMP	Risk Management Plan
rms	root mean square
ROG	reactive organic gases

Acronym	Definition
RPW	Relatively Permanent Water
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWMP	Recycled Water Management Plan
RWQCB	Regional Water Quality Control Board
SARWQCB	Regional Water Quality Control Board – Santa Ana River Region
SASG	San Antonio Spreading Grounds
SAWCo	San Antonio Water Company
SB	Senate Bill
SBCFCD	San Bernardino County Flood Control District
SBCFD	San Bernardino Fire Department
SBCSD	San Bernardino County Sheriff’s Department
SBKR	San Bernardino kangaroo rat
SCAB	South Coast Air Bason (Air Basin)
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SENEL	single event noise exposure level
SERP	State Environmental Review Process
sf	square feet
SF6	sulfur hexaflouride
SFWA	federal Safe Drinking Water Act
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SMBMI	San Manuel Band of Mission Indians
SMCL	secondary maximum contaminant level
SMGB	State Mining and Geology Board
SO2	sulfur dioxide
SO4	sulfates
SOx	sulfur oxides
SP	service population
SPCCP	Spill Prevention Control and Countermeasure Plan
SR	State Route
SRA	Source Receptor Area (Section 4.3, Air Quality, GHG)
SRA	State Responsibility Area (Section 4.8, Hazards)
SSC	Species of special concern
SWANCC	Solid Waste Agency of Northern Cook County
SWIS	Solid Waste Information System
SWMP	Stormwater Management Plan
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan

Acronym	Definition
SWRCB	State Water Resources Control Board
TEA-21	Transportation Equity Act for the 21 st Century
TCE	trichloroethylene
TCR	Tribal Cultural Resources
TCSG	Thompson Creek Spreading Grounds
TDS	Total Dissolved Solids
TMDL	total maximum daily load
TNW	Traditional Navigable Water
TS	Temporary Surplus
TVMWD	Three Valleys Municipal Water District
UBC	Uniform Building Code
UCHB	Upper Claremont Heights Basin
UNFCC	United Nations' Framework Convention on Climate Change
UPD	Upland Police Department
USACE	US Army Corps of Engineers
USDA	US department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
VdB	vibration decibels
vmt	vehicle miles traveled
VOC	volatile organic compound
WDR	Waste Discharge Requirements
WECWC	West End Consolidated Water Company
WFA	Water Facilities Authority
WRP	water reclamation plant
WQMP	Water Quality Management Plan
WSE	water surface elevation
WTP	water treatment plant
WY	water year
ZE/NZE	zero and near-zero emissions
ZEV	zero emission vehicle

ES Executive Summary

ES.1 Introduction

This chapter has been prepared pursuant to Section 15123 of the California Environmental Quality Act (CEQA) Guidelines, which states that an EIR Summary shall: 1) contain a brief summary of the proposed action; 2) identify each significant effect with proposed mitigation measures that would reduce or avoid that effect; 3) identify alternatives that were designed to reduce or avoid identified significant effects; 4) identify areas of controversy known to the Lead Agency including issues raised by agencies and the public; and 5), identify issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

This Draft EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168, *Program EIR*, to evaluate the potential environmental effects of the implementation of a long-term regional plan to increase groundwater recharge, increase water storage and decrease the reliance on State supplied water within a portion of the eastern San Gabriel Valley known as the Six Basins. The *Strategic Plan for the Six Basins* (Strategic Plan) is being proposed by the Six Basins Watermaster (Watermaster). Figure ES-1, *Water Purveyors*, shows (1) the geographic location of the Six Basins project area within the larger region; (2) the approximate boundaries of the individual basins that make up the Six Basins project area; (3) the water purveyors supplying water in the region, and (4) the generalized corporate boundaries of the four cities that overlie the Six Basins and are Watermaster Parties.

Water extracted from the Six Basins is a significant source of supply for the purveyors that serve the overlying area and surrounding regions. These purveyors include the cities of La Verne, Pomona, and Upland, the Golden State Water Company (GSWC), Pomona College, the San Antonio Water Company (SAWCo), the Three Valleys Municipal Water District (TVMWD), and the West End Consolidated Water Company (WECWC). To meet the water demands of their service areas, these agencies also rely on surface water from San Antonio and Evey Canyons; groundwater from the Chino, Cucamonga, and Spadra Groundwater Basins; and State Water Project (SWP) and Colorado River Aqueduct (CRA) water imported by the TVMWD and the Inland Empire Utilities Agency (IEUA).

The Watermaster is a public partnership of water suppliers, mutual water companies, and four cities in the eastern San Gabriel Valley who have adjudicated water rights and common goals for sustainable water management within six groundwater basins in their service area. Because the Watermaster is made up of multiple parties and not a single agency, the Three Valleys Municipal Water District (TVMWD), a member agency, is acting as the CEQA Lead Agency for the preparation of this Program EIR.

Section 15168 defines a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- (1) Geographically,
- (2) A logical part in the chain of contemplated actions;
- (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Further, Section 15168 summarizes the advantages of preparing/using a program EIR because it can:

- (1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
- (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis;
- (3) Avoid duplicative reconsideration of basic policy considerations;
- (4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and
- (5) Allow reduction in paperwork.

Preparation of a Program EIR is appropriate for the environmental evaluation of the Strategic Plan because is being proposed by the Six Basins Watermaster made up of a discreet number of cities, water agencies, and wholesale water companies that together manager the groundwater recharge and production within the Six Basins project area. The proposed projects are related geographically and are considered to be logical parts in the chain of contemplated actions to provide a more reliable and sustainable local groundwater supply/distribution system within the Six Basins project area.

In addition, the Program EIR has been prepared as a CEQA-Plus document to meet the requirements of the State Water Resources Control Board (SWRCB) for the approval of projects under the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF is administered by SWRCB and partially funded by the US Environmental Protection Agency (USEPA). The purpose of the CWSRF Program is to implement the federal Clean Water Act and other State laws by providing low-interest financing for construction of new or improvements to existing water supply and water treatment facilities. The Strategic Plan identifies a number of projects including rehabilitation of groundwater production wells, monitoring wells, and water treatment facilities that could qualify for CWSRF funding. Projects that qualify to participate in the CWSRF Program are deemed projects under CEQA but because of the federal nexus with the USEPA, must also meet federal environmental laws and regulations.

ES.2 Background

ES.2.1 Environmental Setting

Regional Location

Figure ES-2, *Regional Overview*, shows the location of the Six Basins project area within the larger southern California region. The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains. Regionally, the Six Basins underly a portion of the Eastern San Gabriel Valley in Los Angeles County, and the City of Upland, and the unincorporated community of San Antonio Heights in western San Bernardino County.

Figure ES-3, *Six Basins Adjudicated Boundary*, shows the adjudicated boundary of the Six Basins project area. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east.

Local Setting

The overlying land uses in the project area are largely urban/suburban and relatively built out with a variety of uses including residential, commercial, institutional and industrial. Although the project area is located along the base of the San Gabriel Mountains, there are no forest lands designated within any of the jurisdictions that control land use within the Six Basins project area.

Figure ES-3 shows the boundary of the Six Basins project area, encompassing all or portions of the cities of Claremont, La Verne, Pomona and Upland as well as some adjacent unincorporated areas in Los Angeles and San Bernardino counties. The unincorporated areas that are a part of East San Gabriel Valley Planning Area of Los Angeles County include the following:

- North Claremont encompassed by the City of Claremont
- Northeast La Verne and West Claremont located between the cities of La Verne and Claremont
- Two unnamed unincorporated areas located along Foothill Blvd in the City of Pomona

The unincorporated community of San Antonio Heights is located in San Bernardino County adjacent and to the north of the City of Upland.

Strategic Plan projects are primarily proposed to be implemented within the cities of Claremont, La Verne, and Pomona. In the future, groundwater production and/or monitoring wells may also be developed on sites in the city of Upland and within

unincorporated areas adjacent to these cities, however these are unknown at this time. Land uses within these unincorporated areas are similar to those developed in the adjacent cities.

ES.2.2 Six Basins Judgment and Watermaster Parties

The pumping and storage rights for the Six Basins were adjudicated in 1998 through a stipulated judgment (Judgment) titled *Southern California Water Company vs. City of La Verne, et al.*, in the Superior Court of California for the County of Los Angeles (Case No. KC029152). The Judgment prescribes a physical solution for the coordinated management of the Six Basins with the objective that the Parties to the Judgment can reliably pump their respective rights and maximize the beneficial use of groundwater. While the Court maintains continuing jurisdiction over the Judgment, the Judgment also established a Watermaster to implement the physical solution.

The Six Basins Watermaster is a committee of representatives of the individual Parties to the Judgment, which include:

- Three Valleys Municipal Water District (TVMWD) – the main imported water wholesaler to the Six Basins agencies and a member agency of the Metropolitan Water District of Southern California
- Pomona Valley Protective Association (PVPA) – a California corporation that is responsible for conducting replenishment activities in the Six Basins at the direction of the Watermaster
- City of Claremont – a City that overlies the Six Basins and is served water by the Golden State Water Company; under an agreement between the two agencies regarding water rights
- City of La Verne – a municipal water purveyor in the Six Basins
- City of Pomona – a municipal water purveyor in the Six Basins
- City of Upland – a municipal water purveyor in the Six Basins
- Golden State Water Company – an investor-owned public utility that serves water in the Six Basins to the City of Claremont and portions of Los Angeles County
- San Antonio Water Company – a mutual water corporation that pumps groundwater from the Six Basins, and other basins, for use by its shareholders including the City of Upland
- West End Consolidated Water Company – a mutual water corporation that pumps groundwater from the Six Basins and other basins
- Pomona College – an educational corporation in the City of Claremont that has executed an agreement with Golden State Water Company with regard to its

groundwater rights; under an agreement between the two agencies regarding water rights

The Judgment is the current groundwater management plan for the Six Basins. The main components of the Judgment include:

- a Safe Yield of 19,300 acre-feet per year (acre-ft/yr) of annual groundwater pumping - the allocation of base annual production rights to the individual Watermaster Parties, expressed as a percentage of the Safe Yield
- an Operating Safe Yield (OSY) that is determined annually by the Watermaster, which is based on the Safe Yield and the current and expected recharge, pumping, and groundwater levels; and is allocated in proportion to the base annual production rights
- Carryover Rights, which allow up to 25 percent of a Party's unused annual OSY allocation to be carried over for use in the subsequent operating year
- the rules and methods for “replacing” groundwater pumped in excess of a Party's share of the OSY
- the rules and responsibilities for the continued replenishment of the Six Basins with native surface water from the San Gabriel Mountains
- monitoring and mitigation measures to protect against the threat of rising groundwater
- guidelines for entering into Storage and Recovery Agreements
- the governance structure and rules to conduct and fund Watermaster activities

The Strategic Plan for the Six Basins, once approved, will become the conjunctive water management program utilized by the Watermaster to implement their respective water supply and water conservation projects in a coordinated manner to optimize conjunctive water management activities in the Six Basins, and thereby increase the reliability of regional water supplies. The Watermaster Parties have agreed to four goals for the Strategic Plan: (1) enhance water supplies, (2) enhance basin management, (3) protect and enhance water quality and (4) equitably finance the Strategic Plan implementation. Chapter 3, *Project Description*, describes the projects proposed by the Parties to achieve these goals.

The Six Basins project area consists of two elements, the Four Basins (Canyon, Upper Claremont Heights, Lower Claremont Heights and Pomona basins) and the Two Basins (Ganesha and Live Oak Basins). The water resources associated with the Two Basins are for the sole use of the City of La Verne, with the remaining Watermaster Parties having rights to water in the Four Basins. However, the City of La Verne maintains rights to water in the Four Basins as well.

ES.3 Project Description

ES.3.1 Purpose and Need for the Strategic Plan and Related Projects

Because the Six Basins project area is largely built out, the population projections show a modest increase between the years 2020 and 2040. These years correspond to the anticipated completion of proposed projects identified in the Strategic Plan. Table ES-1, *Population Projections for Cities Overlying the Six Basins*, shows that the increase in the population over the next 20 years is approximately 8 percent.

Table ES-1 Population Projections for Cities Overlying the Six Basins

City	Year 2020	Year 2035	Year 2040	Percent Change
Claremont	36,300	38,200	39,400	7.7
La Verne	32,200	32,600	32,900	2.13
Pomona	160,800	181,700	190,400	15.55
Upland	76,200	81,600	81,700	6.73
Total	305,400	334,100	344,400	8.03

Source: SCAG Comments on the NOP for the Six Basins Strategic Plan, October 5, 2018 (see Appendix A -NOP and Comments Received)

Although the population increase is projected to be a modest 8 percent over the next 20-year period, the percentage increase in population beyond 2040 is anticipated to be similar or less due to the project area being urbanized such that opportunities to build new housing or other non-residential projects that would result in additional population would be fewer.

The main source of groundwater replenishment to the Six Basins is surface-water runoff from precipitation that falls on the San Gabriel Mountains and recharges at spreading grounds located along the foot of the mountain range predominantly at the San Antonio Spreading Grounds (SASG). The Parties that pump groundwater from the Six Basins also use imported surface water from the Metropolitan Water District of Southern California (MWD) for artificial recharge at the spreading grounds and for direct consumptive uses.

The major issues facing the Watermaster Parties in their management of surface water resources are:

- The climate of the region is such that the Six Basins area is subject to prolonged dry periods. In years when precipitation is below average, the volumes of surface-water runoff that are available for artificial recharge at spreading grounds in the Six Basins are small, so the facilities for artificial recharge go largely un-utilized.
- The facilities to divert and recharge stormwater runoff do not capture all the runoff that is available. Stormwater runoff that bypasses the spreading grounds is a loss of a low-cost, high-quality water resource.

- The current methods and protocols being employed by the US Army Corps of Engineers (USACE), Los Angeles County Flood Control District (LACFCD), and the Pomona Valley Protective Association (PVPA) to monitor the surface-water resources may not be returning accurate data for surface-water discharges and diversions. The completeness and accuracy of these data are crucial to the development and implementation of programs to improve basin management.

Project features and the benefits that would result to meet the Watermaster Parties needs to provide a safe reliable water supply are as follows:

Project Features	Project Benefits
<ul style="list-style-type: none"> • Recharge improvements • Wells and conveyance • Water treatment • Recycled water conveyance • Expanded groundwater or surface water monitoring • Potentially requires changes to Watermaster’s operating plans 	<ul style="list-style-type: none"> • New yield • Dry-year supply • Production sustainability • Enhanced reliability • Mitigates high groundwater • Water quality improvements • Improved management • Improved basin knowledge

ES.3.2 Strategic Plan Goals and Objectives

Implementation of the Strategic Plan would be accomplished through the implementation of a number of projects identified by the Watermaster Parties. The Watermaster Parties have developed management goals for the Strategic Plan that address the issues, needs and wants of the Parties and are as follows:

Goal No. 1 – Enhance Water Supplies. The Parties desire to have a diverse, cost-effective water supply portfolio that will allow them to reliably meet their water demands now and into the future. Imported water has long been a vital supply for water purveyors in Southern California. Imported water is becoming increasingly more expensive, and its reliability is threatened by natural disasters, climate change, and changing environmental regulations. Maximizing the sustainable use of local water supplies, including groundwater, surface water, and recycled water to meet future demands is the focus of the Parties. In particular, enhancing the groundwater supply of the Six Basins means increasing the yield of the basin. To achieve this goal, the Parties must find ways to increase recharge, pump more, and reduce losses in a cost-effective manner.

Goal No. 2 – Enhance Basin Management. Enhancing the water supplies of the Six Basins will require advanced basin management beyond that which is provided for in the Judgment. Increasing the yield and reliability of the Six Basins to ensure the maximum and equitable availability of groundwater for all Parties requires coordinated plans for recharge, pumping, and storage. Maximizing the use of local water supplies may necessitate partnerships with

other local groundwater basins or water-supply agencies to maximize the use of assets, such as surface-water availability, storage capacity, recharge capacity, and funding. No harm must come without mitigation to the Parties, the groundwater basin, or the environment from the activities to enhance basin management.

Goal No. 3 – Protect and Enhance Water Quality. The Parties desire to improve groundwater quality in the Six Basins and deliver water that is safe and suitable for the intended beneficial use and meets all applicable regulatory standards. Management of groundwater quality, through the cleanup of point-source contamination and control of salt and nutrient accumulation, is essential to ensuring the long-term reliability of the groundwater supply in a cost-effective manner.

Goal No. 4 – Equitably Finance the Strategic Plan. The primary source of revenue to finance the development and implementation of the Strategic Plan are the consumers of Six Basins groundwater, but other sources of revenue will be aggressively pursued. The policies and agreements to implement the Strategic Plan will ensure an equitable distribution costs relative to the benefits.

ES.3.3 Project Description

The Watermaster Parties are proposing to construct and operate projects in a coordinated manner to optimize conjunctive water management activities in the Six Basins, and thereby increase the reliability of regional water supplies. Implementation of the Strategic Plan includes two elements: 1) a planning/programming element consisting of the development of an updated Operating Plan for storage and recovery agreements, special projects and temporary surplus; and 2) a physical element consisting of the construction of new facilities and/or improvements to existing facilities, and on-going operation/maintenance of those facilities. The Operating Plan was last updated in 2012 and will be updated upon adoption of the Strategic Plan. Therefore, updates to the Watermaster’s Operating Plan are inherent in the environmental evaluation of the Strategic Plan and related projects.

For the environmental evaluation of Strategic Plan implementation, including updating the Six Basins Watermaster Operating Plan, the projects identified in Table ES-2, *Proposed Projects to Optimize Conjunctive Water Management*, were placed in four categories. Figure ES-4, *Projects to Optimize Conjunctive Water Management*, shows project locations. The Operating Plan is the planning/programming element of the Strategic Plan that would be implemented through the development of projects identified within four categories.

Project Categorical 1: Pump and Treat Groundwater in the Pomona Basin

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to

remove constituents. No new major site disturbance is anticipated through the physical expansion of existing well sites or treatment facilities. Construction at existing sites would require the delivery of equipment and materials as well as construction workers commuting to the site during the construction phase. Once construction is completed, operation and maintenance of the wells and treatment facilities would be similar to existing conditions at each of the sites. That is, daily site inspections, routine maintenance periodically, and occasional upgrades to monitoring systems.

Table ES-2
Proposed Projects to Optimize Conjunctive Water Management

PID ¹	Project Description
<i>Pump and Treat²</i>	
a	Increase Groundwater Production and Treatment Capacity at Reservoir 5 Treatment Facility
b	Increase Groundwater Production and Treatment Capacity at Lincoln/Mills Treatment Facility
c	Rehabilitate Del Monte 4 and Add Arsenic Treatment
d	Construct Durward 2 Well and a Wellhead Treatment Facility
e	Rehabilitate Old Baldy Well and Construct Wellhead Treatment Facility
<i>Recharge Improvements</i>	
f	Enhance Stormwater Recharge at the San Antonio Spreading Grounds
g ³	Enhance Supplemental-Water Recharge at the SASG
h ⁴	Enhance Stormwater Recharge at the Thompson Creek Spreading Grounds
i	Supplemental-Water Recharge at the TCSG
j ⁵	Enhance Stormwater Recharge at the Pedley Spreading Grounds
k ⁶	Recharge Stormwater and Supplemental Water at the LA County Fairplex
n	Enhance Stormwater Recharge through MS-4 Compliance
o ⁷	Create a Conservation Pool Behind San Antonio Dam
<i>Temporary Surplus</i>	
l ⁸	Construct Interconnections between water supply agencies
m ⁹	Rehabilitate P-20 and a Wellhead Treatment Facility
p ¹⁰	Construct New Production Wells

Source: Wildermuth Environmental, Inc., *Final Strategic Plan for the Six Basins*, November 2017, Table 6-2

Notes:

1. Project Identification Number.
2. Pump and Treat projects will be carried out at existing well sites and/or treatment facilities. No new site disturbance is anticipated through the physical expansion of a well site or treatment facility.
3. Potential area of disturbance to expand the SASG is 50 acres to a depth of up to 200 feet. To recharge recycled water, a pipeline of up to 68,000 lineal feet would be constructed.
4. Potential area of disturbance to expand the TCSG is 25 acres to a depth of up to 20 feet.
5. Potential area of disturbance to expand the Pedley Spreading Grounds is 6 acres to a depth of up to 10 feet. Note: Improvements at the PSG site are also a part of the MS4 Compliance group of projects.
6. Potential area of disturbance to create the new Fairplex underground infiltration gallery is 10 acres to a depth of up to 10 feet. Note: Improvements at the Fairplex site are also a part of the MS4 Compliance group of projects.
7. Subsequent to the completion of the Draft Strategic Plan, the Watermaster Parties determined that this project was speculative at this time and is no longer being considered in conjunction with the other Strategic Plan projects.
8. Pipe sizes ranging from 8" to 20" in diameter.
9. See note No. 2 above.

10. Construction of new production wells is assumed to disturb up to 0.5 acre per well site (includes well site and site access).

Project Category 3: Temporary Surplus

This category of projects consists of rehabilitating the existing City of Pomona's P-20 wellhead and treatment facility in the Lower Claremont Heights Basin (LCHB) in the City of Claremont. This category also includes the construction and operation/maintenance of up to 12 new production wells, and the construction of approximately 85,000 linear feet of new interconnects (pipelines) between new wells and the new water treatment facility in the Pomona Basin; a new interconnect between the Pomona Water Reclamation Plant (WRP) and the new recharge basins at the SASG; a distance of approximately 12 miles along existing surface streets; and an interconnect between the P-20 site and the TVMWD Miramar Water Treatment Plant (WTP) in order to blend treated water from the WTP with raw water from the well. Finally, this category includes the construction and operation/maintenance of up to three new monitoring wells in the Pomona Basin within the area of historical high groundwater.

Development of new well (production and monitoring) sites and interconnects would require the delivery of equipment and materials as well as construction workers commuting to the site during the construction phase. Once construction is completed, operation and maintenance of the well sites would be similar to sites identified in Project Category 1, *Pump and Treat in the Pomona Basin*. That is, routine inspections throughout the year and or minor maintenance and cleanup after storm events. Operation of pipelines would be limited to periodic inspections and maintenance of pumps.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

This category of projects consists of the development and implementation of groundwater monitoring program to support the design of new wells and treatment facilities (Project Categories 1 through 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use and monitor groundwater recharge activities at spreading grounds. The groundwater monitoring program includes up to three new monitoring wells in the Pomona Basin in the area of historical high groundwater. The construction and operation of new monitoring wells has been evaluated in conjunction with the construction and operation of new production wells in Project Category 3.

ES.4 Areas of Controversy/Issues to be Resolved

CEQA Guidelines Section 15123(b)(2) requires that a lead agency identify areas of controversies raised by agencies and the public. Section 15123(b)(3) requires that a lead agency address Issues to be Resolved including the choice among alternatives and whether or how to mitigate the significant effects. Areas of controversy and Issues to be Resolved

raised during the 30-day public review period of the NOP are listed in Chapter 1, *Introduction*, Table 1-1, *Summary of Comments Received on the Notice of Preparation*. Commenting agencies have requested more detailed information on the implementation of the Strategic Plan, identified permits that may be required prior to construction or commencement of operation of Strategic Plan projects, identified existing conditions that may be adversely affected (e.g., the Alluvial Fan Sage Scrub community), and requested that alternatives to avoid significant impacts be evaluated. These issues have been considered during preparation of the Draft Program EIR.

ES.5 Alternatives to the Proposed Project

CEQA Guidelines Section 15126.6(b) states that because an EIR must identify ways to mitigate or avoid significant environmental effects of a project, the analysis of alternatives shall focus on alternatives that are capable of avoiding or substantially lessening one or more significant environmental effects. In addition, Section 15126.6(c) states that an EIR must explain the rationale for selecting the alternatives to be evaluated and identify alternatives that were considered but rejected. Further, the lead agency is required to explain the reasons for rejecting alternatives (CEQA Guidelines, Section 15126.6(f)(1)).

Alternatives to the Strategic Plan, including the Baseline (No Project) Alternative were evaluated in the *Draft Memorandum – Development and Evaluation of Conjunctive Water Management Alternatives to Support the Program Environmental Impact Report (PEIR) for the Strategic Plan of the Six Basins*. A copy of this document along with a copy of the Strategic Plan are included in Appendix I of this Program EIR.

ES.5.1 Alternative Considered and Rejected

One alternative, an alternative location to the new recharge basin at the SASG was considered and rejected. This alternative was requested by the California Department of Fish and Wildlife (CDFW) to reduce the potentially significant impacts associated with the development of a new recharge basin in an area of the SASG heavily vegetated with Riversidian Alluvial Fan Sage Scrub (RAFFS). Figure ES-2, shows the regional location of the Six Basins project area including a number of existing man-made features in the SASG such as the San Antonio Dam, LACFCD spreading grounds, SAWCo spreading grounds, San Antonio Creek channel, and the four existing aggregate mine pits that are a part of the larger Holiday Rock Foothill mine site. Currently, Pit 6 is not being excavated and there may be an opportunity to utilize that pit for groundwater recharge. However, this alternative site was rejected from consideration for the following reasons:

- Although no mining is currently conducted in this pit, there is an opportunity for the mine operator, Holliday Rock, to recommence mining by breaching the wall between pits 5 (active mine site) and 6 to recover the material. This would allow the operator to continue mining and conveying the material for processing to the existing Foothill Plant, located south of Baseline Road.

- Because Pit 6 is inactive but not closed/reclaimed, utilizing it for stormwater recharge and supplemental (recycled) water recharge would preclude the site from being used for its intended purpose.
- In the future, when excavation of aggregate material from these pits is completed, the site would be reclaimed by the operator and would revert back to PVPA to be used for groundwater recharge. However, this scenario is not anticipated to occur for several years, and it is the Watermaster’s intention to implement the Strategic Plan, including the development of a new recharge basin at the SASG in the reasonably foreseeable future.

ES.5.2 Alternatives Considered for Evaluation

Table ES-2 lists the project by Project ID number which correspond to the locations identified on Figure ES-4. Note: projects identified in Category 4 are not included on Figure ES-4 because this category of projects includes the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3). In addition, Chapter 6, *Alternatives*, includes Figure 6-2 showing location of projects that would be implemented with each of the CWM alternatives. The location of any new monitoring wells is unknown at this time. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to separate environmental review, that may be tiered from the Six Basins Strategic Plan Program EIR or in a stand-alone CEQA document.

Alternatives evaluated for the Program EIR include the Baseline (No Project) Alternative, and three Conjunctive Water Management Plan alternatives, including the Strategic Plan. Table ES-3, *Projects Developed Under the Strategic Plan and CWM Projects*, lists the projects identified in the Strategic Plan, and shows which projects would be developed under each alternative. The Baseline Alternative is the No Project Alternative where Watermaster Parties would continue with existing programs with no implementation of the Strategic Plan. For the purposes of the evaluation of alternatives, implementation of the Strategic Plan is identified in Table ES-3 as Conjunctive Water Management Alternative 2 (CWM-2). The other alternatives include the Baseline (No Project) Alternative, Alternative CWM-1 – Pump and Treat and Temporary Surplus projects only, and Alternative CWM-3 which all Strategic Plan projects plus additional MS4 projects in urban areas to collect stormwater from surface streets for treatment and groundwater recharge.

Evaluation of Alternatives for Potential Groundwater Hydrologic Impacts

There were two analyses of alternatives conducted for the Six Basins Program EIR. The first was to evaluate the three CWM alternatives against the Baseline Alternative in order to determine the severity of impacts each might have on groundwater hydrology. The project engineer used the Six Basins groundwater-flow model to simulate the hydrologic response of the Baseline and the three CWM alternatives over a long-term hydrologic period and

Table ES-3 Projects Developed Under the Strategic Plan and CWM Alternatives

PID ¹	Descriptions	Strategic Plan (Alternative CWM-2)	Baseline Alternative	Alternative CWM-1	Alternative CWM-3
Pump and Treat²					
a	Pomona Reservoir 5	X	--	X	X
b	La Verne Lincoln/Mills	X	--	X	X
c	Del Monte 4	X	--	X	X
d	La Verne Old Baldy	X	--		X
e	Durward 2	X	--		X
Recharge Improvements					
f	Enhance Stormwater Recharge at the SASG	X	--		X
g ³	Enhance Supplemental-Water Recharge at the SASG	X	--		X
h ⁴	Enhance Stormwater Recharge at the TCSG	X	--		X
i	Supplemental-Water Recharge at the TCSG	X	--		X
j ⁵	Enhance Stormwater Recharge at the PSG	X	--		X
k ⁶	Recharge Stormwater/Supplemental Water at the LA County Fairplex	X	--		X
n	Enhance Stormwater Recharge through MS4 Compliance		--		X
Temporary Surplus					
l ⁷	Construct Interconnections between water supply agencies	X	--	X	X
m ⁸	Rehabilitate P-20 and a Wellhead Treatment Facility	X	--		X
p ⁹	Construct New Production Wells	X	--		X

Source: Wildermuth Environmental, Inc., *Final Strategic Plan for the Six Basins, November 2017, Table 6-2*, and Wildermuth Environmental, Inc., *Draft Memorandum of Alternatives, November 220, Table 6*.

Notes:

1. Project Identification Number.
2. Pump and Treat projects will be carried out at existing well sites and/or treatment facilities. No new site disturbance is anticipated through the physical expansion of a well site or treatment facility. Existing unused pumping capacity was assumed at these wells.
3. Potential area of disturbance to develop the new recharge basin in the SASG is 50 acres to a depth of up to 200 feet to capture additional stormwater for groundwater recharge. The new basin would also recharge recycled water from the Pomona Water Treatment Plant delivered through a newly constructed pipeline of up to 68,000 linear feet (see item 8 below).
4. Potential area of disturbance to expand the TCSG is 25 acres to a depth of up to 20 feet.
5. Potential area of disturbance to expand the Pedley Spreading Grounds is 6 acres to a depth of up to 10 feet. Note: Improvements at the PSG site are also a part of the MS4 Compliance group of projects.
6. Potential area of disturbance to create the new Fairplex underground infiltration gallery is 10 acres to a depth of up to 10 feet. Note: Improvements at the Fairplex site are also a part of the MS4 Compliance group of projects.
7. Pipe sizes ranging from 8" to 20" in diameter. Includes a new, approximately 68,000 linear foot pipeline between the Pomona Water Treatment Plant and the new SASG recharge basin.

8. The P-20 well site is currently shut down due to groundwater quality issues. This project would rehabilitate this well and construct new treatment facilities to reduce nitrate concentrations in the produced water
9. Construction of new production wells is assumed to disturb up to 0.5 acre per well site (includes well site and site access).

compared and contrasted the model-simulation results. The planning period was constant between the alternatives and was defined as July 2017 to June 2075, and it assumes a variable hydrology based on the historical precipitation from 1960 to 2017. The hydrologic responses and the potential impacts that were evaluated included:

Chronic Lowering of Groundwater Levels. Chronic lowering of groundwater levels refers to groundwater levels that decline through the planning period indicating that, on average, discharge exceeds recharge. In other words, chronic lowering of groundwater levels indicates overdraft, and is an undesirable impact

Threat of High Groundwater. Historically, high groundwater problems have occurred in the City of Claremont, in the active sand and gravel mining pits on the eastside of the San Antonio Spreading Grounds (SASG), and within the City of Pomona in the Palomares Cienega. High groundwater is problematic because it can (1) impact infrastructure through flooding, (2) reduce the yield of the Six Basins by increasing outflow from the Six Basins and/or limiting the volume of stormwater recharge that can occur during wet periods, and (3) cause liquefaction hazards during earthquakes.

Pumping Sustainability at Wells. This is the ability to pump water from a specific well at a desired production rate, given the groundwater level at that well, its specific well construction, and current equipment details.

Groundwater production at a well is presumed to be sustainable if the model-projected groundwater level at that well is greater than the sustainability metric. The increases and decreases in groundwater levels may impact the Parties in the basin disproportionately. Pumping sustainability becomes a concern if the groundwater levels fall below the sustainability metric at the Parties' wells when the stored water is removed.

Developed Yield. This is the annual average yield that was pumped from the basin over a finite period of time but is corrected for the change in groundwater storage and the volume of supplemental water recharge that occurred during the period. The developed yield is reflective of the hydrology and water management practices of that period. Developed yield is a key factor in the calculation of the Operating Safe Yield (OSY) of the Six Basins, and therefore a reduction in developed yield would cause a reduction on the OSY.

Subsurface Outflow from the Six Basins to the Chino Basin. Subsurface outflow to the Chino Basin occurs across the San Jose Fault. An increase in subsurface outflow to the Chino Basin suggests a loss of developed yield for the Six Basins. A decrease in subsurface outflow to the Chino Basin could be a significant impact to the beneficial uses and users.

The results of the groundwater modeling for each of the project alternatives including the proposed Strategic Plan program (Alternative CWM-2) were that all are physically feasible based on the model-estimated hydrologic responses and the potential adverse impacts defined above. Implementation of any of the alternatives would improve the water-supply reliability of the Six Basins Parties by (1) providing an additional local groundwater supply during dry periods through the operation of a dry-year storage account and (2) increasing the yield of the basin. Finally, the alternatives maximize the use of local resources during wet periods by implementing a Temporary Surplus. The potential for adverse hydrologic impacts associated with the alternatives were found to be less than significant.

Threat of High Groundwater. Each of the alternatives is projected to decrease the threat of high groundwater in the Six Basins relative to the Baseline alternative due to lower groundwater levels and reduced occurrences of high groundwater.

Pumping Sustainability. None of the alternatives are projected to cause greater pumping sustainability impacts relative to the Baseline alternative.

Chronic Lowering of Groundwater Levels. Each of the alternatives is projected to result in lower groundwater levels compared to the Baseline, but in no alternative is there evidence of chronic lowering of groundwater levels that would indicate a persistent state of overdraft.

Developed Yield. Each of the alternatives is projected to result in an increase in developed yield relative to the Baseline alternative.

Subsurface Outflow to the Chino Basin. Each of the alternatives is projected to result in no change in subsurface outflow to the Chino Basin relative to the Baseline alternative.

Watermaster conducts comprehensive groundwater-level monitoring and modeling that would continue through the planning period (2017-2075) in order to identify rising or lowering of groundwater levels that may adversely affect pumping sustainability, developed yield or the change in subsurface outflow to the Chino Basin. As part of the monitoring and modeling program (Project Category 4) measures to modify puts and takes or increase or decrease supplemental water recharge.

CEQA Evaluation of Alternatives

The Baseline Alternative and three CWM alternatives were selected for detailed analysis. Implementation of the proposed Strategic Plan was evaluated as Alternative CWM-2. The goal for evaluating these alternatives is to identify alternatives that would avoid or lessen the significant environmental effects of the Strategic Plan program, while attaining most of the Strategic Plan's goals and objectives. There were a number of significant impacts identified in Chapter 4, *Environmental Impact Analysis*, however, mitigation measures have been identified that would reduce these impacts to less than significant levels. Table ES-4, *Summary of Alternatives and Environmental Impacts*, provides a comparison between the Baseline (No Project) Alternative, the Strategic Plan (Alternative CWM-2) and two additional alternatives. Table ES-5, *Six Basins Program EIR Summary of Impacts and Mitigation*

Measures, is a summary matrix of environmental impacts, proposed mitigation measures and the level of significance of the impact after mitigation has been implemented for the Strategic Plan. This table shows that impacts associated with implementation of the Strategic Plan can be reduced to less than significant levels with mitigation.

Table ES-4 Summary of Alternatives and Environmental Impacts

Environmental Topic	Strategic Plan (Alternative CWM-2)	Baseline Alternative	Alternative CWM-1	Alternative CWM-3
Aesthetics	LTSM	NI	Less	Similar
Agricultural/Forestry Resources	NI	NI	NI	NI
Air Quality	LTSM	Less	Less	Similar
Biological Resources	LTSM	NI	Less	Similar
Cultural/Tribal Cultural Resources	LTSM	NI	Less	Similar
Energy	LTSM	Less	Less	Similar
Environmental Justice	LTSM	NI	Similar	Similar
Geology/Soils	LTSM	NI	Less	Similar
Greenhouse Gas Emissions	LTSM	Less	Less	Similar
Hazards/ Hazardous Materials	LTSM	Less	Less	Similar
Hydrology/Water Quality	LTSM	NI	Less	Similar
Land Use/Planning	LTS	NI	Less	Similar
Mineral Resources	LTS	NI	Less	Similar
Noise and Vibration	LTSM	Less	Less	Similar
Paleontological Resources	LTSM	NI	Less	Similar
Population/Housing	NI	NI	NI	NI
Public Services	LTSM	Less	Similar	Similar
Recreation	NI	NI	NI	NI
Transportation	LTSM	Less	Similar	Similar
Utilities/Service Systems	LTSM	Less	Less	Similar
Wildfire	LTSM	Less	Less	Similar
Secondary Effects/ Growth Inducement	LTSM	Less	Similar	Similar

Source: *Six Basins Program EIR, March 2021, Chapter 4, Environmental Impact Evaluation, and Chapter 6, Alternatives.*

Notes: LTS= Less than Significant; LTSM = Less than Significant with Mitigation Incorporated; NI = No Impact; SU= Significant and Unavoidable

An additional impact was identified in Chapter 5, *Other CEQA Sections*. This impact is the potential for a more stable and sustainable water supply to be Growth Inducing. Implementation of the proposed Strategic Plan or one of the two other CWM alternatives is not considered to be growth inducing because a CWM program would result in a more stable and sustainable water supply for existing and future customers, it would not result in a direct or indirect increase in population or employment s in the Six Basins project area. Additional water supply would play a role in supporting additional growth within the Six Basins project area, but it would not be the single impetus to such growth.

While the main goals of the EWMPs is to increase infiltration and potentially increase recharge of stormwater into the groundwater basin, the amount of water potentially recharged would not be enough to indirectly support population growth and is intended to support existing water supply needs. This potential additional recharge would contribute to local water supply needs but would not alter population demographics. Therefore, there would be no secondary effects of growth.

ES.6 Summary of Impacts and Mitigation Measures

Table ES-5, *Summary of Impacts and Mitigation Measures*, provides a summary of the impacts and mitigation measures identified in Chapter 4, *Environmental Impact Evaluation*. Impacts that were found to be less than significant and no mitigation is required, or where no impact was identified, these are not included in Table ES-5. Instead, an explanation for the findings of less than significant or no impact is included in Chapter 5, *Other CEQA Issues*, Section 5.4, *Effects Found Not to be Significant or that Would Not Occur with Strategic Plan Implementation*. A significant impact is defined as an adverse environmental impact that meets or exceeds the threshold of significance identified in CEQA Guidelines, Appendix G, or thresholds established by a public agency such as South Coast Air Quality Management District (SCAQMD).

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Table ES-5 Six Basins Program EIR Summary of Impacts and Mitigation Measures

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Section 4.1 Aesthetics			
<i>4.1-1 Have a substantial adverse effect on a scenic vista.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated.	AES-1 Proposed facilities, including walls, gates, treatment facilities, etc., shall be designed in accordance with local design standards in order to be complementary to the local area. Landscaping shall be installed and maintained in conformance with local landscaping design guidelines as appropriate to screen views of new facilities from surrounding areas to the extent feasible taking into consideration the needs of the project and except where such compliance is not required by California law.	Less than Significant
Water Recharge	Less Than Significant Impact	Implement mitigation measure AES-1	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated.	Implement mitigation measure AES-1	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.1-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.</i>			
All Project Categories	No Impact in all Categories	No Mitigation Required	Not Applicable
<i>4.1-3 In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings; or if the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated.	Implement mitigation measure AES-1	Less than Significant
Water Recharge	Less Than Significant Impact	Implement mitigation measure AES-1	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated.	Implement mitigation measure AES-1	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.1-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>AES-2 To avoid any light intrusion to surrounding land uses, on project sites where permanent exterior lighting is proposed, lights shall be shielded and directed downward and toward the interior of a site. The maximum light allowed beyond the property boundary adjacent to sensitive light receptors shall be as stipulated in local design guidelines or development code and except where such compliance is not required by California law.</p> <p>AES-3 Development of Strategic Plan projects shall comply with existing and future lighting ordinances, to the extent feasible.</p> <p>AES-4 Any new structures that may require large facades shall not be constructed using highly reflective building materials.</p>	Less than Significant
Water Recharge	Less Than Significant Impact	No Mitigation Required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measure AES-2 through AES-4	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
Section 4.2 Agriculture and Forestry Resources			
<p><i>4.2-1 Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.</i></p> <p><i>4.2-2 Conflict with existing zoning for agricultural use or a Williamson Act contract.</i></p> <p><i>4.2-3 Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).</i></p> <p><i>4.2-4 Result in the loss of forest land or conversion of forest land to non-forest use.</i></p> <p><i>4.2-5 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</i></p>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Section 4.3 Air Quality/Greenhouse Gas Emissions/Global Climate Change			
4.3-1 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:</p> <ul style="list-style-type: none"> • All clearing, grading, earth moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. • The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day. • The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less. <p>AQ-2 Regarding emissions of NOx and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer’s specifications.</p> <p>AQ-3 SCAQMD Rule 403-Table 1 lists a number of Best Available Control Technologies (BACT) that may apply to the construction of Strategic Plan projects. On</p>	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		a project-by-project basis, this table shall be reviewed and appropriate measures incorporated into project specific monitoring program.	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measure AQ-1 through AQ-3	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measure AQ-1 through AQ-3	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
<i>4.3-2 Expose sensitive receptors to substantial pollutant concentrations.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.3-3 Result in other emissions (such as those leading to odors adversely affecting a substantial number of people.</i>			
Pump and Treat	Less Than Significant Impact	No Mitigation Required	Not Applicable
Water Recharge	Less Than Significant Impact	No Mitigation Required	Not Applicable
Temporary Surplus	Less Than Significant Impact	No Mitigation Required	Not Applicable
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.3-4 Conflict with or obstruct implementation of the applicable air quality plan.</i>			
Pump and Treat	Less Than Significant Impact	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Water Recharge	Less Than Significant Impact	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Temporary Surplus	Less Than Significant Impact	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.3-5 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.3-6 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implement mitigation measures AQ-1 through AQ-3	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
Section 4.4 Biological Resources			
<i>4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	BIO-1 <i>Tree Removal.</i> Prior to the trimming or removal of a tree at any project site, a project proponent will coordinate with the local agency to determine if the particular trees targeted for trimming or removal are heritage trees regulated by local agency. If the targeted tree is a heritage under the City or County Regulations, the appropriated application will be submitted and approved by the local agency prior to conducting the trimming or removal of the heritage tree(s), except where compliance is not required by California law.	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>BIO-2 <i>Nesting Birds</i>. Removal of any trees, shrubs, or any other potential nesting habitat shall be conducted outside the avian nesting season, as verified by a qualified Avian Biologist. The nesting season generally extends from February 1 through August 31, but it can vary slightly from year to year based on seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the qualified Avian Biologist’s-verified nesting season, a preconstruction clearance survey for nesting birds shall be conducted within 30 days of the start of any construction. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.</p> <p>BIO-3 <i>Additional Biological Resources Assessments</i>. Prior to the approval of future projects on sites not identified in this EIR and occurring within an undeveloped area, a biological assessment shall be made of the selected or potential sites to determine if sensitive biological resources (sensitive plant community, sensitive species, jurisdiction waters) are present. If a sensitive biological resource is present, an analysis will be made of the potential for impact to the resource, an appropriate mitigation strategy shall be developed and submitted to the wildlife and regulatory agencies with authority to review and approve the</p>	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		mitigation strategy as reducing impacts to less than significant. Either appropriate avoidance and minimization measures will be developed to offset any potential impact or offsite mitigation will be provided to offset the impact.	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures BIO-1 through BIO-3	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures BIO-1 through BIO-3	Less than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.4-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.</i>			
Pump and Treat	Less Than Significant Impact	No Mitigation Required	Not Applicable
Water Recharge	Less Than Significant with Mitigation Incorporated	<p>BIO-4 <i>Wetland Permits</i>. Prior to approval of a project where permanent impacts in areas determined to be potential jurisdictional wetlands, Waters of the State or Waters of the U.S. the Watermaster Party undertaking a project shall consult with the regulatory agencies (USACE, RWQCB and CDFW) to determine if a CWA 404 permit, CWA 401 or a Streambed Alternation Agreement under Fish and Game Code 1602 are required prior to development. The following shall be incorporated into the permitting subject to approval by the regulatory agencies:</p> <p>a) On- or offsite replacement of USACE/RWQCB jurisdictional waters of the U.S./waters of the State at a ratio no less than 1:1 for permanent impacts and to restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.</p> <p>b) On- or offsite replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for permanent impacts and to</p>	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.	
Temporary Surplus	Less Than Significant Impact	No Mitigation Required	Not Applicable
Monitoring Program	No Impact	No Mitigation Required	Not Applicable
<i>4.4-3 Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.</i>			
Pump and Treat	Less Than Significant Impact	No Mitigation Required	Not Applicable
Water Recharge	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measures BIO-3 and BIO-4	Less Than Significant
Temporary Surplus	Less Than Significant Impact	No Mitigation Required	Not Applicable
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.4-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</i>			
Pump and Treat	Less Than Significant Impact	No Mitigation Required	Less Than Significant
Water Recharge	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measure BIO-3	Less Than Significant
Temporary Surplus	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measure BIO-3	Less Than Significant
Monitoring Programs	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measure BIO-3	Less Than Significant
<i>4.4-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</i>			
Pump and Treat	Less Than Significant Impact	Implementation of Mitigation Measure BIO-1	Less Than Significant
Water Recharge	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measure BIO-1	Less Than Significant
Temporary Surplus	Less Than Significant with Mitigation Incorporated	Implementation of Mitigation Measure BIO-1	Less Than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.4-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</i>			
Pump and Treat	No Impact	No Mitigation Required	Not Applicable
Water Recharge	No Impact	No Mitigation Required	Not Applicable
Temporary Surplus	No Impact	No Mitigation Required	Not Applicable
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
Section 4.5 Cultural Resources/Tribal Cultural Resources			
<i>4.5-1 Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>CUL-1 Prior to approval of a project identified under Project Categories 1 through 3, a Watermaster Party undertaking a project shall retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior’s Standards for professional archaeology to conduct an assessment of the project site and vicinity for all project elements that involve ground disturbance. The archaeologist shall conduct cultural resources assessment consisting of: (1) a cultural resources records search to be conducted at the South Central Coastal Information Center located at California State University Fullerton; (2) consultation with the Native American Heritage Commission (NAHC) and with interested Native American tribes identified by NAHC; (3) a field survey by the archaeologist; and (4) recordation of all identified archaeological resources located on a project site on California Department of Parks and Recreation 523 Site Record forms. The archaeologist shall provide recommendations regarding resource significance and additional work for those resources that may be affected by a project.</p> <p>CUL-2 Prior to ground disturbance activities at a project site that contain structures 45 years old or older, affected structure(s) shall be subject to a historic</p>	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>built environment survey, and potentially historic structures shall be evaluated for their potential historic significance, prior to a Watermaster Party’s finalization of design/site plans. The survey shall be carried out by a qualified historian or architectural historian meeting the Secretary of the Interior’s Standards for Architectural History. If potentially significant resources are encountered during the survey, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources identified.</p> <p>CUL-3 Prior to approval of a project, the Watermaster Party undertaking the project shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC. If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, Watermaster Parties shall implement the following measures where feasible and necessary to address site specific impacts to avoid or minimize the significant adverse impacts:</p> <ul style="list-style-type: none"> • Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. • Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: 	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<ul style="list-style-type: none"> ○ Protecting the cultural character and integrity of the resource ○ Protecting the traditional use of the resource ○ Protecting the confidentiality of the resource ● Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places. ● Protecting the resource. 	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 and CUL-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 through CUL-3	Less Than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<i>4.5-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 and CUL-2	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 and CUL-2	Less Than Significant
Temporary Surplus	Less Than Significant	Implementation of mitigation measures CUL-1 and CUL-2	Less Than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<p>4.5-3 <i>Disturb any human remains, including those interred outside archaeological of formal cemeteries.</i></p>			
<p>Pump and Treat</p>	<p>Less Than Significant Impact with Mitigation Incorporated</p>	<p>CUL-4 In the event that human remains are uncovered at a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <ul style="list-style-type: none"> • The coroner of the county in which the remains are discovered must be contacted to determine whether an investigation of the cause of death is required, and • If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> ○ The coroner shall contact the Native American Heritage Commission within 24 hours. ○ The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. ○ The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. • Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance: <ul style="list-style-type: none"> ○ The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a 	<p>Less Than Significant</p>

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>recommendation within 24 hours after being notified by the commission.</p> <ul style="list-style-type: none"> ○ The descendant identified fails to make a recommendation; or ○ The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure CUL-4	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-4	Less Than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<p><i>4.5-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 ...that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. ...</i></p>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 through CUL-3	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 through CUL-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures CUL-1 through CUL-3	Less Than Significant
Monitoring Programs	No Impact	No Mitigation Required	Not Applicable
<p>Section 4.6 Environmental Justice</p>			
<p><i>4.6-1 Result in a disproportionate human health or significant environmental impact on minority and/or low-income populations.</i></p>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1, AQ-2, HAZ-1 and TR-1 through TR-3.	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1, AQ-2, HAZ-1 and TR-1 through TR-3.	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1, AQ-2, HAZ-1 and TR-1 through TR-3.	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
Section 4.7 Geology/Soils/ Paleontological Resources/Mineral Resources			
4.7-1 <i>Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Earthquake Hazard Fault Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, (ii) strong seismic ground shaking, (iii) seismic-related ground failure, including liquefaction, or (iv) landslides?</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>On a project-by-project basis, in order to reduce the potential impacts from strong seismic groundshaking and non-seismically induced geologic hazards, the following mitigation measure shall be implemented:</p> <p>GEO-1 Should a project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the project proponent shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation.</p> <p>GEO-2 Prior to construction of a project, a design-level geotechnical investigation shall be completed. The investigation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, and potential for subsidence to occur. The geotechnical investigation shall recommend site-specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of individual projects.</p>	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-1, GEO-2	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-1, GEO-2	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
<i>4.7-2 Result in substantial soil erosion or the loss of topsoil.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1 and HWQ-2	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1 and HWQ-2	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures AQ-1 and HWQ-2	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
<i>4.7-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-2	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-2	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-2	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.7-4 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-1, GEO-2	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-1, GEO-2	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures GEO-1, GEO-2	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
<i>4.7-5 Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.</i>			
All Project Categories	No Impact	No mitigation required	Not applicable
<i>4.7-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	GEO-3 For project-level development involving ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If deemed necessary, the paleontologist shall conduct a paleontological resources inventory designed to identify potentially significant resources. The paleontological resources inventory would consist of: a paleontological resource records search to be conducted at the San Bernardino County Museum and/or other appropriate facilities; a field survey or monitoring where deemed appropriate by the paleontologist; and recordation of all identified paleontological resources.	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure GEO-3	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure GEO-3	Less than Significant
Monitoring Programs	No Impact	No mitigation required	Not Applicable
4.7-7 <i>Loss of availability of a known mineral resource that would be of value to the region and the residents of the Stat</i>			
4.7-8 <i>Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation required	Not Applicable
Water Recharge	Less Than Significant Impact	No mitigation required	Not Applicable
Temporary Surplus	Less Than Significant Impact	No mitigation required	Not Applicable
Monitoring Programs	No Impact	No mitigation required	Not Applicable
4.8 Hazards/Hazardous Materials/Airport Safety/Wildfire			
4.8-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.			
4.8-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Hazards/Emissions HAZ-1 <u>Permits</u> . Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, the Watermaster Party responsible for a project site where treatment facilities are located, or a diesel operated back-up generator is proposed, shall obtain a Permit to Construct from SCAQMD. Once a piece of equipment is installed, modified and/or operated, SCAQMD will process the application for a Permit to Operate.	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Hazards/Vector Control HAZ-2 Prior to the initial use of new or expanded recharge basins within spreading grounds, Watermaster Parties proposing new recharge basins or expansion of existing recharge basins in spreading grounds shall coordinate with the local vector control agencies (West Valley MVCD or SGVMVCD) to develop a strategy/plan to minimize occurrence of vectors, such as midges and mosquitos; and to establish protocols for monitoring and eradicating vectors should they be found when basins are in use (filled with water).	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>Monitoring to determine presence/absence of vectors during periods when recharge basins are holding water shall be the responsibility of the individual Water-master Party to engage the services of a vector control professional. Should monitoring have positive results, the vector control professional shall work with the Vector Control District to implement control measures as set forth in the approved strategy/plan. The strategy/plan shall be prepared and available to be implemented prior to initiating the use of a new recharge basins or expansion area of an existing recharge basins.</p> <p>Drainage/Pollutants Implementation of mitigation measures HWQ-1 through HWQ-4</p>	
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-1 and HWQ-1 through HWQ-4.	Less than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.8-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-1	Less than Significant
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-1	Less than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
4.8-4 <i>Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.</i>			
Pump and Treat	No Impact	No mitigation measures required	Not Applicable
Water Recharge	No Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	<p>Hazards/Contamination HAZ-3 Prior to the commencement of any construction that would require ground-disturbing activities, a project proponent shall undertake a Phase I Environmental Site Assessments (ESA) to determine the presence/absence of soil and/or groundwater contamination at or in the vicinity of a project site. Recommendations identified in the ESA shall be implemented to the satisfaction of applicable agencies prior to and during construction. If the Phase I ESA finds the potential for hazardous concentrations of contaminated soil or groundwater to occur within the project site, a Phase II ESA shall be completed before construction begins. If the Phase II ESA determines that the site has contaminated soil and/or groundwater, a Soil and Groundwater Management Plan that specifies the method for handling and disposing of contaminated soil and groundwater prior to demolition, excavation, and construction activities shall be prepared and implemented. A Phase II ESA shall include soil and/or groundwater sampling and analysis for anticipated contaminants. Such sampling is intended to identify how contaminated soil and/or groundwater shall be disposed of, and to determine if construction workers would need special personal protective gear and/or equipment.</p>	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.8-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Not Applicable
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Airport Safety HAZ-4 For future projects that may be developed on sites within an airport safety zone, the Watermaster Party responsible for project development shall comply with the guidelines of the appropriate Airport Land Use Compatibility Plan (ALUCP). Project design plans for sites within an ALUCP shall be submitted to the appropriate Airport Management agencies for review and comment prior to implementation.	Less than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.8-6 Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Not Applicable
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Wildland Fire HAZ-5 During construction of facilities (new production wells, pipeline interconnects and related facilities) located in areas designated as Fire Hazard Severity Zones by CAL FIRE, fire hazard reduction measures shall be implemented and incorporated into a fire management plan. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.</p> <p>HAZ-6 Then, during long term operation of facilities located in Fire Hazard Severity Zones, the Watermaster Party conducting operations/maintenance activities of such activities (spreading ground desilting and vegetation removal, maintenance of well sites, etc.) shall ensure that a fire management plan shall be included in the maintenance plans for each facility.</p>	
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.8-7 Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>Emergency Planning</p> <p>TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.</p> <p>Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.</p>	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.</p> <p>TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.</p> <p>TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times: <i>50 PCE truck trips / 3.0 PCE factor = 16 total trucks during the peak hour</i></p>	
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.8-8 Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Not Applicable
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 and HAZ-6	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 and HAZ-6	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.8-9 Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Not Applicable
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 and HAZ-6	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 and HAZ-6	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.8-10 Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Not Applicable
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact	No mitigation measures required	Not Applicable
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
4.9 Hydrology and Water Quality			
<i>4.9-1 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	HWQ-1 Under existing conditions Watermaster conducts a comprehensive groundwater-level monitoring program across the Six Basins project area. The information developed from this monitoring program is used to identify potential impacts associated	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>with the threat of high groundwater, pumping sustainability, chronic lowering of groundwater levels, developed yield and subsurface outflow to the Chino Basin. Under future conditions, the information developed from monitoring programs will be used to develop operating strategies and requirements for Strategic Plan projects to mitigate for these impacts.</p> <p><u>Threat of High Groundwater.</u> Potential operating strategies to mitigate the threat of high groundwater include: (1) modifying the put and take cycles to minimize impacts the threat of rising groundwater; (2) strategically re-distributing supplemental water recharge to minimize the threat of rising groundwater; (3) curtail spreading per Watermaster’s methodology and deduct the estimated reductions in spreading from the responsible party’s Storage and Recovery account; (4) construct and operate pumping facilities in the areas of concern to eliminate the threat of rising groundwater; (5) a combination of (1) through (4); and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.</p> <p><u>Pumping Sustainability.</u> Potential operating strategies include: (1) modifying the put and take cycles to minimize impacts to pumping sustainability; (2) strategically increasing supplemental water recharge to mitigate loss of pumping sustainability; (3) modifying a party’s affected well (e.g., lowering pump bowls); (4) providing an alternate supply to the affected party to ensure it can meet its demands; (5) a combination of (1) through (4); and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.</p> <p><u>Chronic Lowering of Groundwater Levels.</u> Potential operating strategies include: (1) modifying the put and</p>	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>take cycles to minimize the potential chronic lowering of groundwater levels; (2) strategically increasing supplemental water recharge to mitigate chronic lowering of groundwater levels; (3) a combination of (1) and (2); and (4) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.</p> <p><u>Developed Yield.</u> Potential operating strategies include: (1) modifying the put and take cycles to minimize impacts to developed yield; (2) strategically increasing supplemental water recharge to mitigate any reductions in developed yield; (3) deduct the estimated decrease in developed yield from the storage account; (4) strategically increase pumping in areas that will eliminate the decrease in developed yield; (5) a combination of (1) through (4); and (6) a periodic model recalibration and use of the model to estimate the impacts of the Strategic Plan program on developed yield.</p> <p><u>Subsurface Outflow to the Chino Basin.</u> If the data collected through the comprehensive groundwater-level monitoring and modeling monitoring program indicate chronic lowering of groundwater levels along the Chino Basin boundary, Watermaster will evaluate potential impacts to the Chino Basin through additional modeling and develop operating strategies to minimize, if appropriate.</p> <p><u>Updated Operations Plan.</u> In addition to the proposed operating strategies described above, Watermaster is in the process of updating its Operating Plan to include procedures that will enable the Watermaster to identify potential impacts and additional strategies or measures when projects are proposed and as they are implemented including procedures to: (1) analyze</p>	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		projects for the potential to cause substantial injury; (2) develop storage and recovery agreements that take into consideration the potential impacts described herein; and (3) implement a Temporary Surplus.	
Water Recharge	Less Than Significant Impact	Implementation of mitigation measure HWQ-1	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-1	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures are required	Not Applicable
<p>4.9-2 <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: i. result in substantial erosion or siltation onsite or offsite; ii. substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite; iii create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems; or iv. provide substantial additional sources of polluted runoff impede or redirect flood flows?</i></p>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>HWQ-2 <u>Implementation of a SWPPP and the Use of BMPs During Construction.</u> Prior to commencement of any ground disturbing activities on a project site, the Watermaster Party or construction contractor shall prepare a SWPPP (area of disturbance one acre or greater) and submit a Notice of Intent to the State Water Resources Board. Implementation of BMPs as outlined in the SWPPP shall be on-going during construction activities. A copy of the SWPPP and the Waste Discharge Identification (WDID) number, shall be kept at the construction site and available for review by inspectors until construction is completed. For sites where the area of disturbance would be less than one acre, the project proponent or construction contractor is still responsible for maintaining the site and must provide the local jurisdiction in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities, prior to commencement of construction activities.</p> <p>HWQ-3 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project</p>	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>facilities, the IEUA shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p> <p>HWQ-4 <u>Dewatering General Permit</u>. Prior to commencement of construction activities that would require dewatering and conveyance of groundwater to surface water including but not limited to a storm drain system, shall submit a Notice of Intent (NOI) to SWRCB under the requirements of the Dewatering General Permit. The NOI shall include any additional information including a list of BMPs for preventing degradation of water quality or impairment of receiving waters. Implementation of mitigation AQ-1,</p>	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-2, HWQ-4, and AQ-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-through HWQ-4 and AQ-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures are required	Not Applicable
<i>4.9-3 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-2, HWQ-3 and AQ-3	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-2, HWQ-3 and AQ-3	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measure HWQ-2, HWQ-3 and AQ-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures are required	Not Applicable
<i>4.9-4 Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	HWQ-4 <u>Dewatering General Permit</u> . Prior to commencement of construction activities that would require dewatering and conveyance of groundwater to surface water including but not limited to a storm drain system, shall submit a Notice of Intent (NOI) to SWRCB under the requirements of the Dewatering General Permit. The NOI shall include any additional information including a list of BMPs for preventing degradation of water quality or impairment of receiving waters.	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HWQ1 through HWQ-4, and AQ-1	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HWQ1 through HWQ-4, and AQ-1	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures are required	Not Applicable
<i>4.9-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HWQ1 through HWQ-4, and AQ-1	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HWQ1 through HWQ-4, and AQ-1	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HWQ1 through HWQ-4, and AQ-1	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures are required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
4.10 Land Use/Planning			
<p>4.10-1 <i>Physically divide an established community.</i></p> <p>4.10-2 <i>Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</i></p>			
All Project Categories	Less Than Significant Impact	No mitigation measures are required	Not Applicable
4.11 Noise			
<p>4.11-1 <i>Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</i></p> <p>4.11.2 <i>Generation of generate excessive groundborne vibration or groundborne noise levels</i></p>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>Construction</p> <p>NOI-1 The following mitigation measures are required to reduce noise and vibration levels produced by the construction equipment at nearby, occupied sensitive receiver locations:</p> <ul style="list-style-type: none"> • A focused construction noise and vibration mitigation plan shall be required if any or both of the following screening criteria are met: <ul style="list-style-type: none"> ○ If project construction activities would occur within 100 feet of occupied, sensitive receiver locations (e.g., residential, school, etc. uses): <ul style="list-style-type: none"> - A focused construction noise mitigation plan shall be required which evaluates whether project construction noise levels would exceed the 65 dBA Leq exterior noise level limit at occupied sensitive receiver locations, and the mitigation measures (if any) necessary to satisfy the 65 dBA Leq exterior noise level limit. - Potential mitigation measures to reduce project construction noise levels include, but are not limited to, temporary noise barriers, the use of alternative equipment, noise level monitoring, temporary relocation of residents, or a combination of the above. 	Less Than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>NOI-2 During all project site construction, the construction contractors shall ensure that all construction equipment, fixed or mobile, shall have properly operating and maintained mufflers, consistent with manufacturers’ standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the Project site.</p> <p>NOI-3 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction (i.e., the center of each site).</p> <p>NOI-4 The contractor shall design delivery routes of equipment and materials to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.</p> <p>NOI-5 If high vibration-generating project construction activities such as well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used:</p> <ul style="list-style-type: none"> • Within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or • Within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles: <ul style="list-style-type: none"> - A focused construction vibration mitigation plan shall be required which evaluates whether project construction vibration levels would exceed the exterior vibration level limit at occupied sensitive receiver locations, specific to that jurisdiction’s standards, and the mitigation 	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		<p>measures (if any) necessary to satisfy the exterior vibration level limit.</p> <ul style="list-style-type: none"> - Potential mitigation measures to reduce project construction vibration levels include, but are not limited to, the use of alternative equipment, vibration level monitoring, temporary relocation of residents, or a combination of the above. <p>Operation NOI-6 The following operational noise abatement measures shall be required to further reduce the potential operational noise levels received at nearby sensitive receiver locations:</p> <ul style="list-style-type: none"> • New, or existing unenclosed, well pumps shall be enclosed to further reduce operational noise levels at nearby sensitive receiver locations (e.g., residential homes). The location of any louvres or openings in the enclosure assembly would reduce the overall noise reduction of the enclosure, and therefore, shall be oriented away from nearby residential homes, if feasible. In addition, acoustically-rated louvres and materials within the enclosure construction are recommended to further reduce the noise levels at the well pump source. • All trucks transiting on-site in outdoor areas of the project facilities should be operated with properly functioning and well-maintained mufflers. • Maintain quality pavement conditions on the property that are free of vertical deflection (i.e., speed bumps) to minimize truck noise. • Truck access gates and loading areas should have posted signs which state: <ol style="list-style-type: none"> 1, Truck drivers shall turn off engines when not in use; 	

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		2. No music or electronically reinforced speech from workers should be audible at noise receptor properties.	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures NOI-1 through NOI-5 during construction and NOI-6 during operation	Less than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures NOI-1 through NOI-5 during construction and NOI-6 during operation	Less than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.11-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.</i>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable
4.12 Population and Housing			
<i>4.12-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).</i>			
<i>4.12-2 Displace substantial numbers of existing housing or people necessitating the construction of replacement housing elsewhere.</i>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable
4.13 Public Services/Recreation			
<i>4.13-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for i) Fire Protection; ii) Police Protection; iii) Schools; (iv) Parks; or v) Other Public Facilities.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 through HAZ-7 for the development and implementation of Fire Management Plans (HAZ-5 and HAZ-6), and Traffic Control Plans (TR-1 through TR-3)	Less than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 through HAZ-7 for the development and implementation of Fire Management Plans (HAZ-5 and HAZ-6), and Traffic Control Plans (TR-1 through TR-3)	Less than Significant

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures HAZ-5 through HAZ-7 for the development and implementation of Fire Management Plans (HAZ-5 and HAZ-6), and Traffic Control Plans (TR-1 through TR-3)	Less than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<p>4.13.1 <i>Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</i></p> <p>4.13.2 <i>Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</i></p>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable
4.14 Transportation			
<i>4.14-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>TR-1 Prior to commencement of construction activities at a project site, the construction contractor shall develop and implement an approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.</p> <p>TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.</p>	

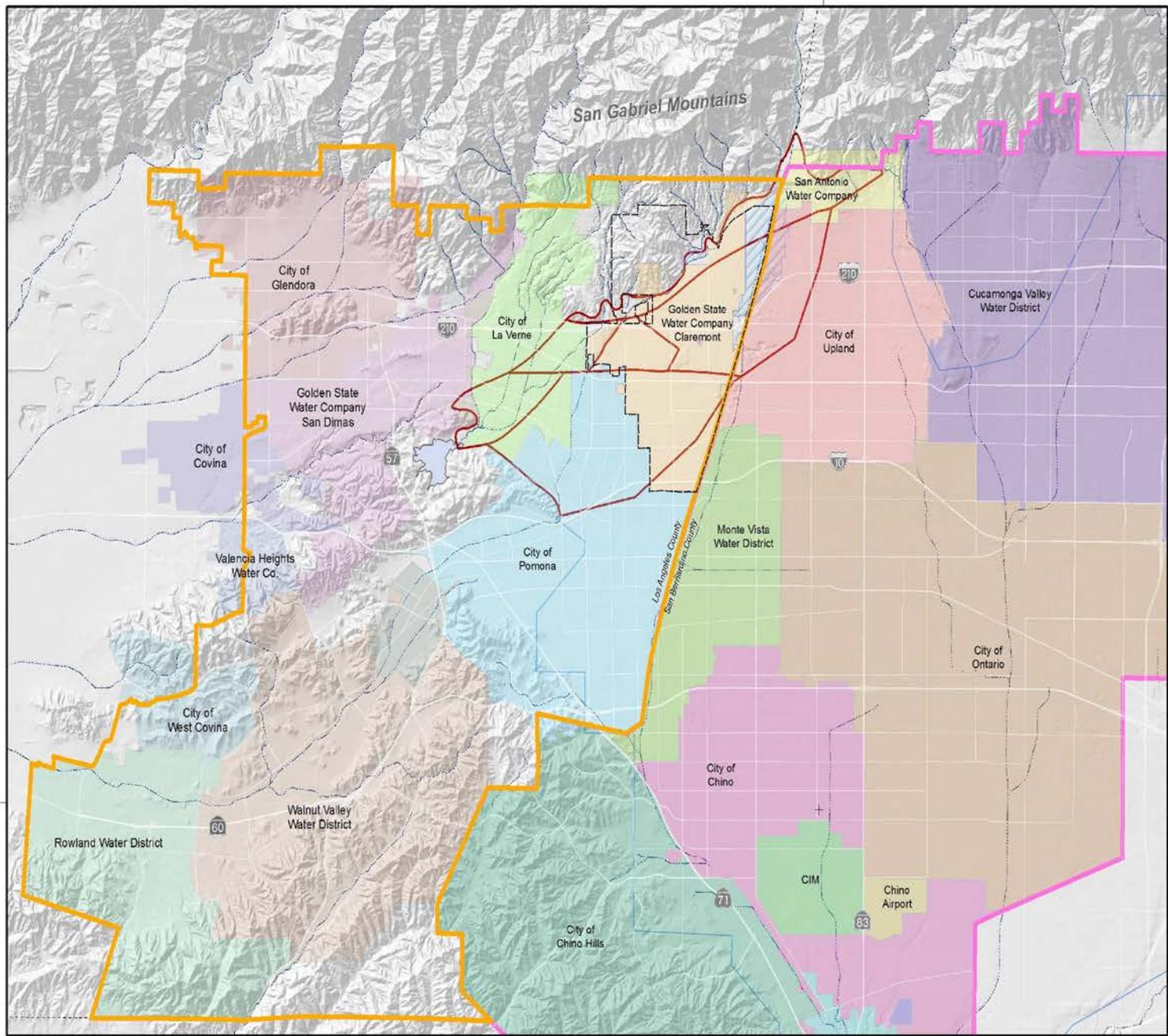
Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
		TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times: $50 \text{ PCE truck trips} / 3.0 \text{ PCE factor} = 16 \text{ total trucks during the peak hour}$	
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.14-2 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). (This section focuses on land use projects and associated vehicle miles traveled.)</i>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable
<i>4.14-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.14-4 Result in inadequate emergency access.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures TR-1 through TR-3	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
4.15 Utilities/Service Systems/Energy			
<i>4.15-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater, drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	USS-1 <u>Implementation of a Drainage Plan to Reduce Downstream Flows</u> . Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.	Less Than Significant
Water Recharge	Less Than Significant Impact	No mitigation measures required	Not Applicable
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures USS-1	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable
<i>4.15-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Water Recharge	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Temporary Surplus	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.15-3 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?</i>			
All Project Categories	No Impact	No mitigation measures required	Not Applicable
<i>4.15-4 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/Comply with federal, state, and local management and reduction regulations related to solid waste.</i>			
Pump and Treat	Less Than Significant Impact with Mitigation Incorporated	<p>USS-2 <u>Implementation of a Construction and Demolition Disposal Plan</u>. Prior to commencement of construction, the contractor shall prepare a Construction and Demolition (C&D) disposal plan for review and approval by the local jurisdiction where construction will occur. Per CGBC Section 45.408.1.1, <i>Construction Waste Management Plan</i>, the C&D Disposal Plan shall include the following elements:</p> <ul style="list-style-type: none"> • Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale. • Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). • Identifies diversion facilities where construction and demolition waste material collected will be taken. <p>Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.</p>	Less Than Significant
Water Recharge	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures USS-2	Less Than Significant
Temporary Surplus	Less Than Significant Impact with Mitigation Incorporated	Implementation of mitigation measures USS-2	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance Before Mitigation
<i>4.15-5 Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.</i>			
<i>4.15-6 Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.</i>			
Pump and Treat	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Water Recharge	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Temporary Surplus	Less Than Significant Impact	No mitigation measures required	Less Than Significant
Monitoring Programs	No Impact	No mitigation measures required	Not Applicable

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- Service Areas of Water Purveyors in the Six Basins Area
- City of Claremont
- Three Valleys Municipal Water District Boundary
- Inland Empire Utilities Agency Boundary
- Spreading Grounds

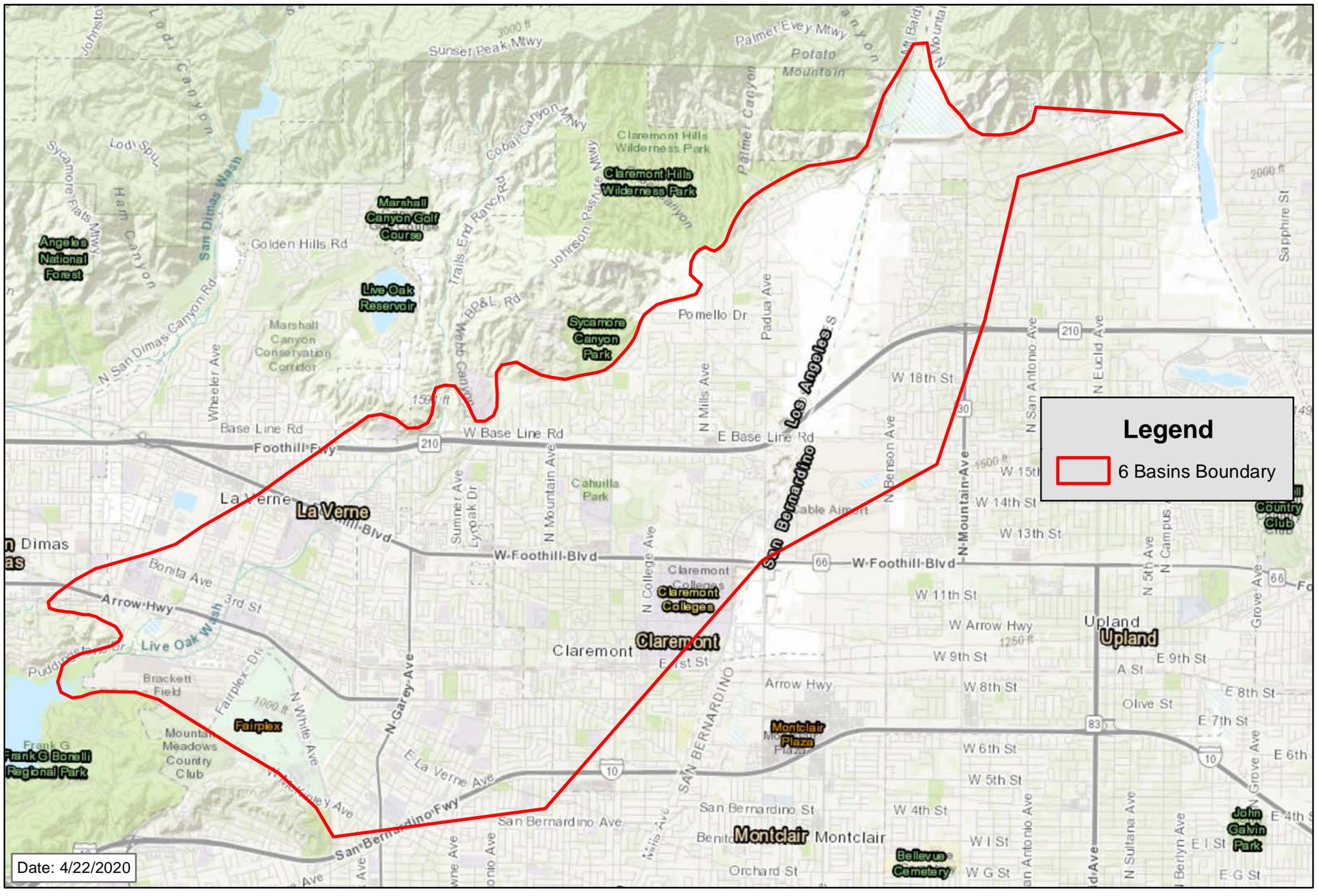
- Six Basins Adjudicated Boundaries
- 1 - Canyon
 - 2 - Upper Claremont Heights
 - 3 - Lower Claremont Heights
 - 4 - Live Oak
 - 5 - Ganesha
 - 6 - Pomona



Figure ES-1
Water Purveyors

6 Basins
Strategic Plan - Program EIR

Source: WEI Figure 1-1



Imagery Date: 8/6/2017

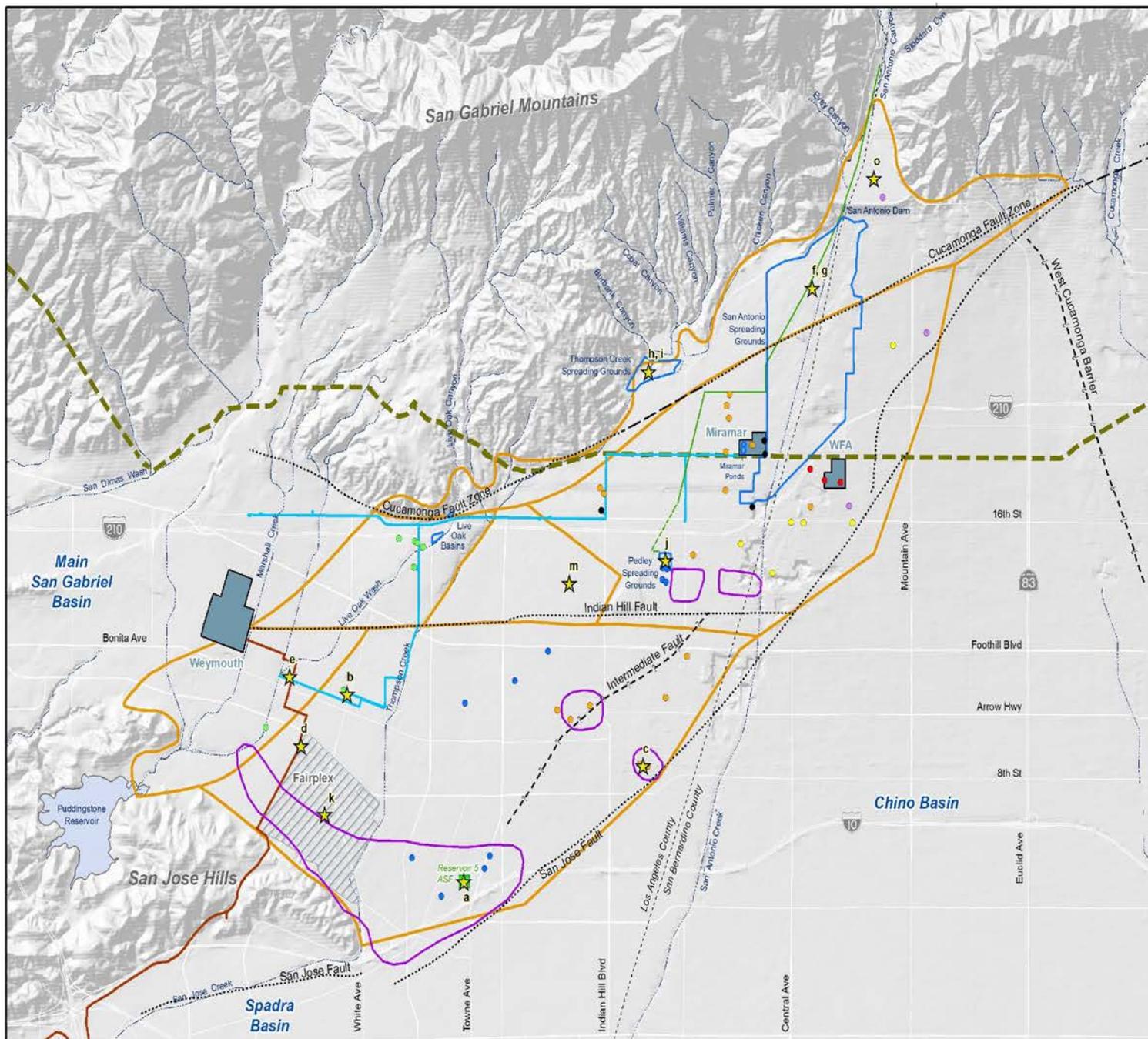
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community



1 inch = 5,280 feet

Figure ES-3
Six Basins Adjudicated Boundary

6 Basins
Strategic Plan - Program EIR



- ★ Proposed Project (PID)
- Existing Facilities**
 - Water Treatment Facility
 - Cañon Pipeline
 - Miramar Pipeline
 - PWR Joint Feeder
 - Foothill Feeder-Rialto Pipeline
- Production Wells**
 - Golden State Water Company
 - City of La Verne
 - City of Pomona
 - San Antonio Water Company
 - Three Valleys Municipal Water District
 - City of Upland
 - West End Consolidated Water Company
- Imported Water Treatment Plant**
- Six Basins Adjudicated Boundary**
- Historical Area of High Groundwater (Mendelhall, 1908; Bean, 1982; CDM, 2006)**
- Spreading Grounds**
- Faults**
 - Location Certain
 - Location Approximate
 - Location Concealed
 - - - Location Uncertain

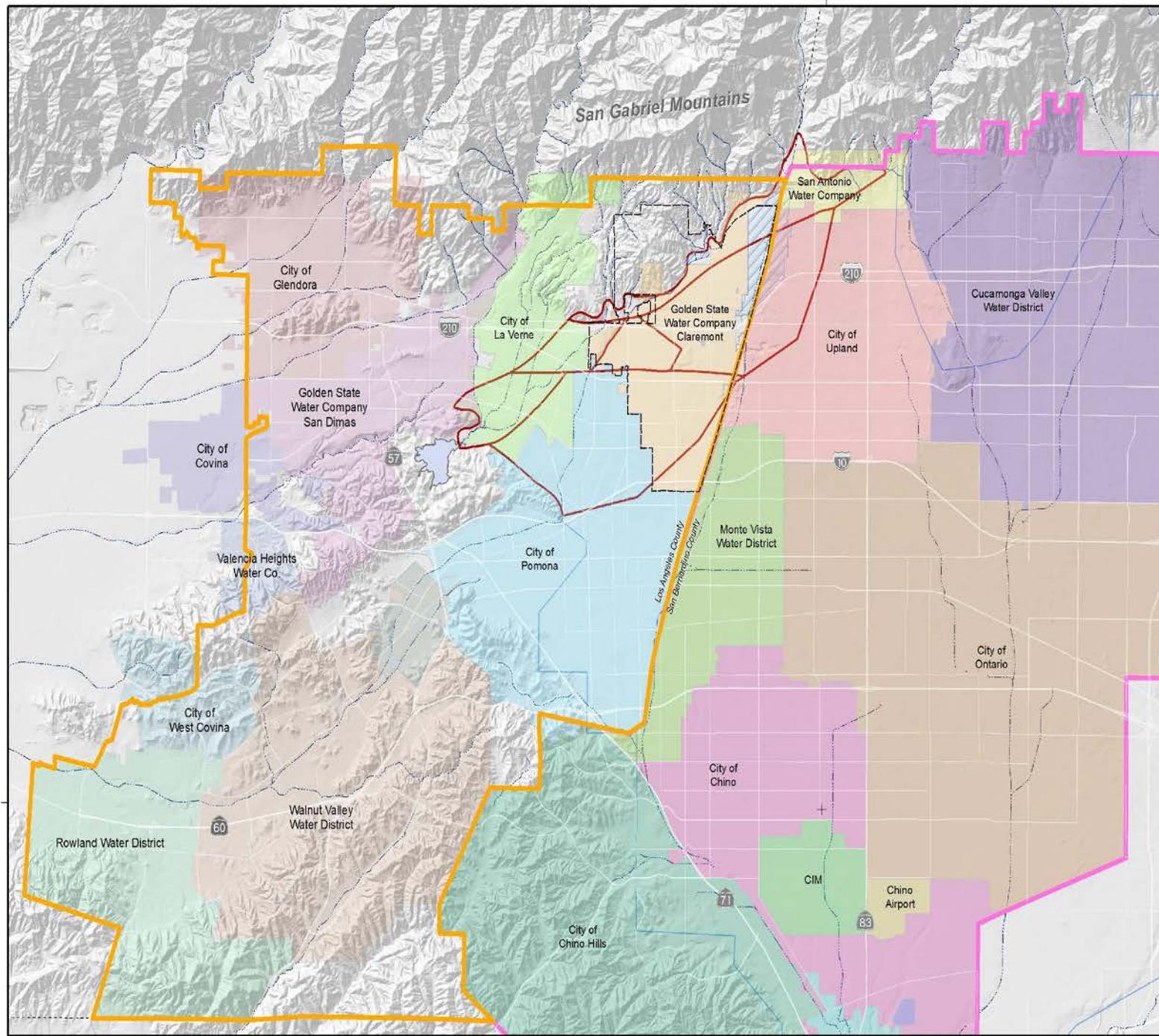


Source: WEI Figure 6-2



Figure ES-4 Projects to Optimize Conjunctive Water Management

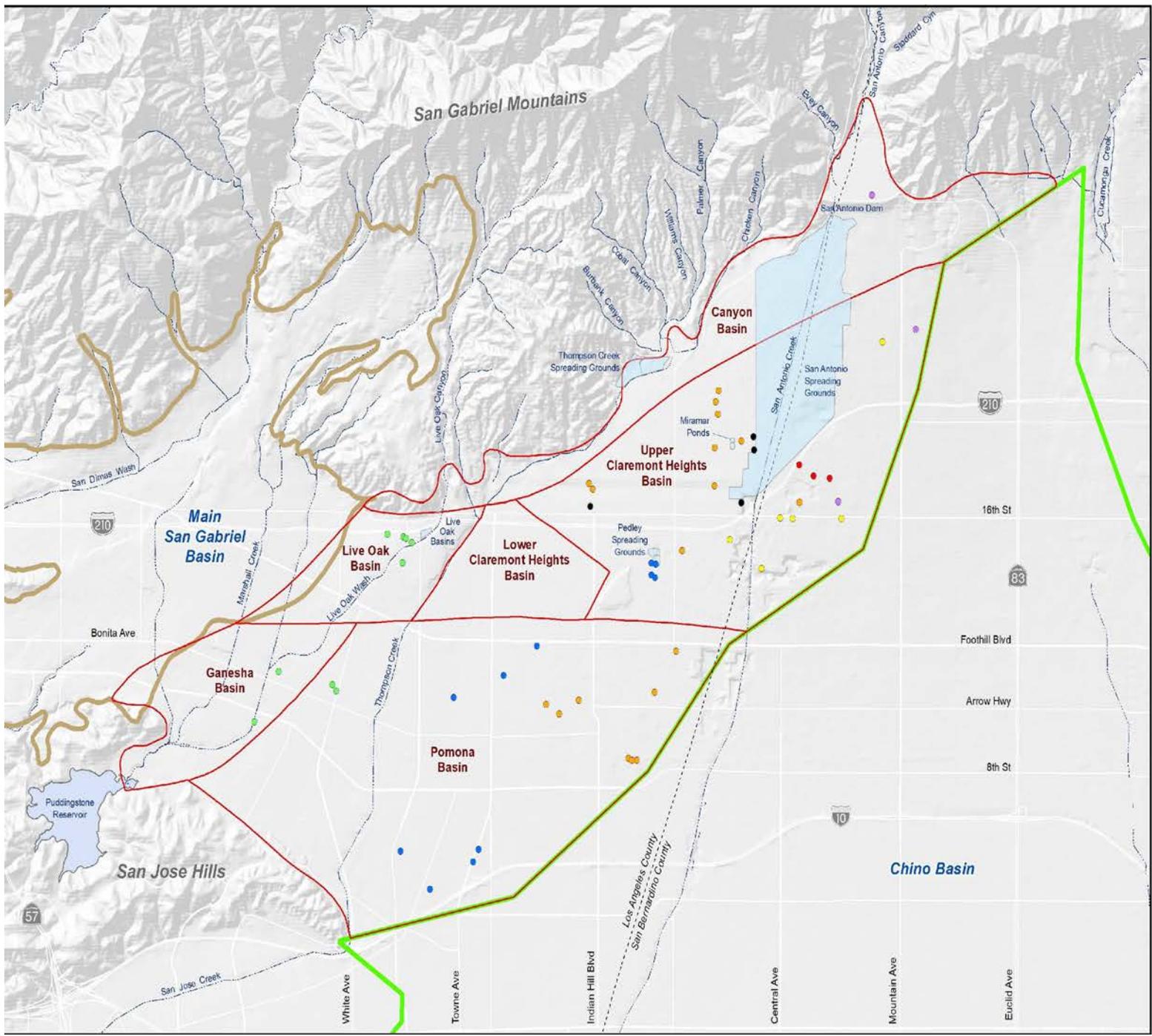
6 Basins Strategic Plan - Program EIR



Source: WEI Figure 1-1



Figure 1-1
Water Purveyors



- Adjudicated Boundaries of the Six Basins
 - Adjudicated Boundary of the Chino Basin
 - Hydrologic Boundary of the Main San Gabriel Basin
 - Spreading Grounds
- Active Production Wells in the Six Basins
Symbolized by Well Owner**
- Golden State Water Company
 - San Antonio Water Company
 - City of Upland
 - Three Valleys Municipal Water District
 - City of La Verne
 - West End Consolidated Water Company
 - City of Pomona



Source: WEI Figure 1-2



Figure 1-2
Production Wells and Spreading Grounds

6 Basins
Strategic Plan - Program EIR

1.0 Introduction

This Draft Program EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) (State Clearinghouse No. 2018091020) to evaluate the potential environmental effects of the implementation of a long-term regional plan to increase groundwater recharge, increase water storage and decrease the reliance on State supplied water within a portion of the eastern San Gabriel Valley known as the Six Basins. The “Strategic Plan for the Six Basins” (Project) is being proposed by the Six Basins Watermaster (Watermaster). The Watermaster is a public partnership of cities, Pomona College, water suppliers, mutual water companies in the eastern San Gabriel Valley who have adjudicated water rights and common goals for sustainable water management within six groundwater basins in the Six Basins project area. Because the Watermaster is made up of multiple parties and not a single agency, the Three Valleys Municipal Water District (TVMWD), a member agency, is acting as the CEQA Lead Agency for the preparation of this Program EIR.

1.1 Background

“Six Basins” is the term for a group of adjacent groundwater basins, located just south of the San Gabriel Mountains in eastern Los Angeles and southwestern San Bernardino counties where the Watermaster Parties have an adjudicated right to supply water to customers, collectively. Figure 1-1, *The Six Basins and the Water Purveyors in the Area*, shows the location of the Six Basins and the boundaries of the regional and local water purveyors in the area. The main source of groundwater replenishment to the Six Basins is surface water runoff from precipitation that falls on the San Gabriel Mountains and recharges at spreading grounds located along the foot of the mountain range. The Watermaster Parties also use imported surface water from the Metropolitan Water District of Southern California (MWD) for artificial recharge in spreading grounds (and for direct consumptive uses). Figure 1-2, *Production Wells and Spreading Grounds*, shows the locations of the existing municipal production wells within the Six Basins, color coded to the well owners. Figure 1-2 also shows the location of the spreading grounds and ponds used for stormwater and supplemental water recharge. Supplemental water is defined as imported water or recycled water.

The pumping and storage rights for the Six Basins were adjudicated in 1998 through a stipulated judgment (Judgment) titled *Southern California Water Company vs. City of La Verne, et al.* in the Superior Court of California for the County of Los Angeles (Case No. KC029152). The Judgment prescribes a physical solution for the coordinated management of the Six Basins with the objective that the Parties to the Judgment can reliably pump their respective rights and maximize the beneficial use of groundwater. While the Court maintains continuing jurisdiction over the Judgment, the Judgment also established a Watermaster to implement the physical solution.

The Six Basins Watermaster is a committee of representatives of the individual Parties to the Judgment, which include:

- Three Valleys Municipal Water District (TVMWD) – the main imported water wholesaler to the Six Basins agencies and a member agency of the Metropolitan Water District of Southern California
- Pomona Valley Protective Association (PVPA) – a California corporation that is responsible for conducting replenishment activities in the Six Basins at the direction of the Watermaster
- City of Claremont – a City that overlies a portion of the Six Basins project area and is served water by the Golden State Water Company under an agreement between the two agencies regarding water rights
- City of La Verne – a municipal water purveyor in the Six Basins
- City of Pomona – a municipal water purveyor in the Six Basins
- City of Upland – a municipal water purveyor in the Six Basins
- Golden State Water Company – an investor-owned public utility that serves water in the Six Basins to the City of Claremont and portions of Los Angeles County
- San Antonio Water Company – a mutual water corporation that pumps groundwater from the Six Basins, and other basins, for use by its shareholders including the City of Upland
- West End Consolidated Water Company – a mutual water corporation that pumps groundwater from the Six Basins and other basins
- Pomona College – an educational corporation in the City of Claremont that has executed an agreement with Golden State Water Company with regard to its groundwater rights; under an agreement between the two agencies regarding water rights

The Judgment is the current groundwater management plan for the Six Basins. The main components of the Judgment include:

- a Safe Yield of 19,300 acre-feet per year (acre-ft/yr) of annual groundwater pumping - the allocation of base annual production rights to the individual Watermaster Parties, expressed as a percentage of the Safe Yield
- an Operating Safe Yield (OSY) that is determined annually by the Watermaster, which is based on the Safe Yield and the current and expected recharge, pumping, and groundwater levels; and is allocated in proportion to the base annual production rights
- Carryover Rights, which allow up to 25 percent of a Party's unused annual OSY allocation to be carried over for use in the subsequent operating year

- the rules and methods for “replacing” groundwater pumped in excess of a Party’s share of the OSY
- the rules and responsibilities for the continued replenishment of the Six Basins with native surface water from the San Gabriel Mountains
- monitoring and mitigation measures to protect against the threat of rising groundwater
- guidelines for entering into Storage and Recovery Agreements
- the governance structure and rules to conduct and fund Watermaster activities

The Strategic Plan for the Six Basins describes the Six Basins Strategic Plan as a regional water resources management program for the coordinated use and management of all surface water and groundwater resources available to the Watermaster Parties to enhance basin yield and improve regional water-supply reliability during dry periods. The operational concept is to maximize the use of surplus local and imported surface water when it is available in greater volumes during wet periods, so that groundwater will be more available and reliable during dry periods when surface-water supplies are reduced.

A key feature of the program is to utilize the Pomona Basin, which has the greatest regulatable storage potential in the Six Basins, as a storage reservoir for a dry-year storage program. The storage program “puts” or recharges water into storage during wet years, “holds” water until needed, and “takes” or pumps the stored water when surface water and imported-water supplies are reduced due to drought or otherwise not available. This type of program would help achieve the following goals of the Strategic Plan to: (1) enhance water supplies, (2) enhance basin management, (3) protect and enhance water quality and (4) equitably finance the Strategic Plan implementation. Upon adoption, the Strategic Plan will become the water resources water management program utilized by the Watermaster Parties to implement their respective water supply and water conservation projects in a coordinated manner to optimize conjunctive water management activities in the Six Basins, and thereby increase the reliability of regional water supplies. Chapter 3, *Project Description*, describes the projects proposed by the Parties to achieve these goals in detail.

1.2 Purpose of the Program Environmental Impact Report

The Program EIR for the Strategic Plan requires the discretionary approval of the Six Basins Watermaster Board. Therefore, it is subject to the requirements of CEQA. According to CEQA Guidelines Section 15050(a), where a project is to be carried out or approved by more than one public agency, such as the Strategic Plan for the Six Basins, one public agency shall be responsible for preparing an EIR or Negative Declaration for the project. Because the Watermaster Board is made up of multiple Parties to the Judgement, and not a single entity, the TVMWD, a Watermaster Party, is acting as the CEQA Lead Agency for the preparation of the Program EIR which addresses the potential impacts associated with implementation of

the water supply, water quality and water conservation projects identified in the Strategic Plan by the individual Parties. Subsequent actions on the Program EIR will be taken by the individual member agencies responsible for approving and/or implementing the projected defined in the Strategic Plan.

As defined in CEQA Section 21061, TVMWD has prepared this Program EIR to provide the public and responsible/trustee agencies with information about the potential environmental effects associated with implementation of specific projects that are designed to facilitate the goals of the Strategic Plan for the Six Basins.

The Program EIR serves as an informational document that provides public agency decision makers and the public with the information they need regarding the significant environmental effects of a project; identifies the possible ways to minimize the significant effects; and describes reasonable alternatives to the project that would reduce or eliminate significant environmental effects associated with implementation of the Strategic Plan.

This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168, *Program EIR*. A Program EIR is appropriate for the Strategic Plan because the Plan consists of a series of actions that can be characterized as one large project and: (1) are related geographically; (2) are logical parts in the chain of contemplated actions; and (3) will be carried out in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program. In this case, the continuing program (Judgement) consisting of the water management activities in the Six Basins as outlined in the Strategic Plan; and having generally similar environmental effects which can be mitigated in similar ways.

1.3 Scope of the Program Environmental Impact Report

This Draft Program EIR addresses the potential environmental effects that may result from the implementation of the various projects proposed by Watermaster Parties that are identified in the Strategic Plan for the Six Basins. The scope of the Draft Program EIR is broad and includes the evaluation of environmental issues as identified in CEQA Guidelines Appendix G, or as specifically identified in responses received on the Notice of Preparation (NOP) of a Draft Program EIR. The NOP and comments received are included in Appendix A of this Draft Program EIR.

An Initial Study was not prepared for the proposed project. In accordance with CEQA Guidelines Section 15060(d), *“If the lead agency can determine that an EIR will be clearly required for a project, the agency may skip further initial review of the project and begin work directly on the EIR process ... In the absence of an initial study, the lead agency shall still focus the EIR on the significant effects of the project and indicate briefly its reasons for determining that other effects would not be significant or potentially significant.”*

Environmental issues addressed in this Draft Program EIR are included in the following sections of Chapter 4, *Environmental Impact Evaluation*:

Section	Environmental Issue
4.1	Aesthetics
4.2	Agriculture/Forestry Resources
4.3	Air Quality/Greenhouse Gasses/Global Climate Change
4.4	Biological Resources
4.5	Cultural Resources/Tribal Cultural Resources
4.6	Environmental Justice
4.7	Geology/Soils/Paleontological Resources/Mineral Resources
4.8	Hazards/Hazardous Materials/Wildfires
4.9	Hydrology/Water Quality
4.10	Land Use/Planning
4.11	Noise
4.12	Population/Housing
4.13	Public Services/Recreation
4.14	Transportation
4.15	Utilities/Service Systems/Energy

This Draft Program EIR addresses the issues identified above and identifies any significant environmental effects; both site-specific and cumulative. In addition, as described in CEQA Guidelines Section 15126, “*...All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation.*” To the extent feasible, this Draft Program EIR considers these requirements for evaluating a project and identifies mitigation measures proposed to minimize the significant effects.

The Draft Program EIR also evaluates the potential for the implementation of the Strategic Plan to be growth-inducing by successfully achieving the Strategic Plan goals to: enhance water supplies; enhance basin management; protect and enhance water quality and equitably finance the Strategic Plan implementation.

Finally, the Draft Program EIR evaluates alternatives to the proposed project that would reduce or eliminate potential significant impacts associated with implementation of the Strategic Plan for the Six Basins.

1.4 Lead, Responsible and Trustee Agencies

1.4.1 Lead Agency

As described in Section 1.2, TVMWD is the Lead Agency for the certification of the Strategic Plan for the Six Basins.

1.4.2 Responsible Agency

A responsible agency is a public agency, other than the lead agency, with responsibility for carrying out or approving a project. As a responsible agency, each of the Watermaster Parties will be responsible for reviewing their proposed projects identified in the Strategic

Plan in light of the findings made in the Draft Program EIR and determine if subsequent environmental documents are required pursuant to CEQA Guidelines Section 15168. In addition, the State Water Resources Control Board (SWRCB) is a responsible agency where a Watermaster member party is requesting funding through the Clean Water State Revolving Fund Program (see Section 1.8, *CEQA Plus Requirements Under the Clean Water State Revolving Fund Program*).

1.4.3 Trustee Agency

A trustee agency is a State agency that has jurisdiction by law over natural resources affected by a project, that are held in trust for the people of the State of California. California Department of Fish and Wildlife (CDFW) is an example of a trustee agency. CDFW is a trustee agency for fish and wildlife resources, and has jurisdiction over the conservation, protection and management of fish, wildlife, native plants and habitat necessary for biologically sustainable populations of those species.

1.5 Process for Review and Approval of a Program EIR

1.5.1 Notice of Preparation

On September 11, 2018, the Governor's Office of Planning and Research, State Clearinghouse, published the Notice of Preparation (NOP) at www.ceqanet.ca.gov and issued SCH#2018091020 for the Draft Program EIR. The public review period occurred between September 11 and October 10, 2018. The NOP sent to the State Clearinghouse was accompanied by a Notice of Completion (NOC) of the NOP as required, and a Project Description.

The NOP was also made available for public review at the San Bernardino and Los Angeles County Clerk's offices.

On September 12, 2018, TVMWD published the Notice of Preparation (NOP) of a Draft Program EIR, in a newspaper of general circulation as required under CEQA Section 21092(b)(3)(a) which states "*...Publication, no fewer times than required by Section 6061 of the Government Code, by the public agency in a newspaper of general circulation in the area affected by the proposed project. If more than one area will be affected, the notice shall be published in the newspaper of largest circulation from among the newspapers of general circulation in those areas...*" Because the Strategic Plan covers a large geographic region over several jurisdictions, TVMWD published the notice in two newspapers, the Inland Valley Bulletin and the San Gabriel Valley Tribune. Because the newspaper publication date was September 12th, the public review period identified in the newspapers showed an end date of October 12th to provide the full 30-day review period.

In addition to publication at the State Clearinghouse and in two newspapers of general circulation, the NOP was sent directly to all agencies, organizations and interested persons that were believed to have an interest in Strategic Plan implementation and thus would

review the Draft Program EIR. Copies of the NOP and related documents, including the NOP mailing list, are provided in Appendix A. Table 1-1, *Summary of Comments Received on the Notice of Preparation*, lists the agencies, organizations or individuals that provided comments.

Table 1-1 Summary of Comments Received on the Notice of Preparation

Comment/Date Received	Summary of Environmental Issues Raised	Where in the Program EIR Comments are Addressed
Native American Heritage Commission September 19, 2018	Reminded the lead agency of the requirements for tribal consultation under AB 52.	See Section 4.5, <i>Cultural Resources/Tribal Cultural Resources</i>
South Coast Air Quality Management District September 26, 2018	<p>Identify SCAQMD as a responsible agency in the event that proposed projects require permits to construct or operate from SCAQMD.</p> <p>Use the SCAQMD CEQA Air Quality Handbook and CALEEMod to quantify criteria pollutant emissions and compare to regional and localized significance thresholds.</p> <p>Evaluate any potential air quality impacts that would occur during construction and long-term operation of the projects identified in the Strategic Plan.</p> <p>Perform a mobile source health risk assessment if the project generates or attracts vehicle trips especially heavy-duty diesel-fueled vehicles.</p> <p>Evaluate the Strategic Plan in light of the 2016 AQMP and determine consistency.</p> <p>Include all feasible mitigation measures to reduce significant adverse air quality impacts and evaluate alternatives that would reduce any significant air emissions.</p>	<p>See Section 3.7 of Chapter 3, <i>Project Description</i> for a list of responsible agencies with permitting authority</p> <p>See Section 4.3, <i>Air Quality/Greenhouse Gasses/Global Climate Change</i> for an evaluation of the issues raised in the SCAQMD comment letter</p> <p>Also see Section 4.8, <i>Hazards/Hazardous Materials/Wildfire</i>, for a discussion of treatment facilities that may require SCAQMD permits to construct/operate</p>
San Bernardino County Department of Public Works October 3, 2018	Identify San Bernardino County Department of Public Works as a responsible agency for the issuance of encroachment permits.	See Section 3.7 in Chapter 3, <i>Project Description</i> for a list of responsible/permitting agencies

Comment/Date Received	Summary of Environmental Issues Raised	Where in the Program EIR Comments are Addressed
	<p>Storm drains exist in the Six Basins area that may be affected by projects proposed by member agencies. Any revisions to the drainage system should be reviewed by the respective agencies where a project will be implemented.</p> <p>The County of San Bernardino Flood Control District (SBCFCD) has flood control facilities within the San Antonio Wash area that would be affected and encroachment permits may be required.</p> <p>SBCFCD facilities built by the Army Corps of Engineers (USACE) will require SBCFCD to obtain a Section 408 permit from USACE.</p> <p>If required, their necessity and any impacts associated with construction should be addressed in the Draft EIR prior to certification.</p>	See Section 4.9, <i>Hydrology and Water Quality</i>
	Keep SBCFCD informed of any changes to the project description/scope and provide copies of all public notices and documents to Public Works for review.	The Department of Public Works/Flood Control District are on the mailing list to receive all project related notices and documents
Southern California Association of Governments October 6, 2018	Evaluate the project's consistency with the regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS) for planning future mobility and housing needs with goals for the environment, regional economy, social equity/environmental justice and public health.	See Section 4.10, <i>Land Use and Planning</i> and Section 4.6, <i>Environmental Justice</i>
California Department of Fish and Wildlife October 11, 2018	Groundwater dependent ecosystems (GDEs). The Program EIR should verify the existence of GDEs and identify vegetated communities to determine whether GDEs are affected by groundwater withdrawals and recharge and provide options on how the Watermaster might monitor and manage for impacts.	See Section 4.4, <i>Biological Resources</i> and Section 4.9, <i>Hydrology/Water Quality</i>

Comment/Date Received	Summary of Environmental Issues Raised	Where in the Program EIR Comments are Addressed
	<p>Sensitive Vegetation Communities – Alluvial Fan Sage Scrub. Expanding the San Antonio Spreading Grounds would impact the remaining example of this community. CDFW recommends fully avoiding this impact.</p> <p>Rare, Threatened and/or Endangered Species – the proposed project would have a substantial adverse effect on a number of rare, threatened or endangered species.</p> <p>CDFW has requested that the Program EIR include a complete discussion of the purpose and need for each of the projects identified in the Strategic Plan; a complete evaluation of the direct, indirect and cumulative impacts associated with project implementation; and mitigation measures to substantially lessen any significant effects CDFG has provided guidance on the content of a Biological Baseline</p>	
California Department of Fish and Wildlife October 11, 2018 (continued)	<p>Assessment and the protocols for surveying and evaluating impacts to special status species of plants and wildlife; and for preparing restoration and revegetation plans.</p> <p>CDFW has requested that the Program EIR include an evaluation of a range of alternatives to avoid or substantially lessen the significant effects.</p>	<p>See Section 4.4, <i>Biological Resources</i></p> <p>See Chapter 6, <i>Alternatives</i></p>

Comment/Date Received	Summary of Environmental Issues Raised	Where in the Program EIR Comments are Addressed
<p>Metropolitan Water District of Southern California (MWD) October 12, 2018</p>	<p>The Strategic Plan covers an area that includes several of MWD's feeder pipelines. The Strategic Plan and Program EIR must consider these facilities in planning projects in order to not impact MWD's ability to access, operate and maintain these existing facilities.</p> <p>Any grading within a MWD easement will require review and approval prior to construction.</p> <p>A copy of MWD's <i>Guidelines for Developments in the Area of Facilities, Fee Properties and/or Easements of the Metropolitan Water District of Southern California</i> was included with the letter.</p>	<p>See Section 4.9, <i>Hydrology/Water Quality</i> for a discussion of MWDs for construction of future Strategic Plan projects</p> <p>See Section 3.7 of Chapter 3, <i>Project Description</i>, for MWD as a review/permitting agency should any project requiring and easement</p>
<p>Los Angeles County Department of Public Works October 16, 2018</p>	<p>Revise the discussion in the NOP regarding LACFCD's role in providing flood protection with the dam, and not groundwater recharge which is a function of another agency.</p> <p>Diverting stormwater and dry-weather flows from Thompson Creek Channel into new Fairplex recharge basins will require a permit from LACFCD and a Section 408 permit from USACE.</p> <p>Watermaster member agencies should review the current FEMA insurance rate maps to determine flood hazard impacts future projects may have on properties in the vicinity of project sites.</p>	<p>See Section 4.9, <i>Hydrology/Water Quality</i> for an evaluation of flooding and flood management</p>

1.5.2 Public Scoping Meeting

Per CEQA Section 21083.9(a)(2), a lead agency must hold a scoping meeting when a project is of statewide, regional, or areawide significance. The notice of a Public Scoping meeting was included in the NOP published in the Inland Daily Bulletin and San Gabriel Valley Tribune. The meeting was held on September 26, 2018 at approximately 2 pm; at the end of a regularly scheduled Six Basins Watermaster Board meeting. As stated previously, TVMWD

is a member agency of the Six Basins Watermaster and is acting as the lead agency for the preparation of this Draft PEIR. No additional comments were received at this meeting.

1.5.3 Draft Program EIR

The Draft Program EIR or a Notice of Availability (NOA) of this Draft Program EIR has been distributed to those agencies, organizations or interested persons identified on the NOP mailing list, as well as any additional entities who have expressed an interest in the project since the time of publication of the NOP.

The Draft Program EIR circulates for a 60-day review period in accordance with CEQA Guidelines Section 15087. The review period begins on May 26, 2021 and ends on July 28, 2021. The Draft Program EIR is available for review and comment at:

Three Valleys Municipal Water District website www.threevalleys.com and Six Basins Watermaster website: www.6bwm.com.

Interested parties may provide comments on the Draft Program EIR in written form, which must be received in the office identified below no later than 5 p.m. on July 28, 2021. Written comments on the Draft Program EIR may be provided by e-mail or be sent via U.S. mail and addressed to:

Three Valleys Municipal Water District
Attention: Ben Peralta, P.E. Project Manager
1021 Miramar Avenue, Claremont, CA 91711
or: bperalta@tvmwd.com

1.6 Adequacy of the Program EIR

The level of detail contained in this Program EIR is consistent with the CEQA Guidelines Section 15151 and court decisions that set the standard for adequacy of an EIR to support implementation of a project; in this case, the Strategic Plan for the use and management of the water resources of the Six Basins by member agencies of the Six Basins Watermaster Board. CEQA Section 15151 states:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

CEQA Guidelines Section 15150 allows a lead agency to incorporate by reference all or portions of another document that is a matter of public record or is generally available to the public. Because the Watermaster Board consists of a number of member agencies (Parties to the Judgement), various planning documents including city and county general plans have been incorporated by reference; and regional plans such as those developed by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG). Reference documents have been used to prepare the Existing Hydrologic and Water Quality Conditions/Environmental Setting (Chapter 2, *Hydrology/Water Quality Existing Conditions*) for individual environmental topics evaluated in Chapter 4, *Environmental Impact Evaluation*. See References sections at the end of each Section of Chapter 4, *Environmental Impact Evaluation*.

1.7 Intended Use of the Program EIR

CEQA Guidelines Section 16168(c) describes how a Program EIR may be used with activities such as those outlined in the Strategic Plan being proposed by the Watermaster Parties (see Chapter 3, *Project Description*). These activities are considered subsequent or later activities under CEQA. At such time as a project is proposed subsequent to the certification of the Program EIR, the individual Party proposing the project must evaluate the project in light of the findings of the Program EIR to determine whether an additional environmental document such as a Subsequent EIR or Subsequent Mitigated Negative Declaration would be required. If the project would have effects that were not examined in the Program EIR, an Initial Study must be prepared to determine what type of subsequent environmental document should be prepared. However, if the agency finds that pursuant to Section 15162, no new effects could occur, or no new mitigation measures would be required, the agency may approve the activity as being within the scope of the project covered by the Program EIR, and no new environmental document would be required. For the latter, findings must be made that the project has been evaluated within the scope of the EIR and a Notice of Determination (NOD) for each subsequent project must be filed with the County Clerk.

The Program EIR may also be used by other responsible or trustee agencies who have permitting authority over Watermaster Parties' projects as they are ripe for construction and operation. These may include but are not limited to the California Department of Fish and Wildlife and the State Water Resources Control Board.

1.8 CEQA/NEPA Requirements Under the Clean Water State Revolving Fund Program

The Clean Water State Revolving Fund (CWSRF) Program is administered by the State Water Resources Control Board (SWRCB) and partially funded by the US Environmental Protection Agency (USEPA). The purpose of the CWSRF Program is to implement the federal Clean Water Act and other State laws by providing low-interest financing for construction of new or improvements to existing water supply and water treatment facilities. The Strategic Plan

identifies a number of projects including rehabilitation of groundwater production wells and water treatment facilities that could qualify for CWSRF funding. Projects that qualify to participate in the CWSRF Program are deemed projects under CEQA but because of the federal nexus with the USEPA, must also meet federal environmental laws and regulations.

SWRCB's Environmental Review Unit (ERU) has implemented a State Environmental Review Process (SERP) to review all environmental documentation submitted as part of an applicant's request for funding under the CWSRF Program, to ensure a project's compliance with State and federal environmental laws and regulations, prior to receiving funding. SWRCB has its own National Environmental Policy Act (NEPA like) SERP, which utilizes the environmental documents developed by a lead agency under CEQA as well as documents prepared for compliance with specified federal environmental laws and regulations (also referred to as federal cross-cutters) for its NEPA like process which is referred to as CEQA Plus. The CEQA-Plus process complies with the required elements outlined in 40 CFR Section 35.3140(b) *Environmental Review Requirements, NEPA-like State Environmental Review Process*, and refers to the documents prepared for CEQA as well as the supplemental information provided for compliance with the applicable federal cross cutters authorities.

The Draft Program EIR addresses the federal "cross-cutter" categories in compliance with the following federal laws/programs, in relevant sections of Chapter 4, *Environmental Impact Evaluation*:

Federal Act/Program	Program EIR Section
Endangered Species Act	Section 4.4, <i>Biological Resources</i>
Section 106 of the National Historic Preservation Act	Section 4.5, <i>Cultural Resources/Tribal Cultural Resources</i>
Clean Air Act	Section 4.3, <i>Air Quality/Greenhouse Gasses/Global Climate Change</i>
Environmental Justice, Executive Order No. 12898	Section 4.6, <i>Environmental Justice</i>
Floodplain Management, Executive Order 11988	Section 4.9, <i>Hydrology/Water Quality</i>
Migratory Bird Treaty Act	Section 4.4, <i>Biological Resources</i>
Protection of Wetlands – Executive Order 11990	Section 4.4, <i>Biological Resources</i>

1.9 Organization of the Draft Program EIR

The Draft Program EIR has been organized into the following chapters:

Chapter ES - Executive Summary. This chapter summarizes the contents of the Draft Program EIR and includes a table identifying environmental topics; potential impacts, proposed mitigation measures, and level of significance after implementation of mitigation measures; as well as a summary of Alternatives.

Chapter 1 - Introduction. This chapter discusses the CEQA process and the purpose of the Draft Program EIR. It also includes a discussion of CEQA-Plus requirements when a Watermaster member agency is seeking funding under the CWSRF Program.

Chapter 2 - Existing Conditions. This chapter summarizes the existing conditions and environmental setting for the main environmental issues related to water supply and water quality identified in Section 1.3, *Scope of the Program Environmental Impact Report*.

Chapter 3 - Project Description. This chapter provides an overview of the Strategic Plan for the Six Basins including a description of the projects being proposed by the Watermaster Parties. This chapter also provides a summary of the Watermaster's current management plan for the Six Basins; describes the need for and objectives of the Strategic Plan and provides detail on the characteristics of the proposed water resources management program.

Chapter 4 - Environmental Impact Evaluation. This chapter is divided into sections by environmental topic. Each section briefly describes the environmental setting; evaluates impacts associated with the implementation of the Strategic Plan for the Six Basins and the individual projects described in Chapter 3; evaluates how implementation of the Strategic Plan may contribute to the severity of a cumulative impact, identifies mitigation measures for impacts that are found to be potentially significant; and provides a summary of impacts after mitigation measures have been implemented.

Chapter 5 - Other CEQA Sections. This chapter provides a summary of the effects that were found not to be significant and those that were found to be significant and unavoidable. In addition, this section discusses the significant irreversible environmental changes and potential growth inducing impacts associated with the implementation of the Strategic Plan.

Chapter 6 - Alternatives Analysis. This chapter presents an overview of the alternatives development process and describes/evaluates the alternatives to the proposed Strategic Plan that were considered.

Chapter 7 - Report Preparation. This chapter also provides a list of key staff of the lead agency, TVMWD and the Six Basins Watermaster, as well as the authors who prepared the Draft Program EIR and technical reports used in its preparation.

1.10 References

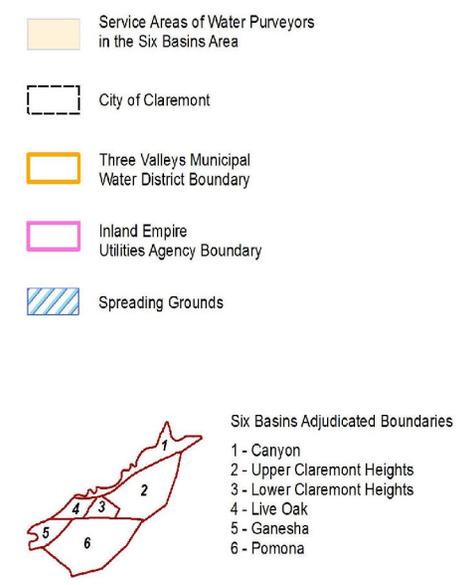
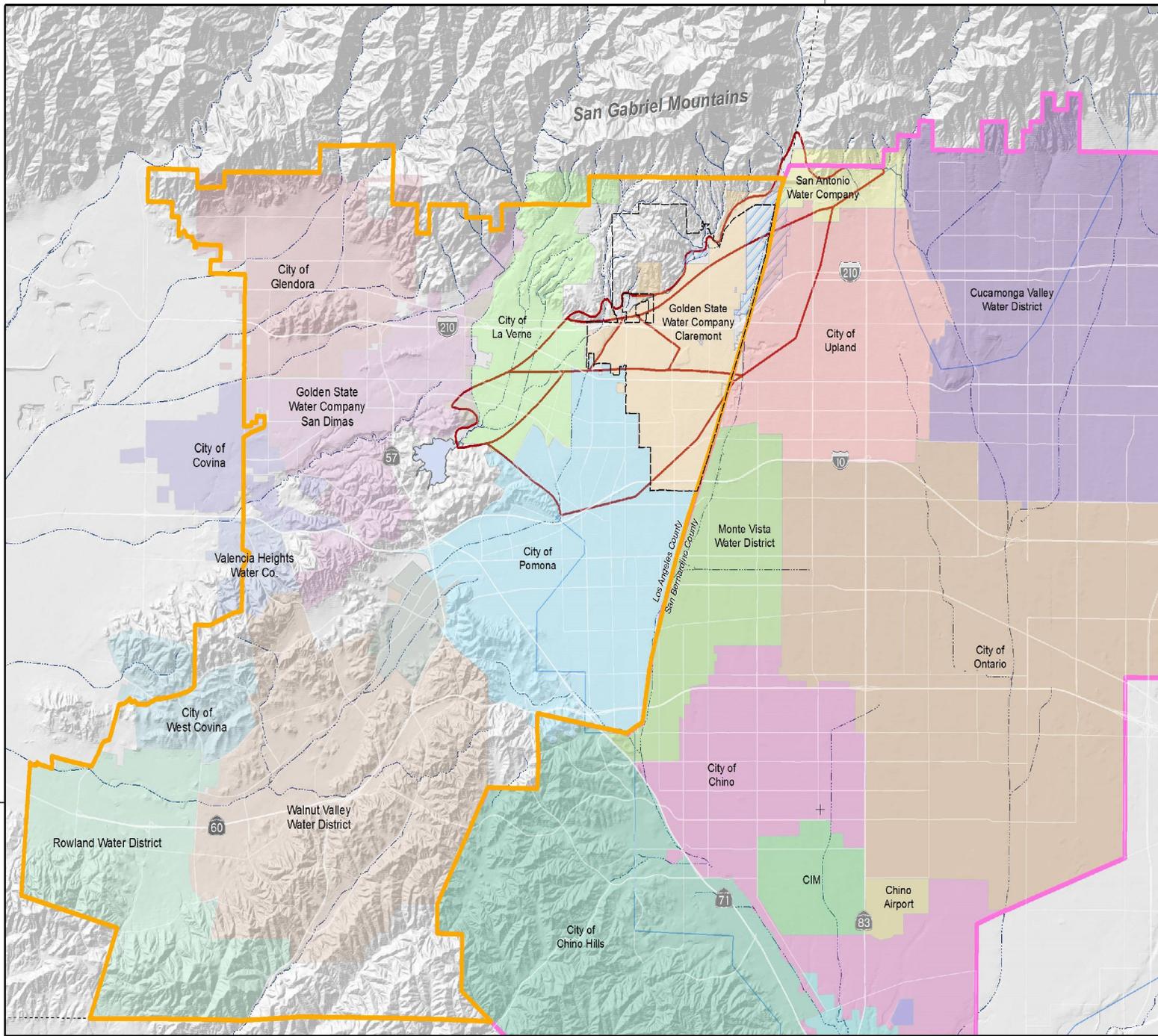
SWRCB, April 2017. *Appendix I: State Environmental Review Process State Water Resources Control Board Clean Water State Revolving Fund Program.*

SWRCB, November 2018. *Policy for Implementing the Clean Water State Revolving Fund (as amended November 2018)*

WEI, Inc, November 2017, *Strategic Plan for the Six Basins.*

Governor's Office of Planning and Research, 2018, California Environmental Quality Act and Guidelines.

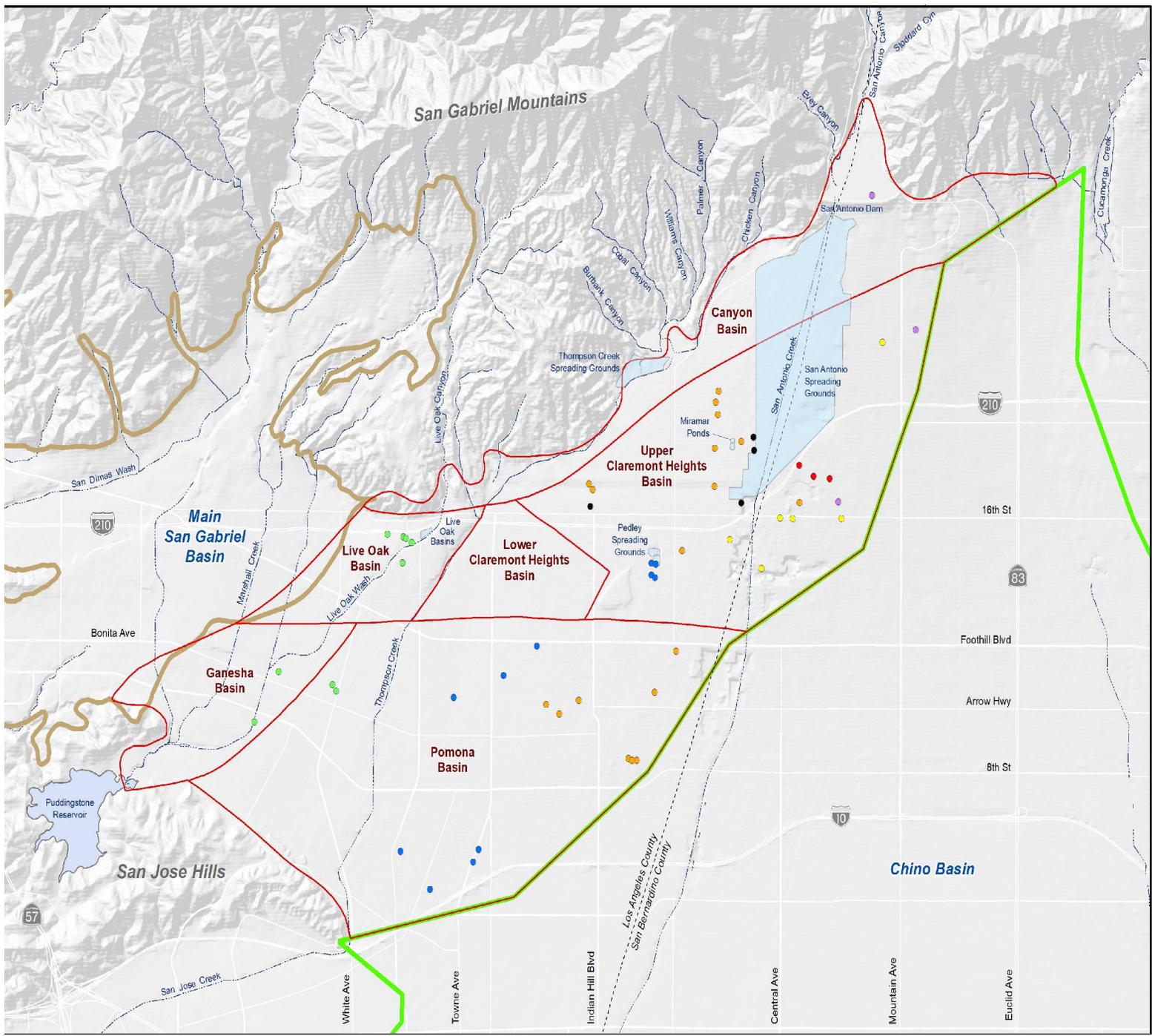
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Source: WEI Figure 1-1



Figure 1-1
Water Purveyors



- Adjudicated Boundaries of the Six Basins
 - Adjudicated Boundary of the Chino Basin
 - Hydrologic Boundary of the Main San Gabriel Basin
 - Spreading Grounds
- Active Production Wells in the Six Basins**
Symbolized by Well Owner
- | | |
|--|---|
| ● Golden State Water Company | ● San Antonio Water Company |
| ● City of Upland | ● Three Valleys Municipal Water District |
| ● City of La Verne | ● West End Consolidated Water Company |
| ● City of Pomona | |



Source: WEI Figure 1-2



Figure 1-2
Production Wells and Spreading Grounds

6 Basins
Strategic Plan - Program EIR

2.0 Existing Conditions

The Strategic Plan for the Six Basins, once approved, will be the water resources management program utilized by the Watermaster Parties to implement their respective water supply and water conservation projects in a coordinated manner to optimize water management activities in the Six Basins. The Watermaster Parties have agreed to four goals for the Strategic Plan: (1) enhance water supplies, (2) enhance basin management, (3) protect and enhance water quality and (4) equitably finance the Strategic Plan implementation.

This chapter provides the background and an understanding of the existing environmental conditions in Six Basins project area.

2.1 Project Location

The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains. Regionally, the Six Basins underly a portion of the Eastern San Gabriel Valley in Los Angeles County, and the City of Upland, and the unincorporated community of San Antonio Heights in western San Bernardino County. The project area is an urbanized area along the base of the mountains. Figure 2-1, *Watersheds Tributary to the Six Basins*, shows the relationship between the source of the water and the groundwater basins.

The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east. Figure 2-2, *Water Purveyors*, shows the location of the Six Basins within the larger San Gabriel Valley region, and the agencies that provide water in the area.

Water extracted from the Six Basins is a significant source of supply for the purveyors that serve the overlying area and surrounding regions. These purveyors include the cities of La Verne, Pomona and Upland' the Golden State Water Company (GSWC), Pomona College, the San Antonio Water Company (SAWCo), the Three Valleys Municipal Water District (TVMWD), and the West End Consolidated Water Company (WECWC). To meet the water demands of their service areas, these agencies also rely on surface water from San Antonio and Evey Canyons; groundwater from the Chino, Cucamonga, and Spadra Groundwater Basins; and State Water Project (SWP) and Colorado River Aqueduct (CRA) water imported by the TVMWD and the Inland Empire Utilities Agency (IEUA), both members of the Metropolitan Water District of Southern California (MWDSC).

2.2 Basin Adjudication

The pumping and storage rights for the Six Basins were adjudicated in 1998 through a stipulated judgment (Judgment) titled "Southern California Water Company vs. City of La Verne, et al." in the Superior Court of California for the County of Los Angeles (Case No.

KC029152). The Judgment prescribes a physical solution for the coordinated management of the Six Basins with the objective that the Parties to the Judgment can reliably pump their respective rights and maximize the beneficial use of groundwater. While the Court maintains continuing jurisdiction over the Judgment, the Judgment also established a Six Basins Watermaster to implement the physical solution.

Part of the solution was the establishment of a Safe Yield at 19,300 acre-feet per year (afy) and a Base Annual Production Right for each Party as a percentage of the Safe Yield. This was based on historical groundwater production for the period of 1985 through 1996 and a safe yield study developed by Camp Dresser McKee (CDM, 1996). Safe Yield is defined in the Judgment as *“the amount of groundwater, including Replenishment and return flows from imported water, that can reasonably be produced from the combined Two Basins and Four Basins Areas on an annual basis without causing an undesirable result”*.

Although prior hydrologic and physical conditions limited the Safe Yield to 19,300 afy, through the coordinated and equitable management of the Six Basins, the Physical Solution of the Judgment establishes that an OSY, an Operating Plan, and Base Annual Production Rights can be established independently for the Four Basins (Canyon Basin, UCH, Lower Claremont Heights Basin, and Pomona Basin) and the Two Basins areas (Live Oak Basin and Ganesha Basin). The Two Basins are for the sole use of the City of La Verne. The allocation of Base Annual Production Rights for the Four Basins per the Judgment is shown in Table 2-1, *Base Annual Production Rights of the Six Basins Parties*.

Table 2-1 Base Annual Production Rights of the Six Basins Parties

Six Basins Watermaster Party ¹	% Share	Base Annual Production Right (afy)
City of Claremont	2.772	535
City of La Verne	7.601	1467
City of Pomona	20.798	4,014
City of Upland	9.544	1,842
Golden State Water Company	34.741	6,705
Pomona College	1.850	357
San Antonio Water Company	7.166	1,383
Three Valleys Municipal Water District	0.130	25
West End Consolidated Water Company	15.399	2,972
Totals	100%	19,300

Source: WEI Environmental, *Six Basins Watermaster Annual Report CY 2018*, page 1-2.

Notes:

1. Although PVPA is a Party, it does not produce or distribute water to customers or other agencies, only conduct spreading and replenishment activities in support of other Parties. Therefore, PVPA does not have production rights.

2.2.1 Establishment of an Annual OSY for the Four Basins

In addition, each year the Watermaster is responsible for determining an Operating Safe Yield (OSY) for the Four Basins, based on recent and expected replenishment, pumping, and groundwater levels. The OSY is allocated to the Parties based on their percentage share of the Base Annual Production Right of 19,300 afy. In addition to each Party's share of the OSY, the following production rights are provided for in the Judgment:

- *Carryover Rights.* In addition to each Party's share of the OSY, Carryover production rights are provided for in the Judgment so that a Party that under-produces its share of the OSY in any given year may "carryover" the unproduced portion of the OSY to be produced in the following year. A Party's Carryover Right is limited to 25 percent of its share of the OSY. Each year, the first water produced by the Party is considered the Carryover Right from the previous year (Judgement Section III.B.2).
- *Storage and Recovery.* Parties holding a Base Annual Production Right in the Four Basins have the exclusive rights to utilize unused storage capacity in the Four Basins, subject to an approved Storage and Recovery Agreement with Watermaster (Judgement Section III.B.5). Storage and Recovery Agreements define the type of water that may be stored (other native water, imported water, or other water such as recycled water), list acceptable locations for spreading, define how the volume of recoverable water is calculated from the volume of water spread, and prescribe annual and total storage limitations. Currently, three Parties have Storage and Recovery Agreements with Watermaster: Pomona, SAWCo, and the TVMWD.
- *Transfers.* Any Party's Base Annual Production Right, and its associated percentage of the OSY, as well as any Carryover Rights and water stored pursuant to a Storage and Recovery Agreement may be transferred, in whole or in part, temporarily or permanently, among the existing Parties or to any other person that becomes a Party (Judgement Section III.B.3).
- *Special Projects.* Any Party may propose, for Watermaster approval, special projects for controlling groundwater levels or for the remediation of water quality problems in the Four Basins. Special project proposals must include an analysis of all project benefits, an analysis of any potential adverse impacts to any other Party, and mitigation measures, as necessary (Judgement Section VI.B.11). If Watermaster approves the project and groundwater extractions resulting from the project are deemed to benefit the overall management of the basin, Watermaster may exempt the water produced as part of the project, in whole or in part, from being debited against the producer's share of the OSY.
- *Temporary Surplus.* The Judgment recognizes that from time to time it may be in the best interest of the Parties — for the control of high groundwater, water quality remediation, or other reasons — for Watermaster to declare a Temporary Surplus of groundwater available for production over and above the established OSY.

Temporary Surplus rights are not subject to the accrual of Carryover Rights (Judgement Section VI.B.12).

- *Replacement Water.* Each year, a Party's total allowable production right is the sum of its share of the OSY, Carryover Rights from the previous year, total recoverable water in storage, transfers from other parties, water produced by an approved special project, and Temporary Surplus water. To the extent that any Party's total production exceeds its total allowable production, that Party is obligated to recharge Replacement Water in an amount equal to the excess production.

2.2.2 Groundwater Production from the Six Basins

Each year, the Watermaster is responsible for determining an OSY for the Four Basins, based on recent and expected replenishment, pumping, and groundwater levels. The OSY is allocated to the Parties based on their percentage share of the Base Annual Production Right of 19,300 afy as shown in Table 2-1. The Watermaster obtains precipitation data measured at the US Army Corps of Engineers San Antonio Dam precipitation station. Table 2-2, *Historical Precipitation and Spreading – CY1999 through CY2018 (af)*, shows annual measurements since adjudication (1998). During this 20-year period, precipitation ranged from a minimum of 7.2 inches during CY2013 to a maximum of 40 inches during CY2005. The CY abbreviation is for calendar year. Other measurements are displayed as WY - water year. The water year spans the period between October of one year through September of the following year. There are currently four locations where water is spread to recharge groundwater in the Four Basins: San Antonio Creek, Thompson Creek and Pedley Spreading Grounds and the Miramar Water Treatment Plant wash ponds. and one -the Live Oak spreading grounds - in Two Basins.

Table 2-3, *Annual Groundwater Production by Party in the Six Basins (CY1999 through CY2018)*, shows the annual OSY set by the Watermaster in the Four Basins. Table 2-3 shows that groundwater production has exceeded the OSY in only two years since the adjudication: CY2006 and CY2012. In CY2006, the excess production was approved by the Board, which declared a Temporary Surplus of 6,000 af available for production to mitigate for the potential of high groundwater in the Four Basins. Then in CY2012, production exceeded the OSY by 262 af. In CY2018, the Parties under-produced their allocated OSY of 13,500 af by about 2,500 af.

Table 2-2 Historical Precipitation and Spreading- CY1999 through CY2018

Year	Precip (inches)	Spreading ¹						
		Four Basins					Two Basins	Six Basins Total
		SASG ²	TCSG	Pedley	Miramar ³	Total	Live Oak ⁴	
1999	10.0	33.5	9.8	459.6	0.0	502.8	48	550.8
2000	19.1	114.0	6.6	597.4	0.0	718.0	0.0	718.0
2001	23.9	427.8	0.0	722.6	26.0	1,176.4	74.0	1,250.4
2002	14.2	0.0	0.0	257.0	26.0	283.0	0.0	283.0
2003	24.3	446.9	0.0	1,701.7	26.0	2,174.6	11.0	2,185.6
2004	26.2	2,082.9	126.9	997.8	26.0	3,233.6	0.0	3,233.6
2005	40.0	29,683.2	157.8	776.5	26.0	30,643.4	1,033.1	31,676.5
2006	21.5	5,877.2	73.0	474.5	26.0	6,450.7	441.4	6,892.1
2007	9.1	118.3	0.0	109.8	26.0	254.1	0.0	254.1
2008	25.0	1,582.1	70.8	398.3	7.1	2,058.3	197.0	2,255.3
2009	16.5	292.3	39.7	313.7	30.3	676.0	160.0	836.0
2010	38.5	5,097.3	36.2	290.6	4.3	5,428.4	489.0	5,917.4
2011	13.3	8,093.7	50.0	1,013.3	10.8	9,167.9	207.0	9,374.9
2012	13.4	867.5	9.4	241.9	11.5	1,130.3	124.0	1,254.3
2013	7.2	401.3	0.4	113.1	6.7	521.6	0.0	521.6
2014	11.2	832.1	7.1	140.9	33.6	1,013.7	0.0	1,013.7
2015	9.4	394.1	5.0	122.4	53.4	574.9	791.5	1,366.4
2016	17.5	342.3	6.1	393.2	31.8	773.4	0.9	774.3
2017	20.2	3,444.0	7.6	1,038.0	2.1	4,491.6	169.0	4,660.6
2018	17.8	194.7	13.0	413.2	3.3	624.2	0.0	624.2
Minimum	7.2	0.0	0.0	109.8	0.0	254.1	0.0	254.1
Maximum	40.0	29,683.2	157.8	1,701.7	53.4	30,643.4	1,033.1	31,676.5
Average	18.9	3,016.3	31.0	528.8	18.9	3,594.8	187.3	3,782.1

Source: WEI Environmental, Six Basins Watermaster Annual Report CY2018, Table 3-2.

Notes:

1. Spreading at Live Oak includes native water diversions from the Live Oak Wash and imported water recharge.
2. Spreading totals include Replenishment by PVPA and other native and imported water spreading for Storage and Recovery by SAWCo, Pomona, and the TVMWD. Note that the 2015 value has been updated based on the most recent data.
3. In 2008, Watermaster credited the TVMWD's Storage and Recovery account with 181.7 af of water spread at the Miramar Water Treatment Plant wash water ponds for the period of 2001 through 2007. The values shown here represent an equal, annual distribution of spreading for this period.
4. Spreading totals represent the measured volume of water spread by each agency; these values do not account for losses that are assessed for storage and recovery account.

Table 2-3 Annual Groundwater Production by Party in the Six Basins CY 1999 through CY 2018 (af)

Year	Four Basins											Two Basins	Six Basins Total
	Claremont	La Verne	Pomona	Upland	GSWC	Pomona College	SAWCo	TVMWD	WECWC	Total	OSY	La Verne	
1999	0.0	844.9	3,061.2	2,682.5	8,904.4	0.0	963.7	0.0	4,073.8	20,530.6	24,000	6.7	20,537.3
2000	0.0	1,087.0	2,292.8	1,795.6	7,764.4	0.0	884.8	0.0	2,055.2	15,879.8	22,000	41.8	15,921.6
2001	0.0	802.3	2,197.7	2,397.4	7,112.1	0.0	1,303.1	0.0	1,978.4	15,791.1	22,000	153.7	15,944.7
2002	0.0	1,305.7	1,270.7	1,313.8	6,247.2	0.0	1,338.5	0.0	2,144.7	13,620.6	19,500	266.0	13,886.7
2003	0.0	1,389.1	1,170.5	2,158.6	6,370.0	0.0	1,285.5	0.0	1,433.0	13,806.7	18,000	258.5	14,065.2
2004	0.0	1,411.4	1,449.4	1,624.4	6,534.7	0.0	1,354.6	0.0	1,129.8	13,504.3	17,000	54.9	13,559.2
2005	0.0	1,455.2	3,545.4	2,492.2	7,652.4	0.0	1,102.4	0.0	2,658.7	18,906.2	22,500	222.5	19,128.7
2006	0.0	1,469.0	5,600.4	1,423.9	9,402.3	0.0	1,534.7	0.0	3,630.2	23,060.5	18,000	475.1	23,535.7
2007	0.0	1,507.4	4,565.8	1,562.6	8,428.2	0.0	1,790.3	0.0	2,577.4	20,431.6	22,000	663.5	21,095.2
2008	0.0	1,164.1	3,860.0	1,926.0	7,079.1	0.0	716.9	0.0	2,454.3	17,200.4	18,500	997.5	18,197.9
2009	0.0	1,330.1	3,613.3	1,875.4	6,900.4	0.0	633.9	402.7	2,728.3	17,484.2	17,500	1,398.9	18,883.0
2010	0.0	1,099.1	4,002.5	1,959.3	5,529.6	0.0	751.1	769.2	2,944.9	17,056.5	17,500	1,406.6	18,463.0
2011	0.0	752.2	3,843.7	1,391.3	6,340.4	0.0	1,173.9	779.1	3,155.4	17,436.0	17,500	1,402.9	18,838.9
2012	0.0	1,225.0	3,706.0	1,219.7	5,998.8	0.0	1,471.8	790.7	3,349.9	17,761.9	17,500	855.6	18,617.5
2013	0.0	1,460.0	3,605.1	1,145.4	4,775.3	0.0	1,163.1	689.9	2,281.7	15,120.5	17,500	1,058.2	16,178.7
2014	0.0	1,210.7	3,768.0	889.3	5,479.5	0.0	935.7	812.9	1,524.7	14,621.0	16,500	950.3	15,571.3
2015	0.0	1,126.2	2,867.8	1,093.2	3,887.8	0.0	738.0	1,123.3	1,283.5	12,119.8	16,000	781.1	12,900.9
2016	0.0	1,071.1	3,292.2	1,002.1	3,219.7	0.0	756.6	1,020.7	1,131.9	11,494.3	16,000	675.6	12,169.9
2017	0.0	1,040.1	3,518.7	1,296.2	2,701.6	0.0	884.6	1,058.3	967.5	11,467.1	14,000	1,031.4	12,498.5
2018	0.0	1,105.0	2,157.3	767.1	3,770.5	0.0	969.5	1,139.9	1,069.8	10,979.0	13,500	1,204.2	12,183.2
Minimum	0.0	752.2	1,170.5	767.1	2,701.6	0.0	633.9	0.0	967.5	10,979.0	13,500	41.8	12,169.9
Maximum	0.0	1,507.4	5,600.4	2,682.5	9,402.3	0.0	1,790.3	1,139.9	4,073.8	23,060.5	24,000	1,406.6	23,535.7
Average	0.0	1,192.8	3,169.4	1,600.8	6,204.9	0.0	1,087.6	429.3	2,228.7	15,913.6	18,350	695.2	16,608.9

Source: WEI Environmental, Six Basins Watermaster Annual Report CY2018, Table 3-4.

Notes:

GSWC = Golden State Water Company; SAWCo = San Antonio Water Company; TVMWD = Three Valleys Municipal Water District; WECWC = West End Consolidated Water Company

Table 2-4, *Annual Groundwater Production by Sub-Basin by Party – CY1999 through CY2018*, shows that on average, most groundwater production in the Six Basins occurs in the UCH and Pomona sub-basins (~90 percent of total Six Basins production).

Table 2-4 Annual Groundwater Production by Sub-Basin by Party (CY1999 – CY2018)

Year	Four Basins					Two Basins			Six Basins Total
	Canyon	UCH	LCH	Pomona	Total ¹	Live Oak	Ganesha	Total	
1999	240.6	14,102.5	0.1	6,187.4	20,530.6	2.7	4.0	6.7	20,537.3
2000	432.0	9,575.9	0.2	5,871.7	15,879.8	0.4	41.4	41.8	15,921.6
2001	958.2	8,876.9	0.0	5,956.0	15,791.1	2.0	151.6	153.7	15,944.7
2002	182.1	8,357.4	0.0	5,081.1	13,620.6	140.9	125.1	266.0	13,886.7
2003	1,061.2	7,692.8	0.7	5,052.1	13,806.7	253.8	4.7	258.5	14,065.2
2004	431.9	7,769.3	0.0	5,303.1	13,504.3	53.6	1.4	54.9	13,559.2
2005	276.3	12,739.0	0.0	5,890.9	18,906.2	221.3	1.2	222.5	19,128.7
2006	63.5	13,601.4	0.0	9,395.6	23,060.5	473.2	1.9	475.1	23,535.7
2007	36.3	11,223.3	0.0	9,172.0	20,431.6	439.0	224.5	663.5	21,095.2
2008	0.0	9,043.0	0.0	8,157.4	17,200.4	619.7	377.7	997.5	18,197.9
2009	523.1	9,223.9	0.0	7,737.2	17,484.2	804.4	594.4	1,398.9	18,883.0
2010	291.7	9,984.9	0.0	6,779.8	17,056.5	910.5	496.1	1,406.6	18,463.0
2011	0.0	12,050.1	0.0	5,376.8	17,427.0	1,001.7	401.2	1,402.9	18,829.9
2012	80.2	11,282.8	0.0	6,399.0	17,761.9	691.9	163.8	855.6	18,617.5
2013	196.6	8,410.4	0.0	6,513.5	15,120.5	625.4	432.8	1,058.2	16,178.6
2014	7.1	7,205.6	0.0	7,408.3	14,621.0	618.1	332.2	950.3	15,571.3
2015	7.6	6,358.6	0.0	5,753.6	12,119.8	662.4	118.7	781.1	12,900.9
2016	0.0	5,796.0	0.0	5,698.2	11,494.3	618.4	57.2	675.6	12,169.9
2017	116.2	5,997.6	0.0	5,353.3	11,467.1	773.8	257.6	1,031.4	12,498.5
2018	31.2	6,110.0	0.0	4,837.8	10,979.0	896.1	308.0	1,204.2	12,183.2
Minimum	0.0	5,796.0	0.0	4,837.8	10,979.0	0.4	1.2	6.7	12,169.9
Maximum	1,061.2	14,102.5	0.7	9,395.6	23,060.5	1,001.7	594.4	1,406.6	23,535.7
Average	246.8	9,270.1	0.0	6,396.2	15,913.2	490.5	204.8	695.2	16,608.4
Average % of Sub-Area	2%	58%	0	40%	--	71%	29%	--	--
Average % of Six Basins	1%	56%	0	39%	96%	3%	1%	4%	--

Source: WEI Environmental, *Six Basins Watermaster Annual Report CY2018*, Table 3-6.

Notes:

1. The Operating Safe Yield (OSY) for individual years is shown in Table 2-3.

Table 2-5, *Groundwater Production by Sub-Basin by Party CY2018*, shows annual production volume by sub-basin for the most recent year, CY2018. Similar to previous years, in CY2018 most groundwater production occurred in the UHC and Pomona basins; production from the UCH was about 50 percent of the total Six Basins production, and production from Pomona Basin was about 40 percent of the total.

Table 2-5 Groundwater Production by Sub-Basin by Party CY2018

Party	Four Basins					Two Basins			Six Basins Total
	Canyon	UCH	LCH	Pomona	Total	Live Oak	Ganesha	Total	
Claremont	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
La Verne	0.0	0.0	0.0	1,105.0	1,105.0	896.1	308.0	1,204.2	2,309.2
Upland	0.0	455.9	0.0	1,701.4	2,157.3	0.0	0.0	0.0	2,157.3
GSWC	31.2	735.9	0.0	0.0	767.1	0.0	0.0	0.0	767.1
Pomona College	0.0	1,739.1	0.0	2,031.4	3,770.5	0.0	0.0	0.0	3,770.5
SAWCo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TVMWD	0.0	969.5	0.0	0.0	969.5	0.0	0.0	0.0	969.5
WECWC	0.0	1,139.9	0.0	0.0	1,139.9	0.0	0.0	0.0	1,139.9
	0.0	1,069.8	0.0	0.0	1,069.8	0.0	0.0	0.0	1,069.8
Total	31.2	6,110.0	0.0	4,837.8	10,979.0	896.1	308.0	1,204.2	12,183.2
% Sub-Area	0.3%	55.7%	0.0%	44.1%	-	74.4%	25.6%	-	-
% Six Basins	0.3%	50.2%	0.0%	39.7%	90.1%	7.4%	2.5%	9.9%	-

Source: WEI Environmental, Six Basins Watermaster Annual Report CY2018, Table 3-5.

2.3 Surface Water Resources

2.3.1 Precipitation

The greatest source of groundwater recharge in the Six Basins is precipitation particularly that which falls on the San Gabriel Mountains in the watersheds that feed into the Six Basins. Data utilized in the development of the Strategic Plan show that precipitation is highly variable, and that there are generally three to five years of consecutive, below-average precipitation before an average or above-average year occurs. The data were supplemented by data collected for the Watermaster 2018 Annual Report. For example, the regions experienced the following wet and dry periods:

- a long dry period from 1945 through 1977
- a wet period from 1978 through 1983
- a dry period from 1984 through 1991
- a wet period from 1992 through 1998
- a dry period from 1999 through 2010
- a dry period from 2011 through 2018

Table 2-2 above shows that during that 20-year period the minimum annual rainfall total was 7.2 inches in CY2013, a maximum of 40 inches in CY2005; and an average of 18.9 inches. Since 2010 a relatively wet year with a rainfall total of 38.5 inches, the following 8 years experienced an average annual rainfall of 13.75 inches. In CY2018, rainfall total was 17.8 inches, but in CY2019, rainfall total was 43.8 inches.

Monthly variations are also important to understand the availability of surface water throughout the year. For the region, the wet period is from November through April with minor amounts falling in the months of June through September.

2.4 Watersheds Tributary to the Six Basins

Native surface water resources that are tributary to the Six Basins emanate from the San Gabriel Mountains. These resources are the major source of groundwater recharge for the Six Basins (rain/snowfall). Figure 2-1 shows the relationship between the Six Basins area and the front of the San Gabriel mountains. From west to east the watersheds are Live Oak Wash, Thompson Creek and San Antonio Creek. The Live Oak Wash and Thompson Creek watersheds are part of the larger San Gabriel River watershed; while the San Antonio Creek watershed is part of the larger Santa Ana River watershed.

The surface-water runoff is diverted and used in the Six Basins for two purposes: 1) direct potable and non-potable uses; and 2) groundwater recharge. The Live Oak Wash, Thompson Creek, and San Antonio Creek are dammed for flood-control and water-conservation purposes and ponds or spreading grounds have been constructed downstream of each dam to recharge water released from the dams. The creek systems are concrete-lined for their entire length across the Six Basins so that any surface-water discharge that by-passes the spreading grounds is a water resource that is lost from the Six Basins.

2.5 Spreading Grounds

Figure 2-3, *Surface Water Features*, shows the boundary of the Six Basins area and the location of the Live Oak Wash, Thompson Creek and San Antonio Creek, and the general location of the spreading grounds associated with each. This figure shows the existing facilities used to control, divert and monitor the surface water discharge from the creeks. In addition, there are two other spreading grounds; (1) the City of Pomona's Pedley Spreading Grounds, fed by a pipeline that conveys water from below the San Antonio Dam through a pipeline and into the spreading grounds located in a residential neighborhood in the City of Claremont; and 2) the Miramar Spreading Grounds, ponds located at the TVMWD Miramar Water Treatment Plant located on Padua adjacent to the San Antonio Wash. A description of each of the spreading grounds are provided herein.

2.5.1 Live Oak Creek

Figure 2-4, *Existing Conditions - Live Oak Spreading Grounds*, shows the existing conditions in the Live Oak Creek wash. The figure also shows the existing facilities used to control, divert and monitor the surface water discharge from the Live Oak Wash. Improvements in the Live Oak Creek wash consist of a dam upstream (constructed in 1932 by LACFCD), an unlined stream channel between the dam and the Live Oak debris basin and two basins that together comprise the Live Oak Spreading Grounds (LOSG). Combined, these facilities are

used for flood control, monitoring of surface water discharge, and diversion of surface water for recharge.

The drainage area above the dam is approximately 2.3 square miles with a total storage capacity behind the dam of 250 acre-ft. Water released from the dam flows down the unlined stream channel and into the debris basin north of the 210 freeway, where sediment and debris are captured. Water flowing out of the debris basin is either diverted into the LOSG and used for groundwater recharge or is discharged into the concrete-lined Live Oak Wash Channel and ultimately discharges into the Puddingstone Reservoir located at the southwesterly boundary of the Six Basins (see Figure 2-4 for location). The LOSG consists of five small basins with an estimated percolation rate of 13 cubic feet per second (cfs) and a total storage capacity of 12 acre-ft. A spillway at the southern end of Basin 5 diverts water back to the Live Oak Channel if inflow exceeds the percolation rate in the basins.

Figure 2-5, *Surface Water Runoff Captured and Lost from Live Oak Wash*, shows in table and graphic form the runoff captured and lost during water years 1997 through 2011, the period for which complete, continuous records from the LACFCD are available during the preparation of the Six Basins Strategic Plan. During this 15-year period, 23 percent of the total runoff available in Live Oak Wash was captured for recharge. Runoff is calculated as the total flow measured at the flow gage located south of the dam as shown in Figure 2-5. Figure 2-5 shows that a total of only 1,920 acre-ft of runoff was captured and recharged, while 6,594 acre-ft was lost. The majority of losses occurred during wet years — 57 percent of the total runoff lost to Live Oak Wash Channel occurred in 1998, 2005, and 2011.

Because the percolation rate and storage capacity of the basins at the LOSG are small, all of the water available in wet years cannot be captured. However, as shown in Figure 2-5, there is a significant amount of runoff that is lost in dry and average years. The average annual runoff lost as a percent of total runoff available was 72 percent, a number that suggests that the LOSG has not been operated consistently to maximize recharge of runoff. Currently, the LACFCD is looking for funding partners to improve the LOSG facilities and increase capture of surface-water runoff.

In addition to spreading of native flows from Live Oak Wash, the LOSG is used by TVMWD for recharge of imported water as part of a conjunctive-use program with the Metropolitan Water District of Southern California (MWDSC). The source of the imported water is State Water Project water from the San Gabriel Valley pipeline. As shown on Figure 2-5, the location of the turnout from the San Gabriel Valley pipeline, constructed in 2005, is at the southerly end of LOSG Basin 1.

2.5.2 Thompson Creek

Figure 2-6, *Existing Conditions - Thompson Creek Spreading Grounds*, shows facilities used to control, divert and monitor the surface water discharge from Thompson Creek. The Pomona Valley Protective Association (PVPA) was formed in 1910 by agricultural landowners to capture and percolate stormwater on PVPA land. The approximately 154-acre Thompson

Creek Spreading Grounds (TCSG) site is owned by PVPA. In 1931 LACFCD obtained easements to construct and operate the Thompson Creek dam and related flood control facilities.

The drainage area behind the dam is 3.7 square miles. Runoff generated above the dam — with the exception of Chicken Creek to the east — enters PVPA's property at the diversion structure at the north end of the property. The diversion structure, operated by LACFCD in cooperation with PVPA, controls where the surface water is directed either 1) to behind the dam; and/or 2) to the PVPA's conveyance ditch where runoff ultimately flows into the water recharge pits. All flow from Chicken Creek discharges directly into the conveyance ditch then ultimately into the pits. In the interest of flood protection, LACFCD controls the diversion structure such that during storms the majority of the runoff is diverted to behind the dam rather than to the PVPA conveyance ditch.

LACFCD's standard operating procedure is to store the water behind the dam up to a water surface elevation (WSE) of 1,620 feet above mean sea level and allow it to percolate or evaporate. The reservoir storage behind the dam at a WSE of 1,620 feet is about 217 acre-ft. When the WSE behind the dam exceeds 1,620 feet, water is released to the wasteway channel at a rate of up to 260 cfs. Water discharged to the wasteway channel flows into the concrete-lined Thompson Creek Channel where it eventually flows to San Jose Creek without recharging the Six Basins, representing lost water. Water discharged to the wasteway channel is recorded by a flow gage located along the wasteway channel just downstream from the dam.

Runoff that is diverted at the diversion structure to PVPA's conveyance ditch, or enters the ditch from Chicken Creek, flows south into a tunnel under the dam and is discharged into two recharge pits located just south of the dam: East Pit and West Pit. To prevent overflow of the pits, a spillway on the conveyance ditch diverts water to behind the dam if the flow in the conveyance ditch is too high. A recorder station at the end of the tunnel records the flow entering the pits. Currently, PVPA records spreading totals on a monthly basis. Historical data (prior to 1999), are available as water-year totals only.

Figure 2-7, *Surface Water Runoff Captured and Lost from Thompson Creek*, shows the annual volumes of surface water that were captured and recharged or lost from the Thompson Creek dam and the TCSG for water year 2000 through 2011, the period for which complete records from both the PVPA and the LACFCD were available. During this 12-year period the following occurred:

- 44 percent of the runoff from the Thompson Creek watershed was captured for recharge:
 - 556 acre-ft was diverted and recharged by the PVPA,
 - 1,019 acre-ft was captured behind Thompson Creek Dam, and
- 56 percent of the runoff from Thompson Creek 1,978 acre-ft was lost to the concrete-lined Thompson Creek Channel.

Figure 2-7 shows that the majority of water is lost during wet years: 83 percent of the total water lost to the Thompson Creek Channel occurred in the very-wet water year of 2005.

2.5.3 San Antonio Creek

After the PVPA was formed in 1910, land in the San Antonio Creek Wash was purchased to enhance recharge of the Six Basins by diverting and spreading surface water from San Antonio Creek that is in excess of the needs of the water rights holders. The wash area is referred to throughout the Strategic Plan and Program EIR as the San Antonio Spreading Grounds (SASG). The total area of the SASG is approximately 1.4 square miles or 980 acres. In 1956, in response to flood events in 1937 and 1938, the US Army Corps of Engineers (USACE) completed construction of the San Antonio dam, including facilities to convey water captured behind the dam to the existing SASG recharge facilities. The San Antonio Creek Channel below the dam was concrete lined by 1960. The drainage area behind the dam is about 26 square miles.

Figure 2-8, *Existing Conditions - San Antonio Spreading Grounds*, shows the facilities within the SASG used for flood control, monitoring of surface-water discharge, and diversion of surface water for recharge. How the runoff is diverted and put to beneficial use by the SAWCo, the City of Pomona and the PVPA is as follows:

- About 60 percent of the flow in San Antonio Creek is diverted by San Antonio Water Company (SAWCo)
- About 40 percent of the flow in San Antonio Creek is diverted by the City of Pomona
- All flow in the San Antonio Creek not diverted by SAWCo or the City of Pomona is available to PVPA for diversion and recharge at the existing SASG recharge facilities

As shown in Figure 2-8, the SASG area is heavily used for a variety of private and public uses. In addition to the dam and the spreading grounds located below the dam, the SASG area includes a series of aggregate mine pits on the east side of channel that runs parallel to the Los Angeles County/San Bernardino County boundary. Southern California Edison's transmission lines also traverse the wash in a northeast to southwest direction, characterized by a series of large towers placed on graded pads that are accessed via an unpaved access road. Other water infrastructure includes some gabion structures - piles of boulders aligned in an east-west direction and covered with wire mesh - an unlined channel that parallels the San Antonio Creek Channel, and underground pipes to convey water between "turnouts" and spreading grounds.

San Antonio Water Company

Runoff generated in the San Antonio Creek watershed—with the exception of Evey Canyon (see Figure 2-3 showing the relationship between Evey and San Antonio creeks) to the south—enters the Edison Box, or the "60/40" splitter box, at the Edison powerhouse on Mountain Avenue about one mile upstream of San Antonio Dam. This is the last of several power houses used to generate electricity from water flowing in San Antonio Creek. The

60/40 splitter box splits San Antonio Creek flows and diverts them to the conveyance facilities of SAWCo and the City of Pomona.

Water diverted by SAWCo is delivered to its shareholders for potable and non-potable uses and is also used for recharge at the existing SASG recharge facilities (basins) and/or at spreading grounds in the Cucamonga Basin to the east. Surface flows diverted at the 60/40 splitter box are directed to the San Antonio tunnel ponds or south of the dam to SAWCo's and City of Upland's distribution systems (note: Upland is the majority shareholder of SAWCo). Water diverted to the tunnel ponds percolates into underground "tunnels" that direct flow under the dam and are discharged into SAWCo's potable distribution system. Surface flows that bypass the tunnel ponds are either sent to SAWCo's non-potable distribution system or to the San Antonio Canyon Treatment Plant where flows are treated before entering the City of Upland's potable distribution system. Backwash from the treatment plant can be diverted to SAWCo's Reservoir 9, where it is combined with excess water from the non-potable system and then discharged to the existing SASG recharge facilities for recharge — the discharge location is shown on Figure 2-8. Water recharged at the existing SASG facilities from this turnout is credited to SAWCo's Storage and Recovery Account.

City of Pomona

Water diverted by the City of Pomona at the 60/40 splitter box, combined with surface-water flows diverted from Evey Canyon (see Figure 2-3 for locations), flows by gravity in a shallow underground pipeline called the Canon Pipeline. The Canon Pipeline conveys the water to the City of Pomona's Pedley Treatment Plant where the water is treated and served for direct potable use. The Pedley Treatment Plant is located adjacent to the Pedley Spreading Grounds (PSG) shown in Figure 2-3. The surface water diverted to the Canon Pipeline generally exceeds the treatment capacity of the Pedley treatment plant, so surplus water is recharged at the SASG recharge facilities or the PSG recharge facilities. The location of the City's turnout to the SASG is shown on Figure 2-8. At the end of the Canon Pipeline, water can be spread at PSG either before it enters the treatment plant or as backwash from the treatment plant.

Pomona Valley Protective Association

Runoff from the San Antonio Creek watershed that is in excess of what can be used by SAWCo and the City of Pomona is captured behind the San Antonio Dam. PVPA works with USACE to coordinate releases from the dam for diversion and recharge at the existing SASG recharge facilities. Release gates at the dam discharge water to a large concrete chamber beneath the dam. USACE computes daily outflow from the dam based on the position of the release gates and the WSE of the reservoir behind the dam. Within the chamber, PVPA has six diversion gates to direct water into the spreading grounds. At the end of the chamber is an outlet where water, not diverted by PVPA, discharges to the concrete-lined San Antonio Creek Channel. The elevation of PVPA's diversion gates is lower than the elevation of the outlet to the channel in order to maximize the diversion of water to the spreading grounds. The

approximate capacity of each diversion gate is 200 cfs when completely open. Two gates on the west side of the chamber direct water to the Los Angeles County side of the SASG through a 72-inch diameter concrete pipe. Four gates on the east side of the chamber direct water to the San Bernardino County side of the SASG through two 72-inch diameter concrete pipes.

Los Angeles County Side of the SASG

Figure 2-8 shows how water is diverted and spread at the existing SASG recharge facilities. Currently, on the Los Angeles County side, water is diverted to either:

- a series of five basins located at the northern boundary of the SASG; and/or
- an unlined channel that runs parallel to the west side of the San Antonio Creek Channel.

The five basins were re-constructed in the fall of 2008 to increase the amount of water that could be recharged in the northern portion of the SASG. Water on the Los Angeles County side is preferentially diverted to the five basins. Water that is diverted to the unlined channel that parallels San Antonio Creek encounters a total of 39 drop structures that were constructed to slow the flow and minimize erosion of the channel. Six of the drop structures have turnout gates (shown as black dots on Figure 2-8) to direct the water southwest across the spreading grounds for recharge.

San Bernardino County Side of the SASG

On the San Bernardino side of the SASG, water is first discharged to the Hog Wallow basin just south of the dam. There are two gates to release the water. The western gate discharges water to a series of three large berms as shown on Figure 2-8. The berms were constructed in the fall of 2009 to increase the amount of water that could be recharged in the northern portion of the spreading grounds. The eastern gate directs water around the berms where it flows south across the spreading grounds. Flow is generally only diverted around the berms when they are filled to capacity. During periods of high flow, water that flows south of the berms can be diverted into Holliday Rock's sand and gravel pits No. 5 and No. 6. In the December 2010, an extreme three-day precipitation event damaged the berms. Flow diverted to the San Bernardino County side of the spreading grounds had to be reduced and using the mine pits was necessary to capture all the runoff diverted to that side. The berms were repaired and re-constructed in the spring of 2012 with the help of a grant from the Federal Emergency Management Agency (FEMA).

Water discharged to the concrete-lined San Antonio Creek Channel has one more opportunity to be diverted to the SASG recharge facilities via the Lower San Bernardino Turnout (see Figure 2-8 for location).

Table 2-6, *Surface Water Diversions by PVPA to the San Antonio Spreading Grounds*, shows annual outflow from the dam as reported by USACE, annual diversions to the spreading grounds as reported by PVPA, and the difference between the two which should equal the water lost to the channel for water years 1961-2011.

Table 2-6 Surface Water Diversion by PVPA to the SASG (1961-2011)

Water Year	Outflow from Dam (acre-feet)	Diversions Reported by PVPA (acre-feet)	Water Lost to San Antonio Channel (acre-feet)
1961	0	0	0
1962	11,487	2,525	8,962
1963	0	0	0
1964	0	0	0
1965	17	0	17
1966	13,774	13,056	718
1967	12,460	10,727	1,733
1968	161	549	0
1969	67,891	22,960	44,931
1970	2,086	365	1,721
1971	100	26	74
1972	247	45	202
1973	6,900	6,725	175
1974	334	330	4
1975	8	27	0
1976	595	153	442
1977	1,175	273	903
1978	64,540	30,152	34,389
1979	4,914	2,686	2,228
1980	30,224	23,125	7,099
1981	273	39	234
1982	9,866	7,538	2,328
1983	49,719	33,370	16,349
1984	14,194	2,449	11,745
1985	2,134	229	1,906
1986	10,522	6,521	4,001
1987	24	13	12
1988	2,855	1,500	1,355
1989	298	243	55
1990	0	1	0
1991	7,363	482	6,881
1992	19,630	14,416	5,214
1993	59,328	26,488	32,840
1994	67	11	56
1995	32,060	26,052	6,008
1996	4,206	4,241	0
1997	2,383	1,187	1,196
1998	22,315	24,227	0
1999	0	0	0
2000	0	0	0
2001	46	0	46
2002	0	0	0
2003	0	0	0

Table 2-6 Surface Water Division by PVPA to the SASG (1961-2011) (continued)

Water Year	Outflow from Dam (acre-feet)	Diversions Reported by PVPA (acre-feet)	Water Lost to San Antonio Channel (acre-feet)
2004	553	129	424
2005	52,540	31,362	21,179
2006	9,355	5,804	3,551
2007	0	0	0
2008	2,556	577	1,979
2009	0	0	0
2010	8,253	1,260	6,993
2011	24,560	7,306	17,254
Average	10,824	6,062	4,808
Minimum	0	0	0
Maximum	67,891	33,370	44,931
Total	552,015	309,166	245,203

Source: Six Basins Strategic Plan, November 2017, Table 5-2.

Since water year 1961, a total of 552,015 acre-ft of surface water was discharged from the dam. In summary, the following discharge, spreading and diversion rates have occurred:

- 309,166 acre-ft, or 56 percent of the total discharge, was diverted to the spreading grounds for recharge and 245,203 acre-ft was not;
- Approximately 67 percent of the water discharged to the channel was discharged in seven of the eight most extreme wet years since 1961: 1969, 1978, 1980, 1983, 1993, 1995, and 2005;
- 1998 was the only wet year where 100 percent of water discharged from the dam was diverted to the spreading grounds for recharge;
- As shown in Table 2-3, in many years, very little water is discharged from the dam; and
- In 28 of the last 51 years, diversions to the spreading grounds totaled less than 1,000 acre-ft and in 11 of those years, there were no diversions.

Figure 2-9, *Surface Water Runoff Captured and Lost from San Antonio Creek Spreading Grounds*, shows the recent time-history of surface-water runoff from the San Antonio Creek watershed that was either diverted or lost for water year 2001 through 2011. This is the period for which complete, continuous records from SAWCo, the City of Pomona, PVPA, and USACE are available. During this 11-year period, the following occurred:

- a total of 166,317 acre-ft of water was diverted for use:
 - 88,354 acre-ft by SAWCo,
 - 33,526 acre-ft by the City of Pomona, and
 - 46,437 acre-ft by PVPA;
- During this same period, 51,425 acre-ft of water was lost to the San Antonio Creek Channel;

- In seven of those years, less than 1,000 acre-ft diverted for recharge by PVPA at the spreading grounds, and in five of those years, diversions were zero; and
- In six of the seven years with minimal to no diversions by PVPA, the annual precipitation was below average as measured at the dam's precipitation gage. This observation suggests that runoff in excess of the needs of SAWCo and the City of Pomona is only available in years with above average precipitation.

Figure 2-9 shows that PVPA diverted 47 percent of the flow discharged from the dam between 2001 and 2011. The figure indicates that the majority of the losses occurred during wet years, with 43 percent of total losses occurring during the very-wet water year 2005. Another 31 percent was lost in wet water year of 2011. This indicates that there may be additional opportunities for PVPA to maximize the diversion of runoff when it is available.

2.5.4 Pedley Spreading Grounds

San Antonio Creek water diverted by the City of Pomona at the 60/40 splitter box that exceeds the treatment capacity of the Pedley Treatment Plant, or does not meet turbidity standards for treatment, is recharged at the existing SASG facilities or at the PSG. The PSG site is approximately 10 acres on a larger site that includes the treatment plant (see Figure 2-3 for location). Currently, the PSG does not receive stormwater or dry-weather runoff from the surrounding urbanized areas for recharge, only water from the pipeline from the splitter box.

2.5.5 Miramar Spreading Grounds

These recharge ponds are located at TVMWD's Miramar Water Treatment Plant site (see Figure 2-3 for location). There are two ponds in approximately 2 acres.

2.6 Groundwater Recharge

2.6.1 Hydrogeology

The Six Basins are groundwater basins used as storage reservoirs and are part of a larger broad alluvial plain emanating from the San Gabriel Mountains; known as the Chino Plain; formed during the Quaternary period, approximately two million years before the present. The surrounding mountains and hills, including the San Jose Hills along the southerly boundary of the Six Basins, are a result of uplifting, compression and faulting associated with tectonic activity. Weathering and erosion of the San Gabriel Mountains is the major source of material that washed down the mountains during storm events onto the Chino Plain creating the sediments that were deposited in low-lying depressions. It is these sediments that make up the groundwater reservoirs including the six basins - that underlie the Chino Plain. The Six Basins are delineated by the San Gabriel Mountains to the north and northwest, and the San Jose Fault on to the south and southeast. The San Jose Fault is a barrier to groundwater flow that separates the Six Basins from the larger Chino Basin.

As described in the Strategic Plan, the Six Basins area is divided into two natural divisions (1) water-bearing sediments, pervious formations that comprise the groundwater reservoirs; and (2) impermeable formations, or consolidated bedrock, that define the base of the groundwater reservoirs. The water bearing sediments overlie the consolidated bedrock (non-water bearing), with bedrock formations that make up the surrounding hills and mountains. Water-bearing sediments are over 1,000 feet thick in places but daylight along the northern and southern boundaries.

2.7 Geology of the Six Basins

2.7.1 Regional Geology

The Six Basins are six interconnected groundwater basins located at the foot of the San Gabriel Mountains and underlying the cities of Claremont, La Verne, Pomona, Upland and adjacent unincorporated areas of Los Angeles and San Bernardino counties. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east. Figure 2-10, *Geologic Map of the Six Basins Project Area*, shows the location of the Six Basins relative to the watersheds located above in the San Gabriel Mountains. Figure 2-10 also shows the delineation between the larger Santa Ana River and San Gabriel River watersheds that dominate the region, the delineation is roughly the San Antonio Creek drainage area.

The Six Basins underlay an area that is characterized as a gentle southwesterly-sloping alluvial fan located along the base of the San Gabriel Mountains that are part of the Transverse Range Geomorphic Province of Southern California. The US Geological Survey (USGS) describes the Transverse Ranges as a series of mountains, valleys, and geologic structures that lie east-west or *transverse* to the prevailing northwest-trending mountain ranges including the Coast Ranges and Sierra Nevada Provinces of southern and central California. In addition to the San Gabriel Mountains, the Transverse Ranges Geomorphic Province includes the San Bernardino Mountains - separated from the San Gabriel Mountains by the Cajon Pass - and the Little San Bernardino Mountains that pass through the Coachella Valley further east.

The Six Basins are part of a large, broad, alluvial plain located atop a depressed portion of the Perris Block also referred to as the Chino Plain. The Chino Plain was formed during the Quaternary period which extends from 2.5 million years ago to the present and is divided into two epochs: (1) Pleistocene (2.5 million years ago to 11.7 thousand years ago); and (2) Holocene (11.7 thousand years ago to the present). The surrounding mountains and hills are uplifted by tectonic compression and faulting. Sediments have eroded and washed out of the mountains by streams and have been deposited in the low-lying depressions on the Chino Plain. These Quaternary sediments are the alluvial material that comprise today's groundwater reservoirs that underlie the Chino Plain.

2.7.2 Regional Seismicity

Figure 2-10 shows the relationship between the project area and the San Gabriel mountains. The mountains are bounded on the north by the San Andreas Fault zone, on the south and southwest by thrust and reverse faults of the Cucamonga-Sierra Madre fault complex, and on the east by faults of the San Jacinto fault zone. The San Andreas fault forms the boundary between the North American and Pacific tectonic plates.

The mountains are composed of impermeable metamorphic and igneous rocks. Folding and faulting compresses the rocks. As the two plates move and the mountains rise, landslides and erosion cause boulders, rocks, cobble and other alluvial material to be transported into the San Gabriel Valley. This material comprises the water bearing alluvium in place along the front of the mountains, including in the Six Basins.

The Six Basins underlie the northwestern corner of the Chino Plain between the San Gabriel Mountains and the San Jose Hills. The main fault in this area—the San Jose Fault—is a known barrier to groundwater flow that separates the Six Basins from the larger Chino Basin to the southeast. Faulting and folding within the Six Basins uplifted bedrock or created low permeability zones within the sediments to create groundwater sub-basins.

Local Faults

Figure 2-10 shows the physical boundaries of the Six Basins, such as the front of the San Gabriel Mountains and the faults that affect the project area. Note: the physical boundaries do not correspond exactly to the adjudicated boundaries. The Strategic Plan refers to the physical boundary of the Six Basins as the hydrologic boundary. This boundary includes the following geologic features:

San Gabriel Mountain Front. The northern boundary of the Six Basins is the impermeable Basement Complex that outcrops along the front of the San Gabriel Mountains generally coincident with the Cucamonga Fault, as shown in Figure 2-10. Vertical movement on this fault in part, responsible for the uplift of the Basement Complex in the San Gabriel Mountains and the depression of the Six Basins area.

San Jose Fault. The eastern boundary of the Six Basins is the San Jose Fault. Although the surface of the alluvial fan that emanates from the mouth of San Antonio Canyon does not appear to be offset by movement along the San Jose Fault, the fault offsets bedrock at depth and acts as a distinct barrier to groundwater flow between the Six Basins and the Chino Basin.

Indian Hill Fault and Intermediate Fault. The Indian Hill and Intermediate faults (shown on Figure 2-10) are “internal faults” within the Six Basins that act as barriers to groundwater flow. The Indian Hill fault has been described in a number of reports on the behavior of groundwater in the area. To better understand this behavior, WEI conducted a study using Interferometric Synthetic Aperture Radar (InSAR) to monitor vertical ground motion associated with changes in groundwater elevations. The purpose was to more accurately

locate the Indian Hill Fault within the aquifer system. InSAR data for the period of March 2011 to February 2012 suggested that the fault near its intersection with the San Jose Fault is approximately 900 feet north of the Six Basins adjudicated boundary.

The Intermediate Fault runs parallel to the San Jose Fault in the Pomona Basin, south of the Indian Hill Fault.

Other Faults. These faults have been mapped in the Six Basins in the past and have been used to delineate the sub-basins as defined in the Judgment, including the Cucamonga Fault, the Claremont Heights Barrier, the Thompson Wash Barrier, and the San Antonio Fault. The InSAR data evaluated for this report does not show differential vertical ground motion across these faults, indicating that these faults may not be effective barriers to groundwater flow.

2.8 Hydrogeology

2.8.1 Water Bearing Sediments

The Six Basins are located across a major watershed divide that separates the San Gabriel River watershed to the west from the Santa Ana River watershed to the east. The stream systems that exit the San Gabriel Mountains comprise the main source of sediments and water that contributed to the formation of the Six Basins. The largest of these stream systems is San Antonio Creek, which is responsible for the deposition of material that created the broad alluvial fan, emanating from the mouth of San Antonio Canyon. Soils associated with the geology in the Six Basins project area are made of alluvial material generally consisting of boulders, cobble, gravel, sand, silt and clay. The USGS has mapped the geology and associated soils in the region (<https://pubs.usgs.gov/of/2006/1217/>). In the Six Basins region, these soils include:

Qa Very young axial-channel deposits (late Holocene). Unconsolidated deposits of silty, sandy and cobbly alluvium deposited by streams in through-going stream valleys; cemented only where carbonate rocks are in source area. The area of Qa deposits is limited to the area behind the San Antonio dam.

Qf Very young alluvial-fan deposits (late Holocene). Unconsolidated to slightly coherent, essentially undissected deposits of sand, gravel, and boulders that form active and recently active parts of alluvial fans. Clasts typically angular to subrounded, rarely rounded. Deposits generally coarsen toward heads of fans. Relative abundance of clast sizes varies greatly depending on setting, size of drainage area, and sediment source. In the project area Of soils are limited to the San Antonio Wash area.

Qyf Young alluvial-fan deposits (Holocene and late Pleistocene). Unconsolidated to moderately consolidated silt, sand, pebbly cobbly sand, and bouldery alluvial fan deposits having slightly to moderately dissected surfaces. Young alluvial-fan deposits, including subunits, constitute most widespread, and probably greatest in terms of sediment volume,

of all Quaternary units. These deposits form large and small fans along the front of the San Gabriel and San Bernardino mountain ranges. Near the mountains, deposits typically contain large proportions of cobbles and boulders. The Qyf classification is divided into seven units; three are associated with the alluvial material in the Six Basins project area including:

Qyf₃ *Young alluvial-fan deposits, Unit 3 (middle Holocene).* Slightly to moderately consolidated silt, sand, and coarse-grained sand to bouldery alluvial-fan deposits having slightly to moderately dissected surfaces.

Qyf₄ *Young alluvial-fan deposits, Unit 4 (late Holocene).* Unconsolidated to slightly consolidated silt, sand, and coarse-grained sand to bouldery alluvial fan deposits having slightly to moderately dissected surfaces. Fans emanating from canyons on the south side of San Gabriel Mountains contain large proportion of coarse boulders, especially in upper parts.

Qyf₅ *Young alluvial-fan deposits, Unit 5 (late Holocene).* Unconsolidated to slightly consolidated coarse-grained sand to bouldery alluvial-fan deposits having slightly dissected to essentially undissected surfaces.

The younger alluvium was deposited on top of the older alluvium after a period of weathering and erosion of the older alluvium. The younger alluvium is typically a fresh, unweathered, grey or brown color, and occupies stream beds, washes, and other areas of recent sedimentation. The younger alluvium is absent in places and is typically thin compared to the older alluvium; generally, less than 150 feet thick. Where it exists, it is commonly unsaturated and lies above the regional water table.

The younger alluvium is typically more permeable than the older alluvium allowing surface water to percolate readily. Figure 2-11, *Hydrologic Soil Types*, shows the hydrologic soils types across the Six Basins as mapped by the federal Natural Resources Conservation Service (NRCS). There are four Hydrologic Soil Groups (A through D) based a soil's ability to infiltrate water to depths; where soil type A generally exhibits the smallest runoff potential and D has the greatest potential. These are as follows:

Group A: *Low runoff potential.* Sand, loamy sand or sandy loam types of soils. Soils having a high infiltration rate even when thoroughly wetted. They consist mainly of deep, well to excessively drained sands or gravels and have a high rate of water transmission.

Group B: *Moderate infiltration rate.* Silt loam or loam types of soils. It has a moderate infiltration rate when thoroughly wetted and consists mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

Group C: *Low infiltration rate.* Sandy clay loam types of soils. These soils have low infiltration rates when thoroughly wetted and consist mainly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure. These soils have a slow rate of water transmission.

Group D: *High runoff potential*. These soils have very slow infiltration rates when thoroughly wetted and consist mainly of clay soils with a high swelling potential, soils with a permanent high-water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission,

Figure 2-11 shows the dominate hydrologic soils types in the project area are Soil Type A and Soil Type B, meaning the soils overlying the consolidated bedrock at the base of the basins is permeable with moderate to high infiltration rates. This characterization corresponds to the alluvial fan deposits identified by the USGS and summarized above.

When reviewed with Figure 2-10 one can see that the soils mapped as having moderate to high infiltration rates coincide with the younger alluvium, and that soils mapped as having slower infiltration rates coincide with the older alluvium. Also, the spreading grounds in the Six Basins are located in areas that overlie the younger alluvium and, in the case of the San Antonio Spreading Grounds, soils with relatively high infiltration rates.

The water bearing sediments daylight along the northern and southern basin boundaries at the surface contact with the consolidated bedrock. They are typically composed of gneissic and granitic debris from the mountains and can be differentiated into the older alluvium of Pleistocene age and younger alluvium of Holocene age. The Strategic Plan characterized these formations from driller's logs and surface outcrops within the Six Basins.

The older alluvium has been deposited over the bedrock formations under conditions similar to existing conditions in the area where runoff carries sediment and debris in the washes emanating from the mountains. Typically, the older alluvium is thicker than the younger alluvium, especially in the central and deeper portions of the Six Basins. This alluvial material is the main source of groundwater for the water wells, and most wells in the Six Basins have their screens completely within the water bearing sediments. Some of these wells can pump over 1,000 gallons per minute (gpm).

2.8.2 Consolidated Bedrock

The consolidated bedrock formations that flank and underlie the Six Basins consist of very old crystalline rocks of the Basement Complex and younger sedimentary and volcanic rocks of the Puente Group. The Basement Complex consists of deformed and recrystallized metamorphic rocks (*e.g.*, banded gneisses) that have been intruded by masses of igneous rocks (*e.g.*, granite). As shown in Figures 2-12 through 2-16, the Basement Complex outcrops in the San Gabriel Mountains along the northerly boundary of the Six Basins and in the eastern San Jose Hills along the southerly boundary of the Six Basins. Weathering and erosion of the Basement Complex in the San Gabriel Mountains is the major source for the younger sedimentary formations, in particular the water bearing sediments of the Six Basins.

Figure 2-13, *Elevations of the Bottom of the Aquifer and the Location of Geologic Cross Sections*, shows the depth of the Six Basins between the ground surface and consolidated bedrock.

Figure 2-13, *Cross Section A-A'*, Figure 2-15, *Cross Section B-B'*, Figure 2-16, *Cross Section C-C'*, and Figure 2-17, *Cross Section D-D'*, depict data from various monitoring and production wells within the Six Basins that show the depth of the water bearing sediments relative to the ground surface and the consolidated bedrock. The composition of the water bearing sediments include gravel, sand, silt and clay that are derived from granite, decomposed granite and cobbles/boulders.

2.8.3 Effective Base of the Freshwater Aquifer

The effective base is also known as the bottom of the aquifer. As shown in Figures 2-13 through 2-17, the bottom of the aquifer is a network of troughs and ridges. The ridges appear to be related to fault movement. The troughs appear to be related to faulting and/or erosion by ancestral streams. The main topographic features of the bottom of the aquifer are:

- A deep trough in the Upper Claremont Heights Basin that slopes from west to east.
- A west-to-east trending ridge located just north of the Indian Hill Fault in the Upper Claremont Heights Basin.
- A ridge that trends southwest from the Indian Hill Fault just north of the Intermediate Fault.
- A deep trough in the central portions of the Pomona Basin that slopes to the southeast.

2.8.4 Occurrence and Movement of Groundwater

Where groundwater occurs, how it recharges and moves through the Six Basins, and where it discharges, is all based on the physical nature of the Six Basins as a groundwater reservoir. These include:

- *Thickness of the Water-bearing Sediments.* The depth to the bottom of the aquifer shown in Figure 2-12 is equivalent to the thickness of the water-bearing sediments. The water-bearing sediments are thickest in the central portions of the Upper Claremont Heights and Pomona Basins. Then, the cross sections shown in Figures 2-13 through 2-17 show the variation in thickness of the water-bearing sediments across the troughs and ridges in the bedrock and the faults that offset the bedrock. In the Upper Claremont Heights Basin, the water-bearing sediments are up to 900 feet thick. In the Pomona Basin, the water-bearing sediments are over 1,000 feet thick. Some of the most productive wells in the Six Basins are located within these thickest portions.
- *Basin Boundaries.* The physical boundaries of the Six Basins (hydrologic boundary), such as faults and the geologic contacts between bedrock and the water-bearing sediments, were described above in the discussion of Local Faults and shown in Figure 2-18, *Location of Groundwater Barriers*. Figure 2-18 shows that changes in groundwater elevations in the Six Basins during 2011-12 caused uplift and subsidence of the ground surface. Since the San Jose Fault is a barrier to groundwater

flow, groundwater levels respond to pumping and recharge differently on either side of the fault, and therefore, the vertical ground motion on either side of the fault is differential. This differential vertical movement of the ground surface helped identify the San Jose Fault at certain locations within the aquifer system—particularly along the southeastern boundaries of the Pomona Basin and Upper Claremont Heights Basin.

It is also in this area where historical high groundwater levels have been recorded. Figure 2-12, *Historical Areas of Rising Groundwater and Depth to Groundwater in January 2006*, shows this area of high groundwater as marshy areas or cienegas that are located along the easterly boundary of the Pomona Basin between the San Jose Fault and the Intermediate Fault, and along the base of the San Jose Hills.

- *Contact with the Main San Gabriel Basin.* The western boundary of the Six Basins is the contact with the Main San Gabriel Basin; a somewhat arbitrary boundary because the water-bearing sediments are continuous across it. The boundary is approximately aligned with a bedrock “shelf” as defined by a limited number of boreholes that have penetrated bedrock in this area. Studies have shown that during periods of low groundwater elevations, the water-bearing sediments are drained above the bedrock shelf, which then completely separates the Six Basins from the Main San Gabriel Basin.

During periods of higher groundwater elevations, a flattened mound of groundwater exists above the bedrock divide and acts as a groundwater divide between the two basins. Groundwater west of this divide flows southwest within the Main San Gabriel Basin, and groundwater east of the divide flows south and east within the Six Basins.

- *San Jose Hills.* The southern boundary of the Six Basins is the contact with impermeable Basement Complex and the Puente Group that outcrops along the northern front of the San Jose Hills, as shown in Figure 2-10.
- *Internal Barriers to Groundwater Flow.* Internal barriers, resulting from differential vertical motion of the ground surface as shown in Figure 2-18, include the San Jose fault,
- the Indian Hill fault and the Intermediate fault which act as barriers to groundwater flow. Other faults that have been mapped in the Six Basins in the past and have been used to delineate the sub-basins as defined in the Judgment, including the Cucamonga Fault, the Claremont Heights Barrier, the Thompson Wash Barrier, and the San Antonio Fault.

2.8.5 Groundwater Recharge

Groundwater recharge to the Six Basins primarily occurs by the following general mechanisms:

- Infiltration of native and imported surface waters at the spreading grounds that overlie the Six Basins (San Antonio Creek, Thompson Creek, Live Oak, Pedley, and Miramar)
- Subsurface inflow from the saturated alluvium and fractures within the bordering bedrock hills and mountains
 - Deep infiltration of precipitation and applied water
 - Deep infiltration of septic tank discharge
 - Streambed infiltration in unlined channels

A major source of recharge to the Six Basins is surface-water runoff from San Antonio Canyon. This recharge occurs by spreading the runoff at the existing SASG recharge facilities or as underflow beneath the San Antonio dam. It is episodic, variable in magnitude, and dependent on precipitation. Recharge also occurs by spreading and underflow along the mountain front west of San Antonio Canyon, specifically at the mouths of Thompson Creek and Live Oak Wash, and in smaller amounts relative to recharge from San Antonio Canyon.

The USGS defines deep infiltration of precipitation and applied water (DIPAW) as a combination of precipitation that falls directly on a pervious land surface and precipitation that falls on impermeable land surface that subsequently flows onto pervious surface, and irrigation water applied to the land surface, all of which when combined is surplus to the evapotranspiration demand and soil water storage capacity. DIPAW migrates through the root zone and subsequently reaches the underlying groundwater reservoir. DIPAW is affected by soil type as well as land use. Figure 2-11 shows the hydrologic soil types across the Six Basins, as mapped by the NRCS, as well as runoff potential and infiltration capabilities. Note that soils mapped as having rapid infiltration rates coincide with the Younger Alluvium shown in Figure 2-11 and soils mapped as having moderate to low infiltration rates coincide with the Older Alluvium. Also note that in Figures 2-10 and 2-11, the spreading grounds in the Six Basins are located in areas that overlie the Younger Alluvium and soils with relatively high infiltration rates.

Infiltration rates have changed over time as the project area has developed from open grazing land to orchards/groves, to urban uses. Over time, these land uses have contaminated the soil in some area leading to groundwater contamination. Figure 2-19, *Land Uses in the Six Basins Between 1949 and 2005*, shows changes in land use in the Six Basins area from agricultural to non-agricultural uses over the latter part of the 20th century. By 2005, the project area was largely built out with urban uses including residential, commercial, industrial and institutional uses. The land-use maps were developed from the State Department of Water Resources (DWR) land use surveys for 1949 through 1984 and Southern California Association of Governments (SCAG) surveys for 1990 and 2005.

2.9 Groundwater Contamination and Treatment

2.9.1 Existing Soil/Groundwater Contamination

This discussion of existing soil and groundwater contamination is not meant to be exhaustive, instead the purpose is to provide background information on the issues facing Watermaster Parties regarding the limitations on groundwater pumping in some of the Six Basins.

Groundwater Quality in the Six Basins

In the Six Basins project area groundwater quality is monitored in both production and monitoring wells by the well owners. In general, the well owners sample their wells for the constituents and associated sample frequencies required by the California Code of Regulations for drinking water. Additional sampling may also be performed that is specific to each well owner's water quality concerns and interests. Groundwater quality samples from monitoring wells in the Six Basins are collected by public entities and private companies, and their consultants, to characterize point-source contamination for which they are potentially responsible, as determined by the Los Angeles Regional Water Quality Control Board (RWQCB). The constituents and sample frequency vary by contamination site.

The Six Basins Strategic Plan described the groundwater quality monitoring and data collection for the six basins project area for a period through 2011. The focus of the analysis of groundwater contamination was on three sites: (1) the former Xerox Corporation facility in the Pomona Basin; and (2) the former United Production Services facility, and (3) the former Victor Graphics facility, both in the Ganessa Basin underlying the City of La Verne.

The data collection was extensive and included data collected for 70 production wells and 94 monitoring wells for the period 1930 to 2011. Data for the 2007 to 2011 period were used to characterize current groundwater quality of the Six Basins at the time the Strategic Plan was being prepared. During this period, there were 48 production wells and 61 monitoring wells with available data for the characterization of water quality. The data were supplemented with information contained in the EnviroStor and GeoTracker databases. Figure 2-20, *Location of the Xerox Facility* and Figure 2-21, *Locations of the United Production Services and Victor Graphics Facilities*, show the general location of the three point-source contamination sites identified within the Six Basins as impacting groundwater quality.

Drinking Water Standards

Section 304(a)(1) of the Clean Water Act of 1972 requires the EPA to develop criteria for water quality that are based solely on data and scientific judgments on chemical concentrations and human health effects. The Safe Drinking Water Act requires the EPA to establish National Primary Drinking Water Regulations, which include maximum contaminant levels (MCL). Primary MCLs (PMCLs) are the legal threshold limits on the amount of a constituent – expressed as a concentration – that is allowable in a public drinking water system. A maximum contaminant level goal (MCLG) is the concentration of a

constituent that can be present in drinking water with no adverse health effects. The MCL, then, is set as close to the MCLG as possible taking into consideration treatment technologies, analytical capabilities, and economic analyses. Secondary MCLs (SMCLs) are established by EPA for constituents in drinking water that do not cause adverse health effects, but may instead cause aesthetic problems, such as unpleasant taste or odors.

At the State level, CalEPA's Office of Environmental Health Hazard Assessment establishes public health goals pursuant to Health and Safety Code Section 116365(c), which are concentrations of constituents in drinking water that do not pose a significant human health risk based on risk assessments. Health and Safety Code Section 116365(a) requires DDW to set the MCL as close to the public health goal (PHG) as possible, taking into account detectability, treatability, and the cost of treatment. The State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) also establishes Notification Levels (NLs), which are health-based advisory levels for constituents in drinking water for which MCLs have not yet been established. Health and Safety Code Section 116455 requires that the owner of a drinking water system notify local governing bodies whenever an NL is exceeded in drinking water that is provided to consumers. DDW also recommends that the consumers are provided notice as well. As part of the preparation of the Strategic Plan, Watermaster staff performed database research to compare all water quality data for wells in the Six Basins from 2007 through 2011 to current Federal and California MCLs, and California NLs. Table 2-7, *Exceedance of Drinking Water Maximum Contaminant Levels and Notification Levels in Raw Groundwater from 2007 to 2011*, summarizes the results of this research by listing each chemical that was detected above an MCL or NL, the number of times the MCL or NL was exceeded, and the number of wells at which the exceedances occurred.

SWRCB and the Los Angeles Regional Water Quality Control Board (RWQCB) are responsible for protecting water quality in the project area. The RWQCB has jurisdiction over the coastal drainages of Ventura County and Los Angeles County, including the San Gabriel Basin, within which the Six Basins is located.

In the Basin Plan for the Los Angeles Region, the Six Basins is divided into three groundwater subbasins:

- Claremont Heights, which generally coincides with the adjudicated boundaries of the Upper Claremont Heights Basin and the Lower Claremont Heights Basin;
- Live Oak, which generally coincides with the adjudicated boundary of the Live Oak Basin; and
- Pomona, which generally coincides with the adjudicated boundaries of the Pomona Basin and Ganesha Basin.

The designated beneficial uses for all three basins are: municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Table 2-7 Exceedance of Drinking Water Maximum Contaminant Levels and Notification Levels in Raw Groundwater from 2007 to 2011

Analyte	Standard	Number of Samples	Number of Exceedances	Number of Wells with Exceedances
1,1-Dichloroethene	US EPA and California Primary MCL	713	192	21
1,2-Dichloroethane	US EPA and California Primary MCL	401	14	4
<i>cis</i> -1,2-Dichloroethene	US EPA and California Primary MCL	482	23	9
<i>trans</i> -1,2-Dichloroethene	California Primary MCL	478	1	1
1,4-Dioxane	California NL	35	3	3
Aluminum	US EPA and California Secondary MCL	97	1	1
Antimony	US EPA and California Secondary MCL	104	1	1
Arsenic	US EPA and California Primary MCL	115	3	3
Benzene	US EPA and California Primary MCL	483	13	13
Carbon Tetrachloride	California Primary MCL	401	2	2
Chromium	US EPA and California Primary MCL	375	42	10
Iron	US EPA and California Secondary MCL	97	3	2
Lead	US EPA and California Primary MCL	106	6	6
Manganese	US EPA and California Secondary MCL	134	8	3
Nitrate-Nitrogen	US EPA and California Primary MCL	1023	520	22
N-Nitrosodimethylamine	California NL	4	1	1
Perchlorate	California Primary MCL	714	355	17
Selenium	US EPA and California Primary MCL	104	2	2
Styrene	US EPA and California Primary MCL	397	2	2
TDS	US EPA and California Secondary MCL	105	17	8
Tetrachloroethene	US EPA and California Primary MCL	609	43	18
Trichloroethene	US EPA and California Primary MCL	778	158	17
Turbidity	US EPA and California Secondary MCL	256	49	24
Vinyl Chloride	US EPA and California Primary MCL	482	13	6
Zinc	US EPA and California Secondary MCL	125	2	2

Source: WEI, 2017, Strategic Plan for the Six Basins, Table 2-7.

Although, there are a number of sites where soil contamination has occurred (see Section 4.8, *Hazards/Hazardous Materials*, for a discussion), the focus of the Strategic Plan regarding the cleanup and abatement of water quality issues is on the three largest sites: the former Xerox Corporation facility in the Pomona Basin; and the former United Production Services facility, and the former Victor Graphics facility, both in the Ganesha Basin.

Xerox Corporation Site

The former Xerox Corporation Facility Site is a 10-acre site located on 800 East Bonita Avenue in Pomona. From 1971 to 1990, the facility produced printed wire boards and associated electronic components, the production of which included the use of organic solvents, acids (hydrofluoric, fluoroboric, nitric, and hydrochloric), inorganic solutions containing heavy metals (chromium, copper, lead, and nickel), and mineral salts. From 1971 to 1984, liquid storage at the Xerox Site consisted of 10 USTs located adjacent to Towne Avenue. From 1981 through 1986, Xerox removed the USTs. During UST removal, it was determined that some of the tanks had leaked and contaminated soil and groundwater beneath the site.

Elevated levels of 1,1,1-TCA, 1,1-DCE (a degradation by-product of 1,1,1-TCA), and hexavalent chromium were found in groundwater. After reviewing the summary reports in 1986, the RWQCB directed Xerox to perform further soil and groundwater investigations. These investigations confirmed the presence of 1,1,1-TCA, 1,1-DCE, and hexavalent chromium at significant concentrations. The maximum concentrations of 1,1,1-TCA, 1,1-DCE, and hexavalent chromium found in groundwater during these initial sampling events were 13,000 µg/L, 2,800 µg/L, and 260 µg/L, respectively. The investigations also determined that the contaminant plume had migrated off-site. In 1987, on-site groundwater remediation began, which consisted of groundwater extraction and granular activated carbon (GAC) treatment.

In July 1991, a Cleanup and Abatement Order (CAO) was issued by the RWQCB directing Xerox to: (1) continue groundwater monitoring and remediation onsite; (2) continue monitoring groundwater contamination off-site; and (3) install and initiate operations of a well-head treatment system for off-site contamination affecting the City of Pomona's well P-3 located 1.3 miles southwest of the site. In 1994, Xerox expanded on-site remediation to include ten extraction wells located in the perched zone and upper and lower aquifers. The on-site treatment system was deactivated in September 2004 and continued monitoring by Xerox demonstrated no rebound in contaminant levels. RWQCB granted regulatory closure of the on-site remediation case in March 2008 after requirements of the CAO related to on-site contamination were satisfied. Xerox continues to monitor a group of on-site wells.

The CAO remains in effect for off-site contamination monitoring, however. Off-site groundwater monitoring began in 1987 and showed elevated levels of contaminants downgradient of the site to the southwest towards the City of Pomona's well P-3. Continued off-site monitoring from 1987 to 2006 showed levels of 1,1,1-TCA, 1,1-DCE, and hexavalent chromium steadily increasing. During this time, maximum concentrations found at off-site

monitoring wells were 150 µg/L for 1,1,1-TCA, 2,200 µg/L for 1,1-DCE, and 500 µg/L for hexavalent chromium. However, since 2006 contaminant concentrations at the off-site monitoring wells have steadily decreased but are still well above their respective PMCLs. During the period 2007 through 2011, the maximum concentration of 1,1-DCE and hexavalent chromium found at Xerox on-site monitoring wells site were 180 µg/L and 200 µg/L, and the maximum concentration of 1,1-DCE and hexavalent chromium found at the off-site monitoring wells were 1,500 µg/L and 350 µg/L. At the City's well P- 3, the maximum concentrations of 1,1-DCE and hexavalent chromium were 5.6 µg/L and 4.5 µg/L. High concentrations of 1,1-DCE and hexavalent chromium were also found at the City's wells P-32B, P-08(old), P-08B, and P-07 to the southwest of the Xerox site. At these wells, from 2007 to 2011, the maximum concentration of 1,1-DCE ranged from 43 to 56 µg/L, and the maximum concentration of hexavalent chromium ranged from 8.3 to 17 µg/L.

In 2011, Xerox stated that the lateral transport of contaminants offsite is downgradient (southwest), in the more "permeable upper zone" of the aquifer, and only along the north side of the Intermediate Fault towards well P-3. Furthermore, Xerox reported that the off-site plumes of 1,1-DCE and hexavalent chromium are stable and confined to the "shallow" and "upper zones" of the aquifer system and are attenuating by dilution with higher-quality native water recharge and degradation processes. At that time Xerox was not operating an offsite remediation program but did continue to monitor groundwater (i) on-site to evaluate the effectiveness of past clean-up efforts and (ii) off-site to monitor the natural attenuation of the 1,1-DCE and hexavalent chromium plumes.

Based on its monitoring program, Xerox concluded that the offsite groundwater contamination is a stable and attenuating plume that is spatially confined to shallow portions of the aquifer and only to the north of their delineation of the Intermediate Fault. Xerox also concluded that well P-3 is the only well owned by the City of Pomona that has been impacted by the offsite contamination, and that other sources may be responsible for the contamination at P-3 and other wells owned by the City (P-7, P-8B, and P-32B). At that time, Xerox contended that no additional offsite monitoring wells or remediation is necessary, and that monitored natural attenuation should be investigated as the final groundwater remedy.

Discussions between the City and Xerox have been on-going and Xerox continues to monitor groundwater wells. The most recent monitoring report was released in February 2019 based on monitoring completed in October 2018 semiannual groundwater monitoring and sampling event. The principal compounds of potential concern (COPCs) at the site are 1,1-dichloroethene (1,1-DCE) and hexavalent chromium (Cr6). The groundwater data collected from the shallow, upper, and lower groundwater zones during the April 2018 event were found to be generally consistent with the data that has been collected since 2012. As part of this study, the most recent five-year period, from 2013 to 2018 was evaluated to determine whether concentrations of COPCs are decreasing, stable, or increasing. The following are key observations regarding the distribution of these COPCs in each groundwater zone.

Shallow Groundwater Zone

1. Near-site shallow groundwater zone concentration of 1,1-DCE is below the California drinking water maximum contaminant level (MCL) of 6 micrograms per liter ($\mu\text{g/L}$) at MW-4, (monitoring well) and the 1,1- DCE trend in this well is stable. Cr6 is reported below the MCL of 50 $\mu\text{g/L}$ for total chromium and exhibits no trend in MW-4. The trends of 1,1-DCE and Cr6 exhibited in MW-4 are indicative that the source removal has resulted in a residual plume that is naturally attenuating near-site.
2. In the off-site shallow groundwater zone, a dissolved phase 1,1-DCE plume with concentrations greater than the MCL extends to approximately 4,000 feet downgradient of the site. The concentrations of 1,1-DCE range from at 670 $\mu\text{g/L}$ at MW-14G (stable trend) to 15 $\mu\text{g/L}$ at MW-27A. The presence of TCE at MW-27A indicates that an unidentified off-site source may be contributing to groundwater quality in this area (increasing trend). 1,1-DCE was reported at 130 $\mu\text{g/L}$ in MW-26A1 in October 2018, while the reported concentration in April 2018 was 1.8 $\mu\text{g/L}$.
3. In the off-site shallow groundwater zone, a dissolved phase Cr6 plume with concentrations greater than the MCL for total chromium extends to at least 3,000 feet downgradient of the site. The concentrations of Cr6 range from 92 $\mu\text{g/L}$ at MW-14G (no trend) to 110 $\mu\text{g/L}$ at MW-26A2 (probably increasing trend). While concentrations of Cr6 have generally decreased in MW-16G since April 2016, Cr6 has increased in MW-26A in the past two events. Given the concentrations of Cr6 in the downgradient wells are either from residual Cr6 (not from a current on-site source) or from an alternative unidentified off-site source.
4. Cr6 is reported below the MCL at 11 $\mu\text{g/L}$ at MW-27A (increasing trend) located 4,000 feet downgradient.

Upper Groundwater Zone

1. In the off-site upper groundwater zone, 1,1-DCE concentrations are greater than the MCL and probably increasing approximately 700 feet downgradient of the Xerox site and decline to concentrations less than its MCL within 2,300 feet downgradient. The concentrations of 1,1-DCE range from 47 $\mu\text{g/L}$ at MW-14B to 0.45 $\mu\text{g/L}$ at MW-16B. 1,1-DCE is also reported at concentrations above the MCL with no trend at MW-27B/C2 located 4,000 feet downgradient. The reported concentration of 1,1-DCE is 11 $\mu\text{g/L}$ at MW-22 (decreasing).
2. In the off-site upper groundwater zone, Cr6 concentrations are less than the MCL for total chromium except for MW-26C, which is located approximately 2,000 feet downgradient of the site. The concentration of Cr6 in MW-26C was 340 $\mu\text{g/L}$ in October 2018 (probably increasing trend). Cr6 at this location is due to post-remediation residuals and/or from unidentified source(s).

Lower Groundwater Zone

1. The concentrations of 1,1-DCE and Cr6 in the lower groundwater zone at MW-14Y and MW-16Y were reported below their respective MCLs, providing a depth

constraint on the distribution of 1,1-DCE and CrVI (6?). The Lower Groundwater Zone will continue to be monitored to provide additional information regarding the vertical extent of groundwater impacts.

Victor Graphics

The approximately 1.5-acre former Victor Graphics Facility site is located on 1330 Arrow Highway in the City of La Verne. Between 1973 and 1993 Victor Graphics manufactured rubber stamps. The facility stored and used perchloroethylene (PCE), trichloroethylene (TCE), and other solvents at the facility. In 1977 a PCE spill was reported to the County of Los Angeles to have occurred near the southwestern corner of the property. In 2001, RWQCB requested an initial site investigation that included soil and groundwater sampling. To conduct the groundwater sampling, four on-site monitoring wells were installed. PCE was detected in soil samples at concentrations ranging from 7 to 690 micrograms per kilogram ($\mu\text{g}/\text{kg}$) and in 2 of the 4 monitoring wells at 42 and 110 $\mu\text{g}/\text{L}$. For comparison, the California primary maximum constituent levels for PCE and TCE are both 5 $\mu\text{g}/\text{L}$.

In 2002 additional sampling was conducted that showed PCE detected in two monitoring wells at 17 and 330 $\mu\text{g}/\text{L}$, respectively. However, since 2002 RWQCB did not require further sampling at these four monitoring wells. In 2010, groundwater sampling was conducted during a site investigation for the neighboring former United Production Services Facility (see below for a discussion of that site). Two additional monitoring wells were constructed on the Victor Graphics property slightly downgradient of the other four monitoring wells. Samples collected from the two new wells had PCE concentrations of 500 and 9,100 $\mu\text{g}/\text{L}$, and TCE concentrations of 23 and 420 $\mu\text{g}/\text{L}$. Other volatile organic compounds (VOCs) detected above California primary maximum constituent levels (PMCLs) were *cis*-1,2-dichloroethene (*cis*-1,2-DCE) at 110 $\mu\text{g}/\text{L}$ and vinyl chloride at 17 $\mu\text{g}/\text{L}$.

In 2011, RWQCB requested a Phase I Environmental Assessment Report (EAR) a monitoring work plan and additional groundwater sampling. The Phase I EAR was submitted to RWQCB in July 2011. Subsequently, a CAO was issued by RWQCB in October 2012. In 2013, RWQCB approved a time extension request to submit the report. The report was submitted in 2014. Then in 2015, RWQCB issued a Notice of Violation for Failure to Implement a Site Assessment Work Plan. The Tamkin Family continued to work with RWQCB and in 2017 RWQCB approved an Interim Remedial Action Plan Addendum.

Monitoring has continued at the site. The May 2018 groundwater monitoring results indicated that PCE and TCE were detected at concentrations up to 440 $\mu\text{g}/\text{L}$ and 33 $\mu\text{g}/\text{L}$ respectively.

United Production Service

The Former United Production Services site is a 3.23-acre site located at 1855 Carrion Road in the City of La Verne, currently owned by the University of La Verne. From 1966 to 1979, the Occidental Research Corporation (ORC) used the property for the research and development of various chemicals and synthetic fuels, coal gasification, municipal waste incineration, fertilizer processing, and mineral processing. Laboratory and processed waste

were stored and disposed of at the facility. Storage and disposal practices included drains into the soil, evaporation ponds, septic tanks with seepage pits, underground storage tanks, and above ground tanks and drums. Records show that PCE and TCE were purchased and used on site during the ORC operations.

The first site investigation conducted from 1979 to 1980 confirmed that wastes were discharged to soil and groundwater beneath the site and that TCE and PCE were detected in groundwater. During this study TCE was detected in 14 out of the 15 monitoring wells at concentrations ranging from 0.2 to 120 µg/L, and PCE was detected in 6 of the 15 monitoring wells at concentrations ranging from 0.2 to 1.7 µg/L. In subsequent studies required by the RWQCB from 1990 to 2002, 9 additional monitoring wells were constructed and the concentrations of PCE, TCE, and other VOCs found in groundwater overall increased. Maximum TCE concentrations ranged from 140 to 206 µg/L, and maximum PCE concentrations ranged from 8,500 to 9,700 µg/L. At that time, the extent of the contaminant plume was not characterized.

In a November 2008 letter, RWQCB notified Glenn Springs Holding Inc., an affiliate of ORC, that it would reopen the case and require additional site assessment. In October 2009, a *Site Investigation Work Plan* was approved by the RWQCB. The most recent investigation was conducted in 2010 pursuant to the approved Work Plan. The contaminant plume is predominantly characterized by elevated concentrations of PCE. TCE, 1,1-DCE, *cis*-1,2-DCE, and vinyl chloride were also found at concentrations above the California PMCL. Groundwater monitoring during the 2010 investigation found the following maximum concentrations at onsite wells: PCE of 6,700 µg/L, TCE of 53 µg/L, 1,1-DCE of 25 µg/L, *cis*-1,2 DCE of 290 µg/L, and vinyl chloride of 6.2 µg/L. Sampling has not occurred at the onsite monitoring wells since 2010.

During the period between 2005 and 2011, the maximum concentration of TCE and PCE found at onsite monitoring wells at the Former United Production Services site was 110 µg/L, and 6,100 µg/L. As discussed previously, construction and sampling of two monitoring wells at the neighboring, upgradient, former Victor Graphics site, aided in the investigation. A CAO was issued to Glenn Springs Holding Inc. on October 2, 2012 to prepare a RAP for cleanup and a monitoring work plan, which includes the implementation of a quarterly monitoring program. The CAO states that the first monitoring report is due by July 15, 2013. The adjacent, upgradient Former Victor Graphics Facility was believed to be a contributor to the PCE plume at United Production Services site and has been issued a separate CAO.

2.9.2 Groundwater Treatment Facilities in the Six Basins

As discussed in the previous section, groundwater production in the Pomona Basin has been hampered by poor groundwater quality due to high concentrations of nitrate, perchlorate, and volatile organic compounds (VOCs). Construction and operation of treatment facilities by water purveyors has eased some of those constraints, but poor groundwater quality continues to be a factor that limits production, particularly in the Pomona Basin. Production

from the Live Oak Basin and Ganesha Basin has always been relatively minor—on average about 3 percent of total production in the Six Basins. From about 1993 to 2001, production declined to almost zero due to poor groundwater quality, including high concentrations of nitrate, perchlorate, and VOCs. Construction of treatment facilities in the Live Oak Basin has allowed production to increase back up to and above historical levels.

Table 2-8, *Groundwater Constituents of Potential Concern and Treatment Facilities*, lists the specific Strategic Plan projects that would rehabilitate/upgrade production wells and treatment facilities, and the known constituents of potential concern that have adversely affected groundwater. Figure 2-22, *Projects to Optimize Conjunctive Water Management*, shows the locations of the Strategic Plan projects, including those listed in Table 2-8. Sites are identified by project identification numbers (PID).

Table 2-8 Groundwater Constituents of Potential Concern and Treatment Facilities

Site	Known Constituents of Potential Concern	Current Treatment
Reservoir 5	Concentrations of DCE, Chromium-6 Nitrate, Perchlorate	Air stripping system
Lincoln/Mills	Concentrations of TCE, Nitrate, Perchlorate	Air stripping system
Del Monte 4	Concentrations of TCE, Arsenic	GAC system
Durward 2	Concentrations TCE, Nitrate, Perchlorate	No facilities, well has been removed
Old Baldy Well	Concentrations of Nitrate, Perchlorate	Well has been inactive since 2002 due to high concentrations
P-20 Well	Concentrations of Nitrate	Well has been inactive since 2000 due to high nitrate concentrations

Source: *Strategic Plan for the Six Basins, WEI, 2017, Section 2.6.3.*

2.9.3 Reservoir 5 Treatment Facility

The Reservoir 5 treatment facility is an air stripping facility owned by the City of Pomona and is located at the I-10 freeway and Towne Street (Figure 2-22, PID a). Groundwater from the P-3, P-7, P-8B and P-32B wells is conveyed to the facility to remove dichloroethene (DCE) and blended with treated imported water to reduce chromium 6 (Cr6), nitrate, and perchlorate concentrations. The P-3, P-7, P-8B and P-32B wells have a combined capacity of about 3,000 gpm, and if operated at maximum capacity, can produce a total of 3,625 acre-ft/yr. From 2010-2015, the City of Pomona produced about 1,500 acre-ft/yr from the P-3, P-7, P-8B and P-32B wells. The wells are not operated at their full capacity because well 3 and 7 are currently not equipped with pumps. The current capacity of the treatment facility is 2,000 gpm.

2.9.4 Lincoln/Mills Treatment Facility

The Lincoln/Mills treatment facility is an air-stripping facility owned by the City of La Verne and is located at 6th and White Street (Figure 2-22, PID b). Groundwater pumped by the Lincoln and Mills Tract wells is conveyed to the facility to remove TCE and is blended with treated imported water via a static mixer to reduce nitrate and perchlorate concentrations. The Lincoln and Mills Tract wells have a combined capacity of about 2,000 gpm, and if operated at maximum capacity, can produce a total of 2,400 acre-ft/yr. From 2010-2015, the City of La Verne produced about 1,100 afy of from the Lincoln and Mills Tract wells. The wells are not currently operated at their full capacity because the capacity of the treatment facility is 1,200 gpm, and it is not economically feasible for the City of La Verne to buy replacement water if doing so would incur a Replacement obligation.

2.9.5 Del Monte 4 Treatment Facility

The Del Monte treatment facility is a GAC facility owned by GSWC and is located at College Avenue and 1st Street (Figure 2-22, PID c). The Del Monte 4 well has a design capacity of 700 gpm, and if operated at maximum capacity, can produce a total of 850 acre-ft/yr. GSWC has not produced groundwater from the Del Monte 4 well since 2005 due to high arsenic concentrations. The well was drilled in 1991 and had a design flow rate of 700 GPM that supplied the Main Zone. Periodic sampling taken during its operation revealed arsenic levels that rose above the maximum contaminant level (MCL), thus requiring the well to be taken out of service. The latest sampling showed the levels ranged from 35-90 parts per billion (ppb). In its current configuration, Del Monte #4 pumps through an existing GAC treatment system, for VOCs (TCE) and 4-log inactivation, before entering the 1.5 MG Del Monte reservoir; consequently, the added friction loss of pumping through the proposed arsenic treatment system will require the replacement of the pump and motor to match the new operating point.

2.9.6 Durward 2 Well Site

This project involves the construction of new facilities adjacent to the abandoned Durward well site (Figure 2-22, PID d). Historical groundwater-quality data from the Durward well indicates that high concentrations of nitrate, perchlorate, and TCE are present in the underlying groundwater.

2.9.7 Old Baldy Well Site

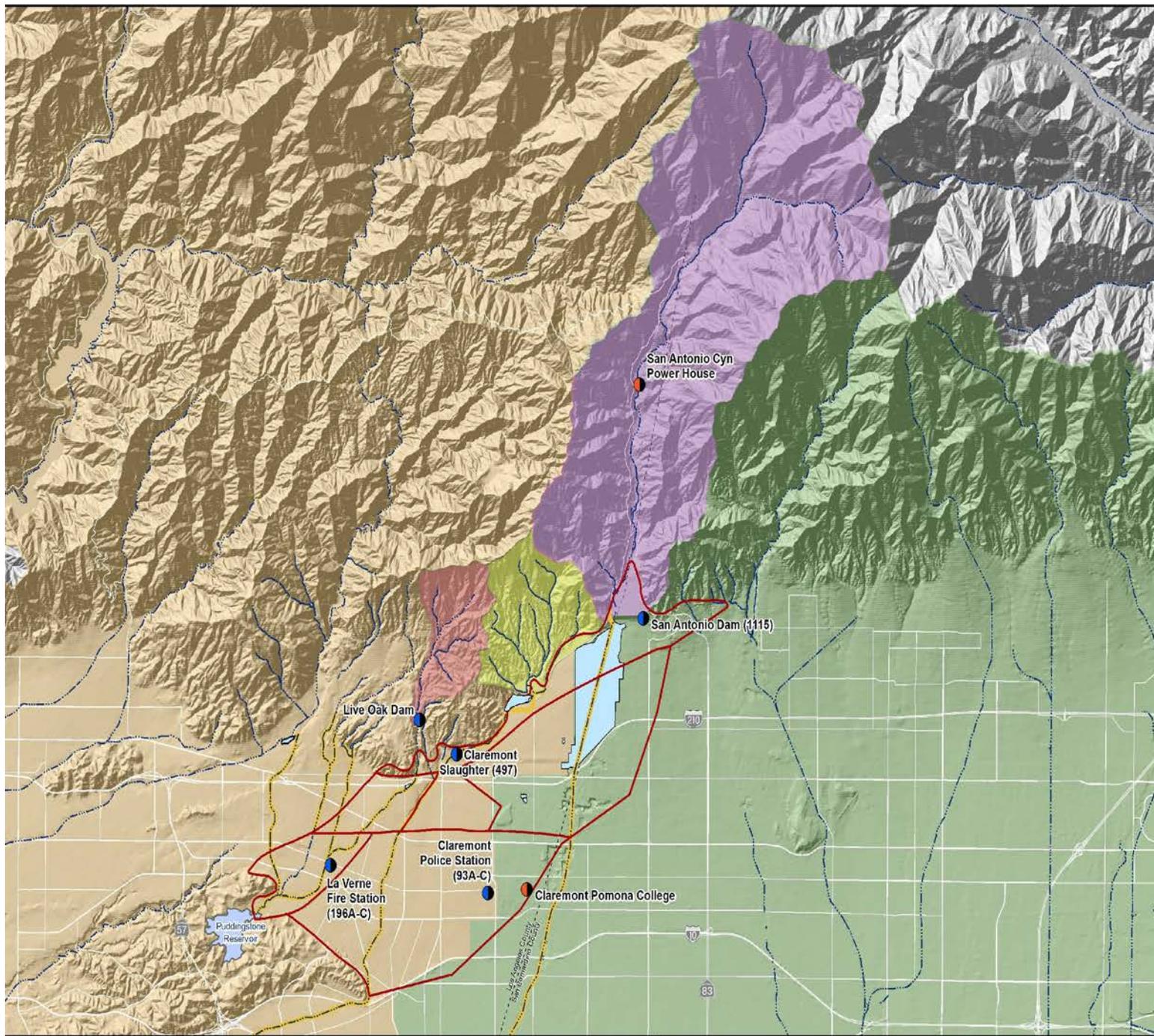
The Old Baldy well is owned by the City of La Verne and is located in the northeast portion of the Ganesha Basin (Figure 2-22, PID e). The Old Baldy well has a capacity of 650 gpm, and if operated at maximum capacity, can produce a total of 800 acre-ft/yr. The City has not produced groundwater from the Old Baldy well since 2002 due to high nitrate and perchlorate concentrations.

2.9.8 P-20 Well Site

The P-20 well is owned by the City of Pomona and is the only well located in the Lower Claremont Heights Basin (Figure 2-22, PID m). The P-20 well has a capacity of 800 gpm, and if operated at maximum capacity, can produce a total of 80 af per month. The City has not produced groundwater from the P-20 well since 2000 due to high nitrate concentrations.

2.10 References

- California Department of Water Resources Geotracker. Accessed September 5, 2019. <https://www.waterboards.ca.gov/ust/>, and <http://geotracker.waterboards.ca.gov/>
- California Department of Toxic substances Control Envirostor Database. Accessed September 5, 2019. <https://www.envirostor.dtsc.ca.gov/public/>,
- US Department of Agriculture (USDA) 2019, Natural Resources Conservation Service (NRCS), *Custom Soil Resource Report for Los Angeles County California, Southeastern Part; and San Bernardino County Southwestern Part, California.*
- US Geological Survey (USGS), 2006, Geologic Map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California, <https://pubs.usgs.gov/of/2006/1217/>
- WEI, Inc, November 2017, *Strategic Plan for the Six Basins.*
- WEI, Inc, March 2019, *Six Basins Watermaster 2018 Annual Report.*



- Watersheds**
- Santa Ana River
 - San Gabriel River
 - San Antonio Creek
 - Thompson Creek
 - Live Oak Wash
- Other Features**
- LA County Flood Control District Daily Precipitation Station - Active
 - LA County Flood Control District Daily Precipitation Station - Inactive
 - Spreading Grounds
 - Rivers and Streams
 - Rivers and Streams - Concrete-Lined Channel
 - Adjudicated Boundaries of the Six Basins

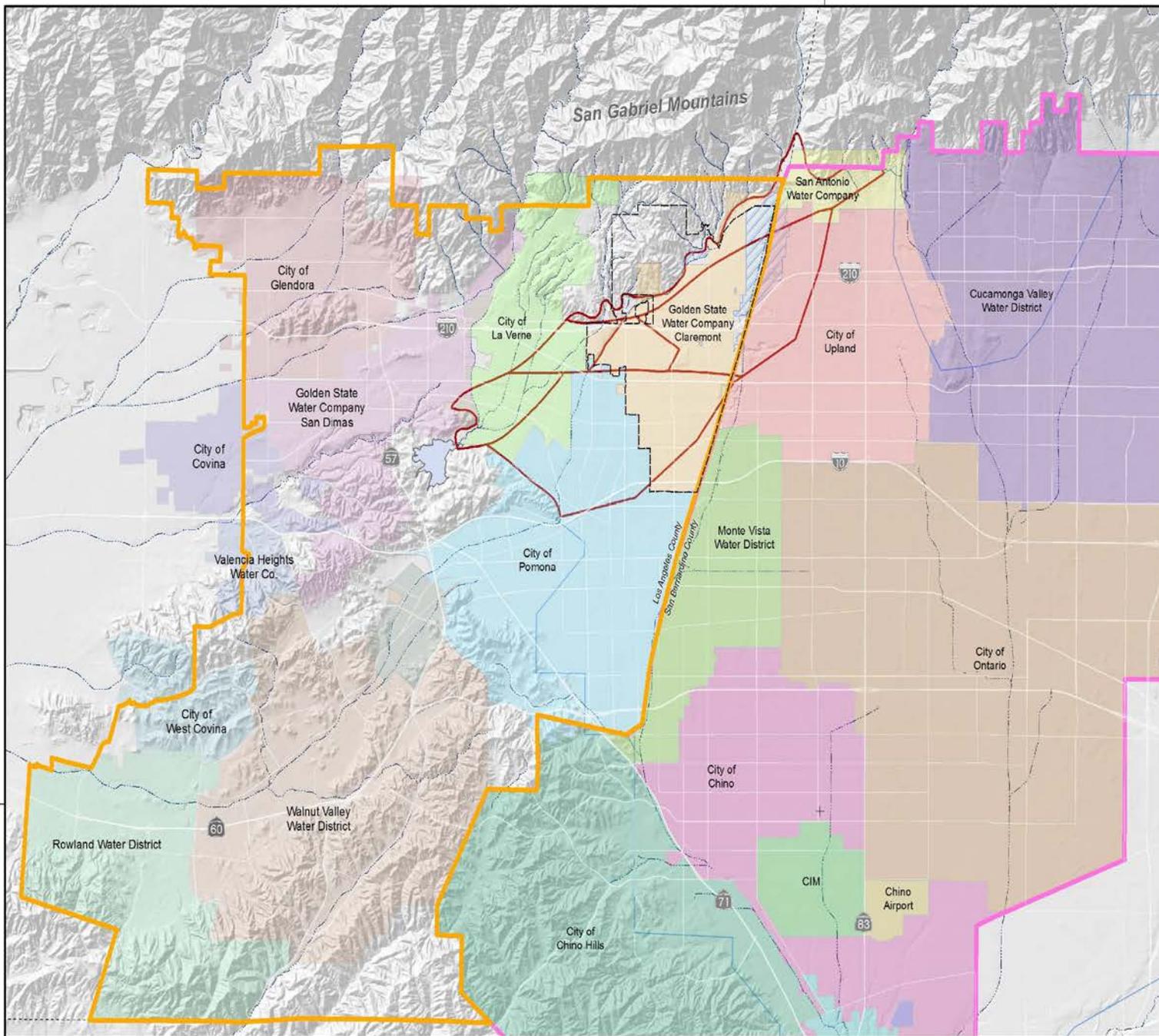


Source: WEI Figure 2-1

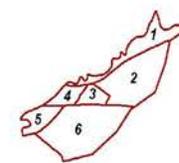


Figure 2-1
Watersheds

6 Basins
Strategic Plan - Program EIR



- Service Areas of Water Purveyors in the Six Basins Area
- City of Claremont
- Three Valleys Municipal Water District Boundary
- Inland Empire Utilities Agency Boundary
- Spreading Grounds



- Six Basins Adjudicated Boundaries
- 1 - Canyon
 - 2 - Upper Claremont Heights
 - 3 - Lower Claremont Heights
 - 4 - Live Oak
 - 5 - Ganesha
 - 6 - Pomona

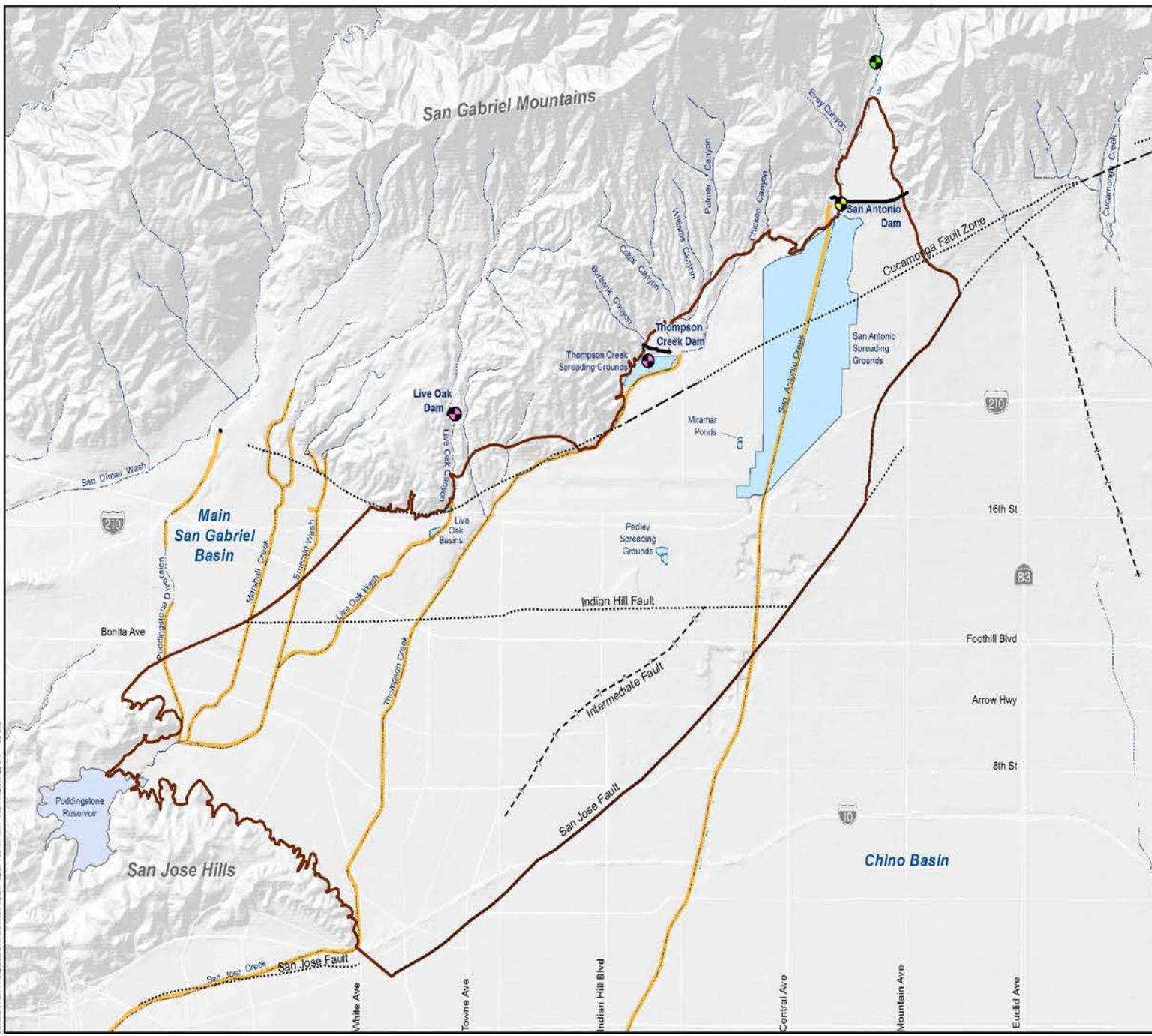


Source: WEI Figure 1-1



Figure 2-2
Water Purveyors

6 Basins
Strategic Plan - Program EIR



- Rivers and Streams - Unlined Channels
 - Rivers and Streams - Lined Channels Prior to Model Calibration Period
 - Spreading Grounds
 - Dam
 - LA County Flood Control Stream Gaging Station
 - US Army Corps of Engineers Gaging Station
 - Edison 60/40 Splitter Box
 - Hydrologic Boundary of the Six Basins
-
- Faults**
- Location Certain
 - Location Concealed
 - Location Approximate
 - Location Uncertain



Source: WEI Figure 2-4



Figure 2-3
Surface Water Features

6 Basins
Strategic Plan - Program EIR



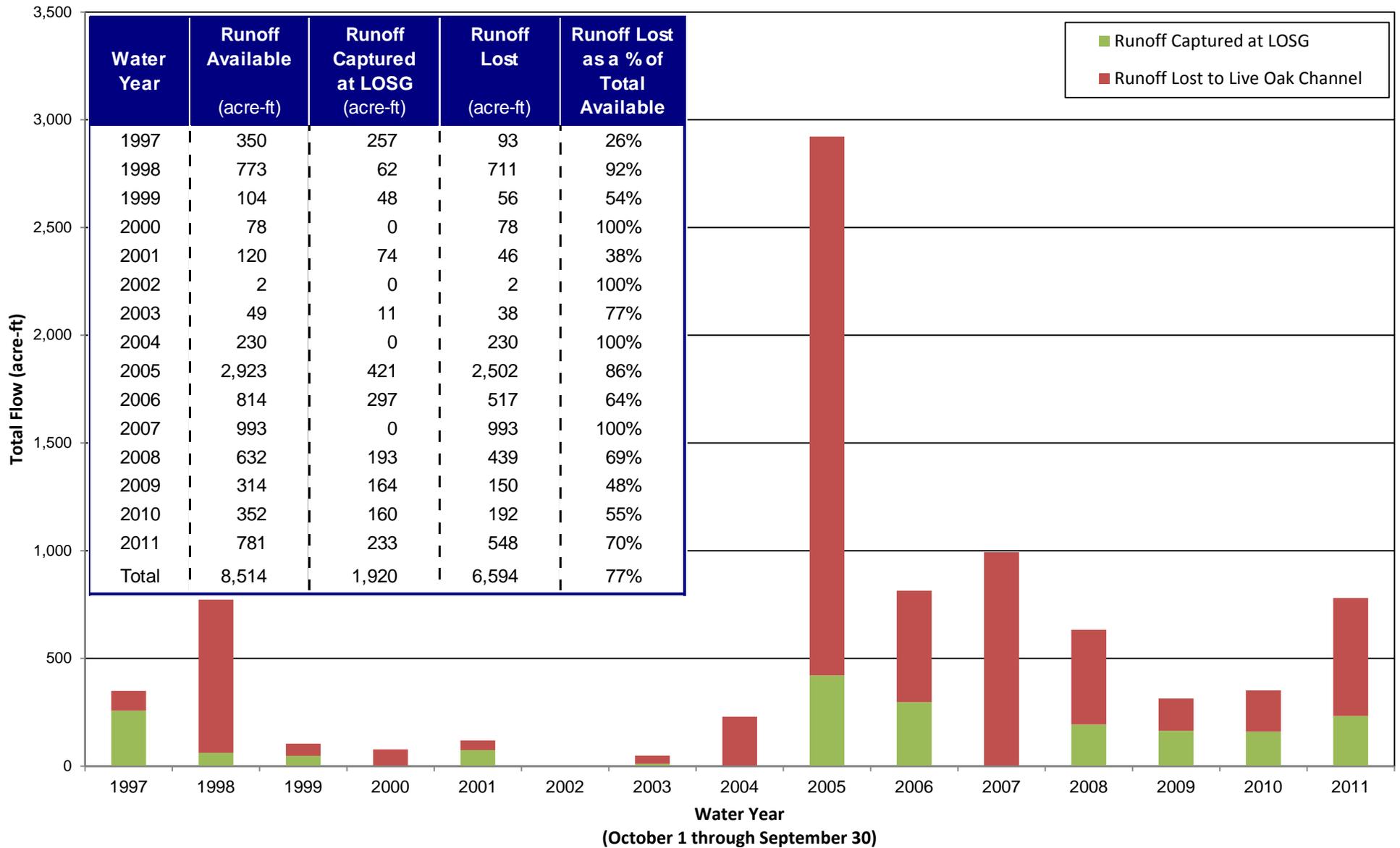
Source: WEI Figure 2-5a



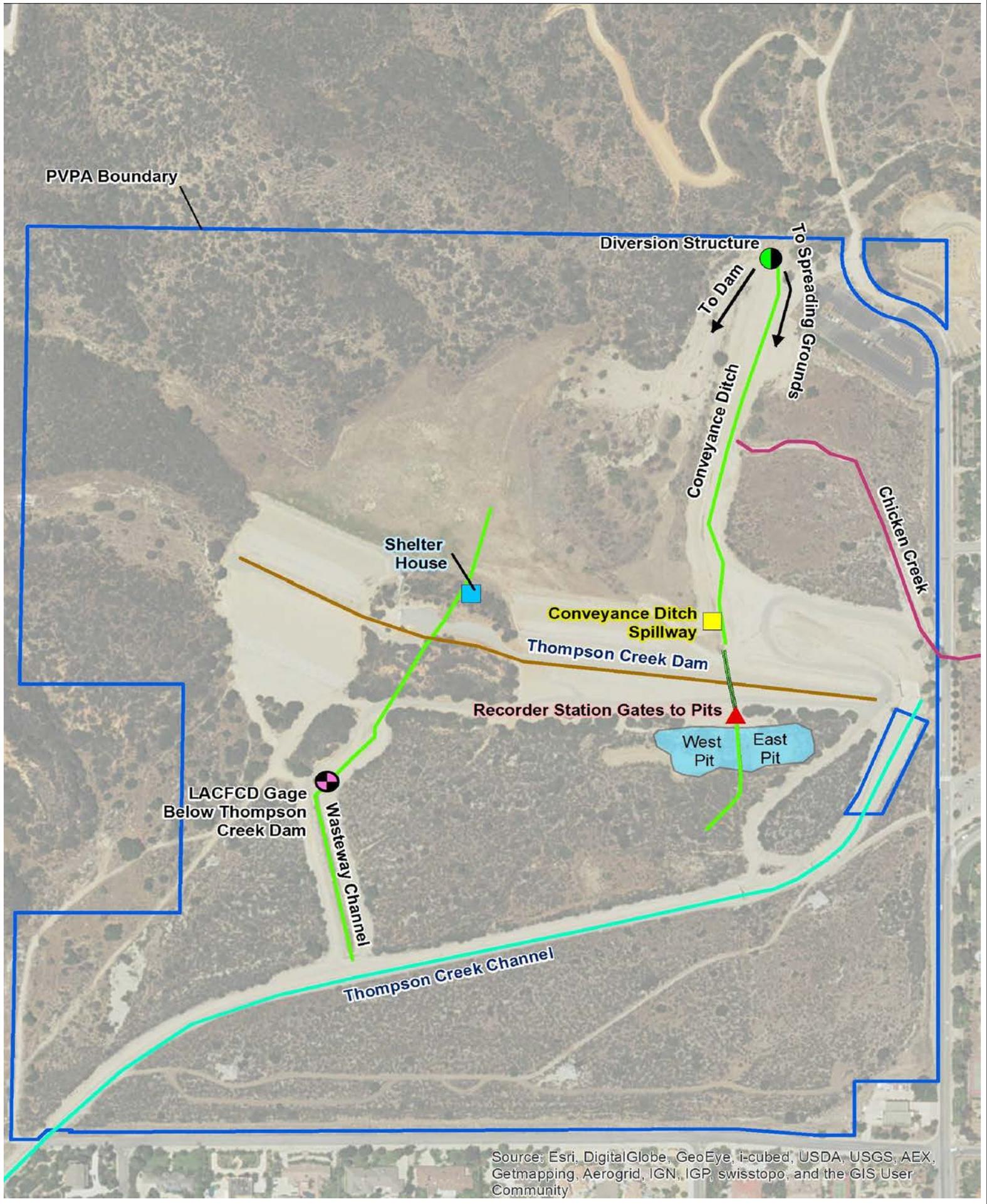
Figure 2-4
Live Oak Spreading Grounds

6 Basins
Strategic Plan - Program EIR

**Figure 2-5
Surface-Water Runoff Captured and Lost from Live Oak Wash**



Source: WEI Figure 2-6a



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

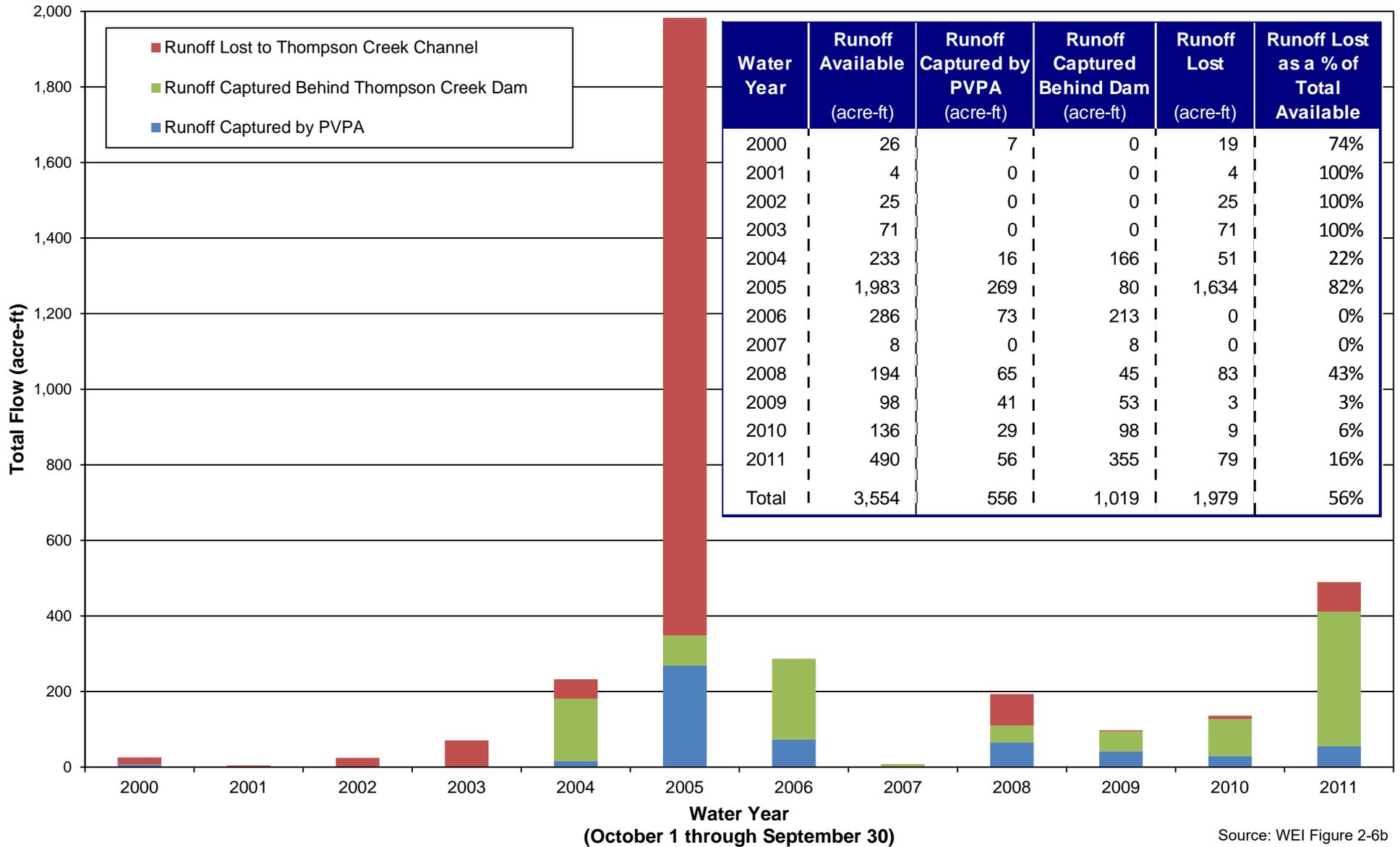
Source: WEI Figure 2-5b



Figure 2-6
Thompson Creek Spreading Grounds

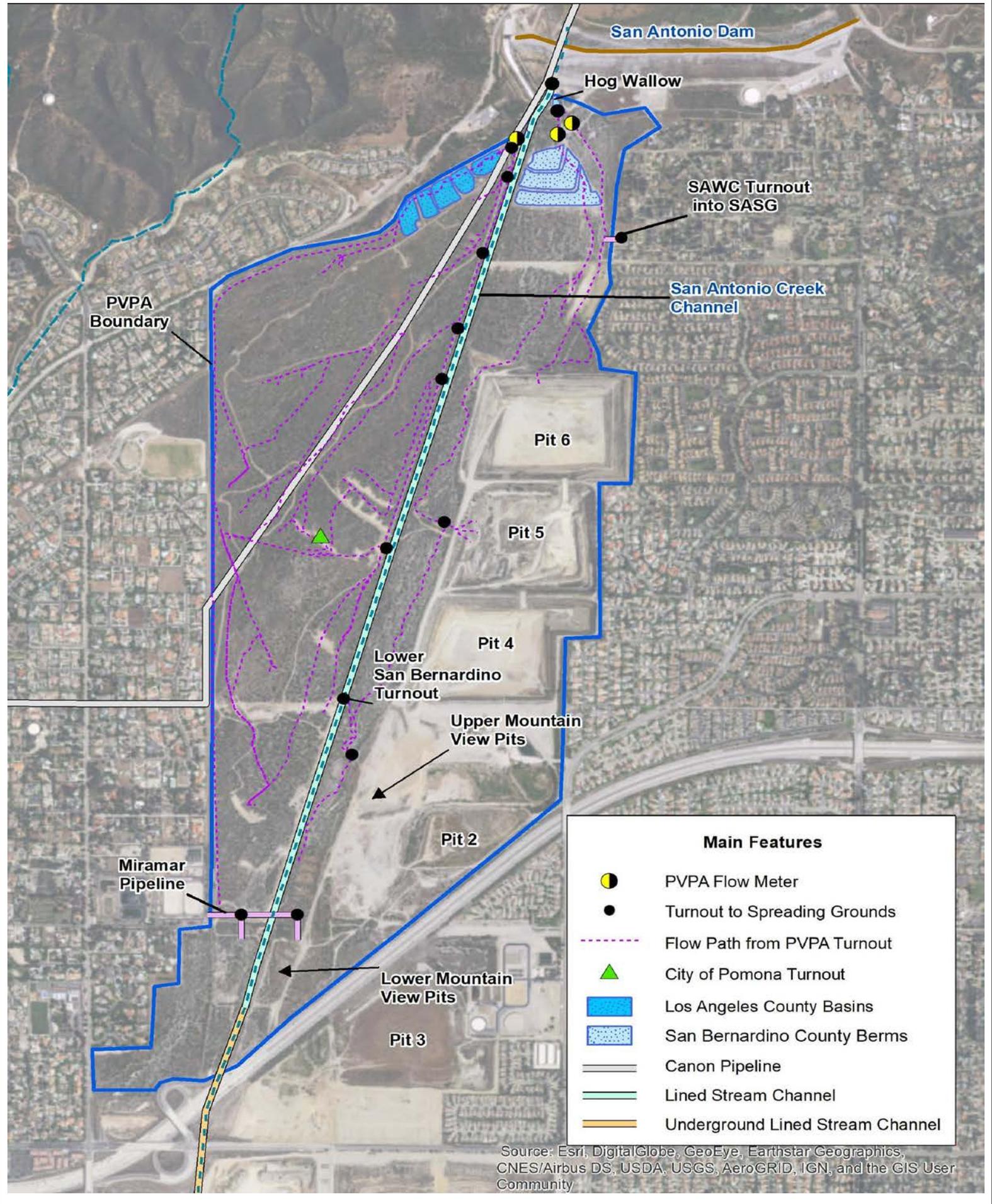
6 Basins
Strategic Plan - Program EIR

Figure 2-7
Surface Water Runoff Captured and Lost from Thompson Creek



Source: WEI Figure 2-6b





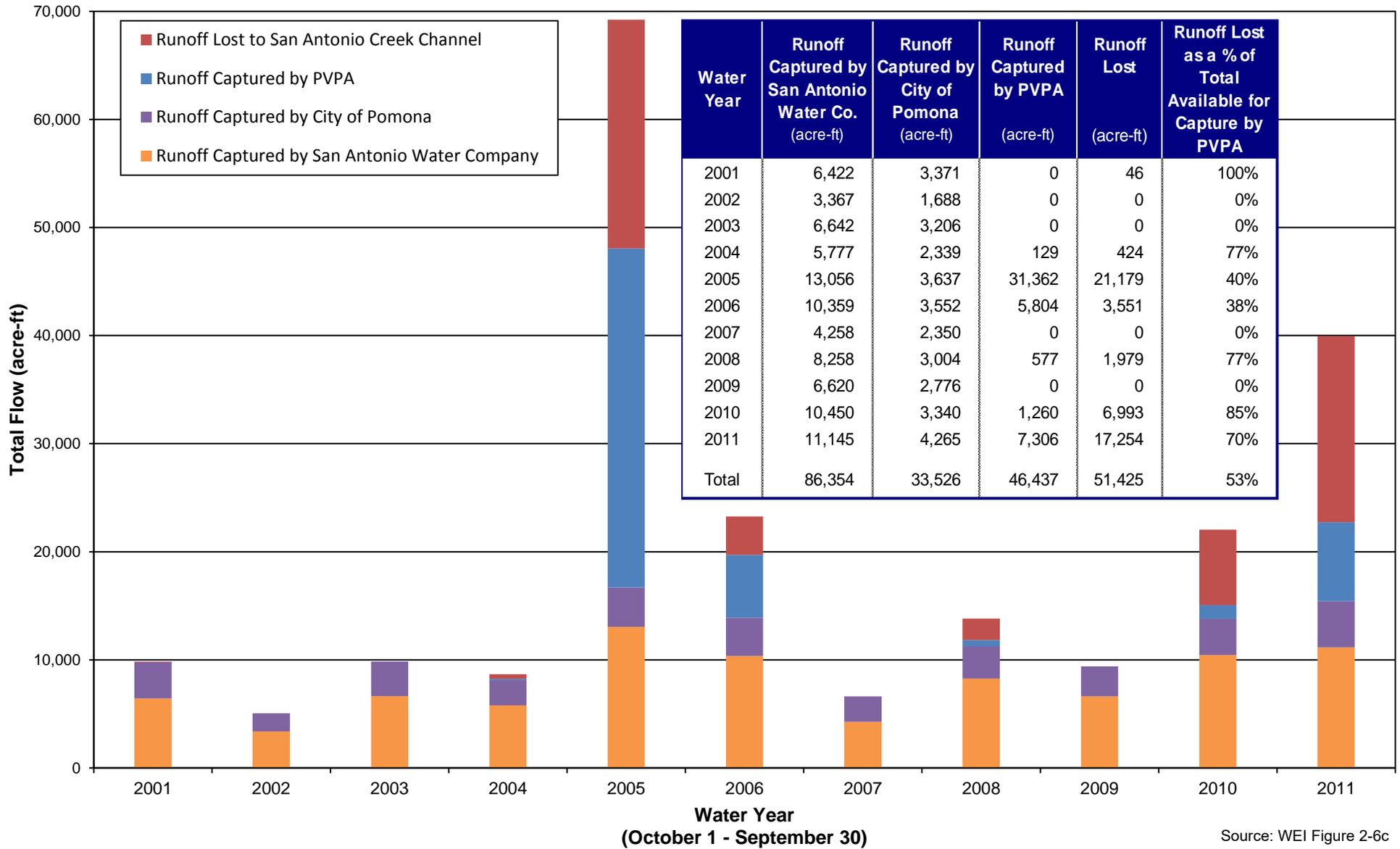
Source: WEI Figure 2-5c



Figure 2-8
San Antonio Spreading Grounds

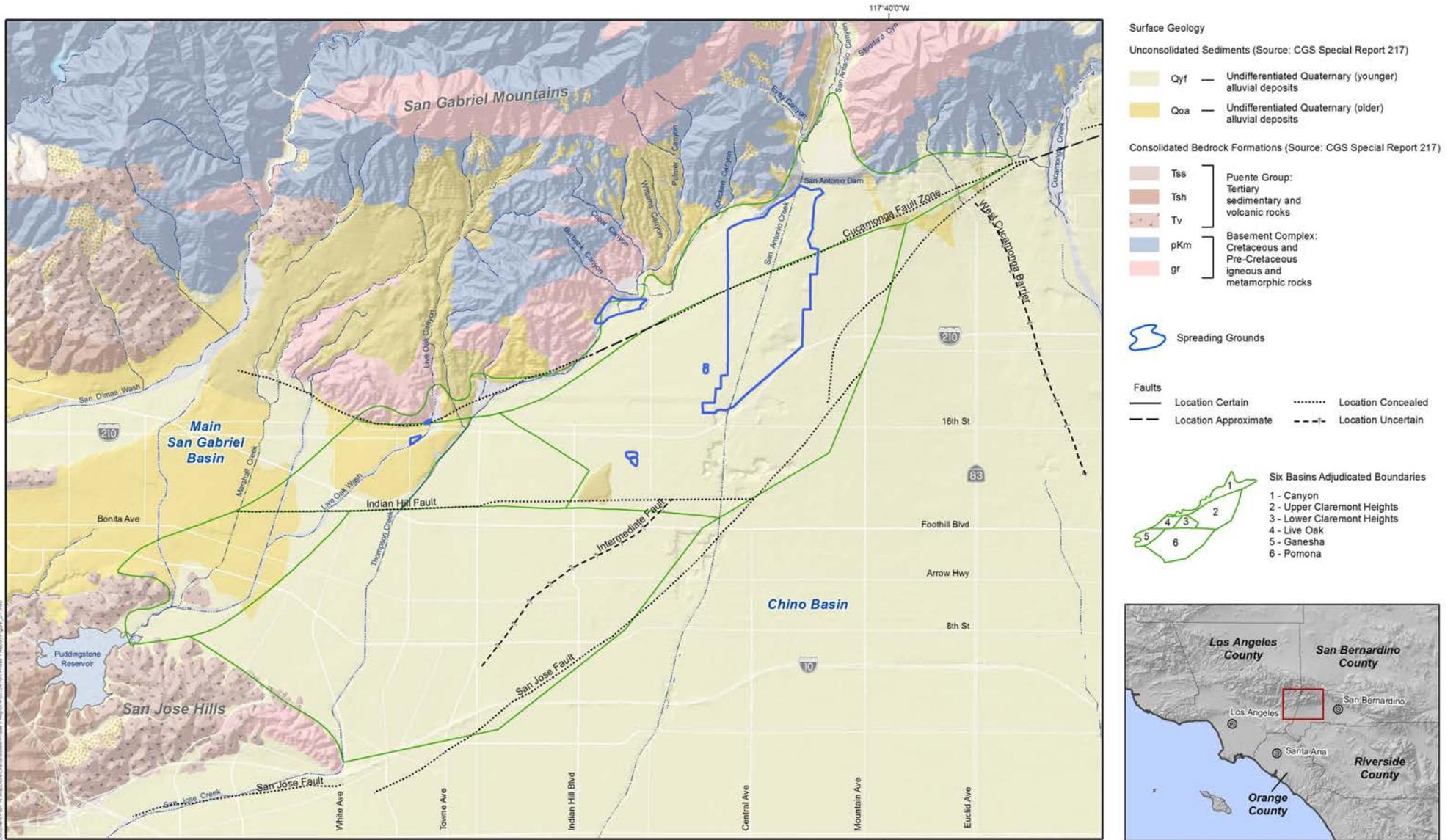
6 Basins
Strategic Plan - Program EIR

**Figure 2-9
Surface Water Runoff Captured and Lost from San Antonio Creek**



Source: WEI Figure 2-6c



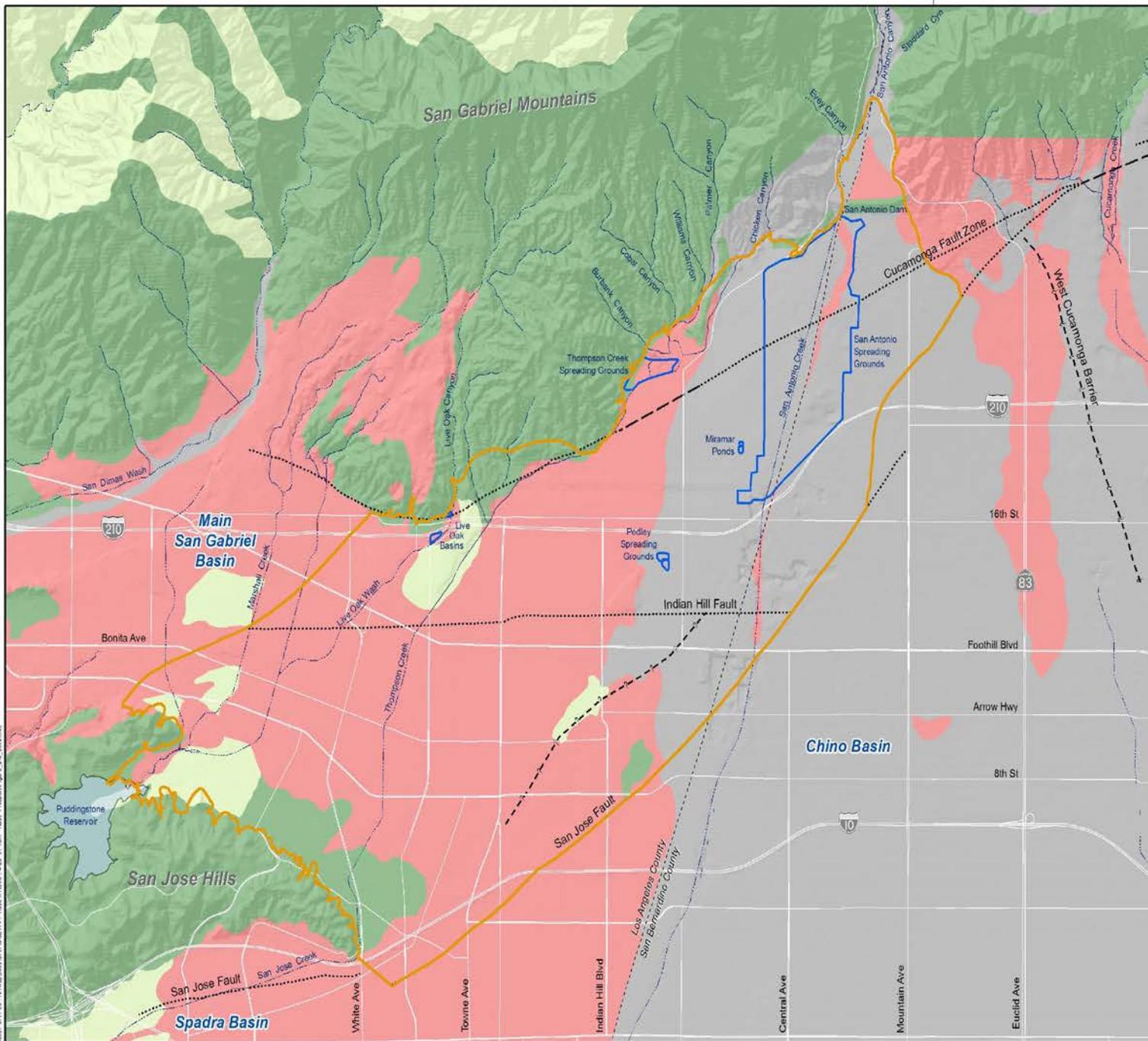


Source: WEI Figure 2-7



Figure 2-10
Geologic Map of the Six Basins Project Area

6 Basins
Strategic Plan - Program EIR



Hydrologic Soil Types

- A Low runoff potential. Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission.
- B Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- C Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.
- D High runoff potential. Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

Source: Los Angeles County: United States Agriculture Dept Soils Bureau, 1917
 San Bernardino County: National Cooperative Soil Survey

- Hydrologic Six Basins Boundary
- Spreading Grounds

Faults

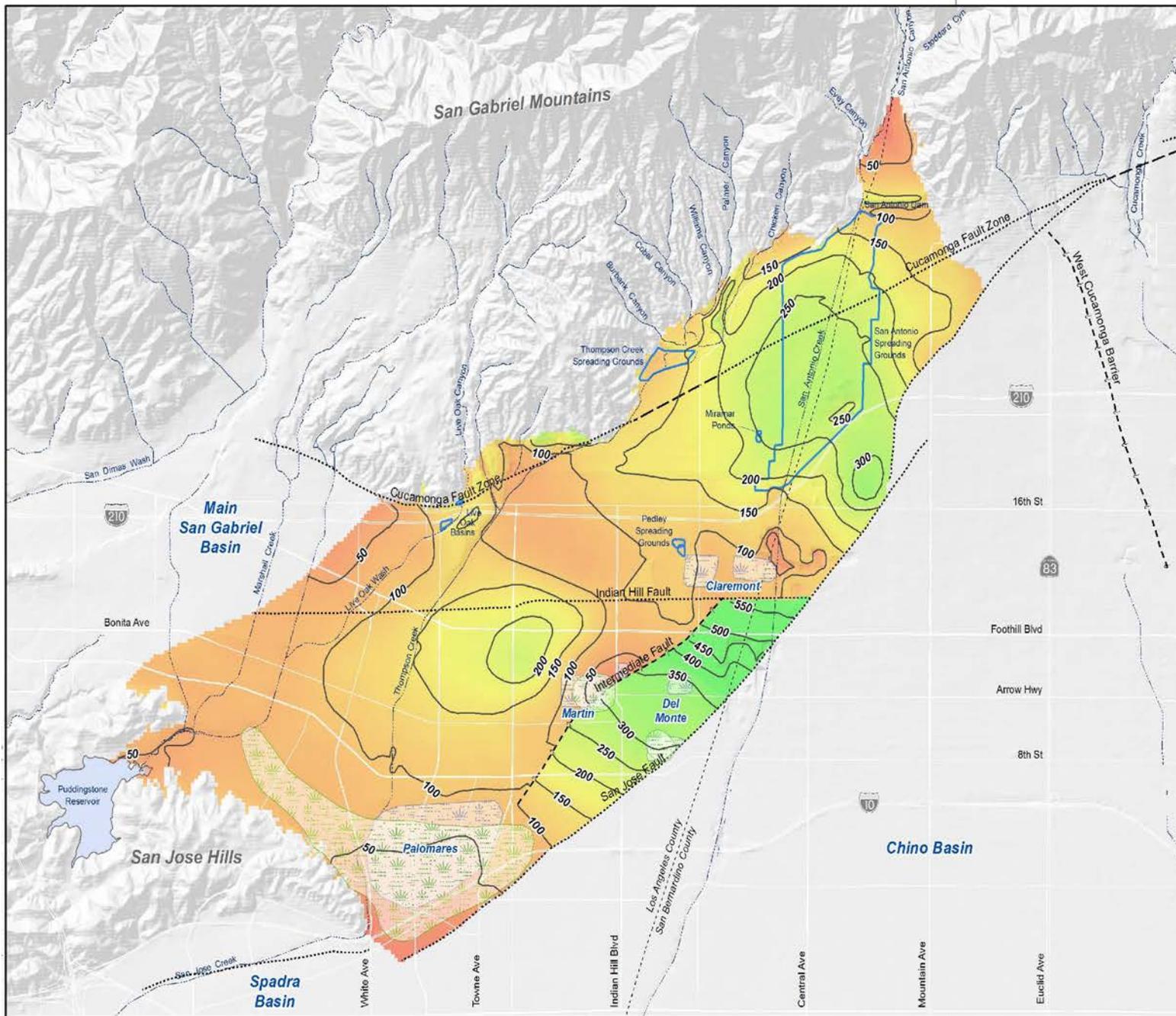
- Location Certain
- Location Concealed
- Location Approximate
- Location Uncertain



Source: WEI Figure 2-8



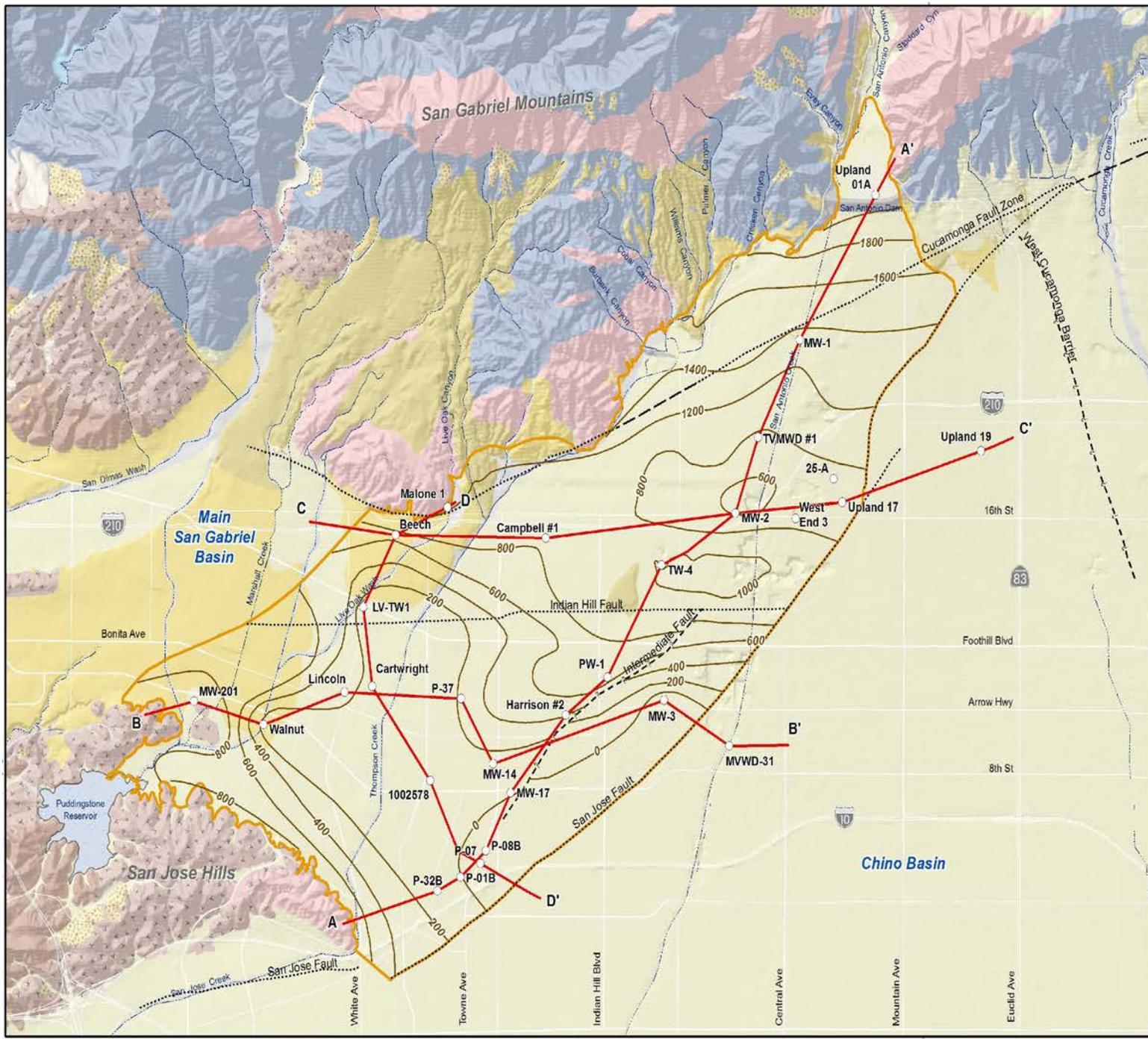
Figure 2-11
 Hydrologic Soil Types



Source: WEI Figure 2-8



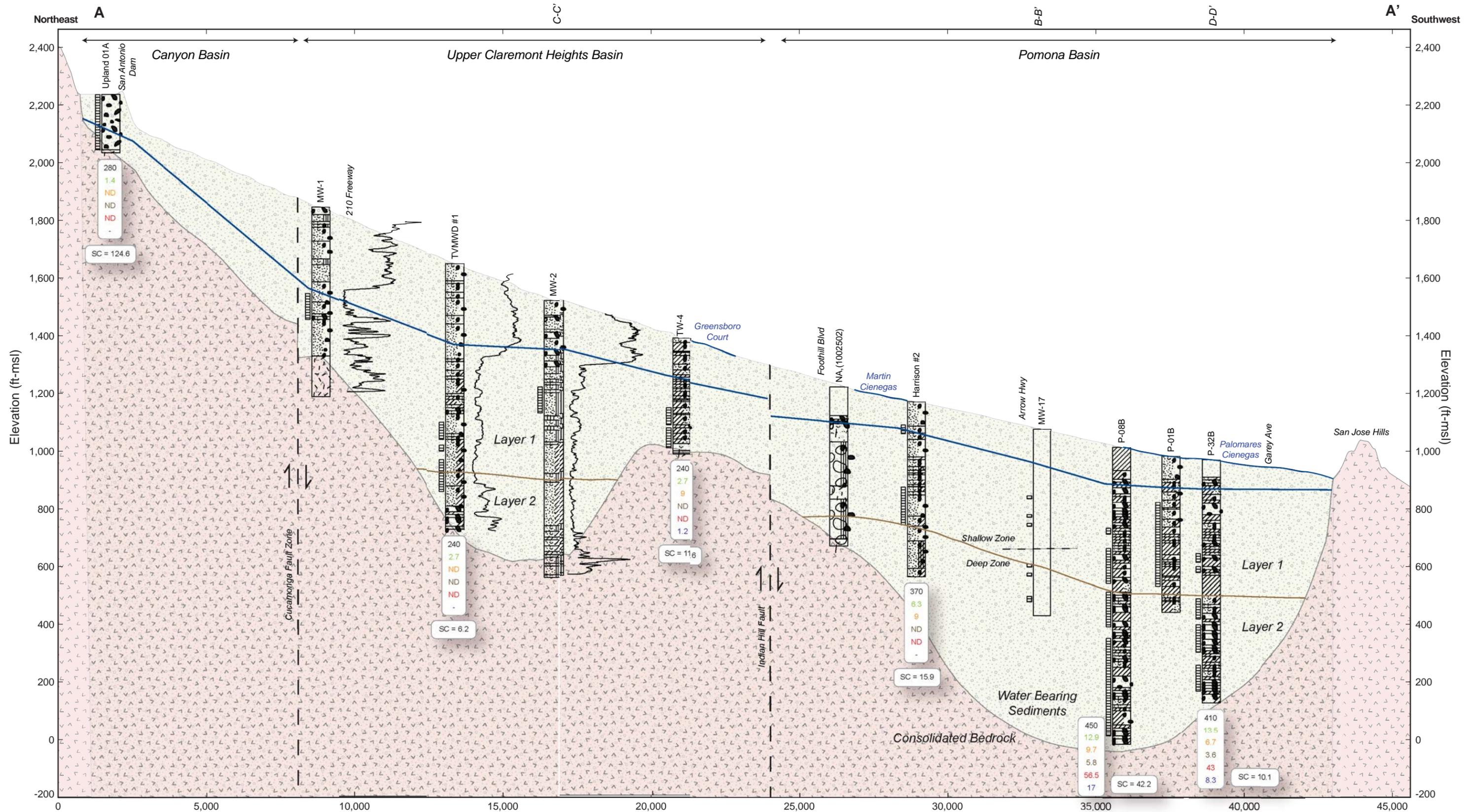
Figure 2-12
 Historical Areas of Rising Groundwater and
 Depth to Groundwater in January 2006



- Geologic Cross Section (shown in profile on Figures 2-11a, 2-11b and 2-11c)
 - Well Used on Cross Section
 - 600— Contours of Equal Bedrock Elevation (ft-amsl)
- Surface Geology**
- Unconsolidated Sediments (Source: CGS Special Report 217)
- Qyf — Undifferentiated Quaternary (younger) alluvial deposits
 - Qoa — Undifferentiated Quaternary (older) alluvial deposits
- Consolidated Bedrock Formations (Source: CGS Special Report 217)
- Tss
 - Tsh
 - Tv
 - pKm
 - gr
- } Puente Group: Tertiary sedimentary and volcanic rocks
 } Basement Complex: Cretaceous and Pre-Cretaceous igneous and metamorphic rocks
- Faults**
- Location Certain
 - Location Concealed
 - Location Approximate
 - Location Uncertain
- Hydrologic Boundary of the Six Basins



Figure 2-13
Elevations of the Bottom of the Aquifer and the Location of Geologic Cross Sections



Vertical Scale: 1" = 320'
 Horizontal Scale: 1" = 3050'
 Vertical Exaggeration: 9.5:1

- Lithologic Graphics**
- Gravel
 - Sand
 - Silt
 - Clay
 - Granite
 - Decomposed Granite
 - Cobbles/Boulders

- Well Screen Interval
- Water Level (Fall 2011)
- 16" Short Normal Geophysical Log

- Maximum Concentration 2007 to 2011**
- TDS mg/L
 - NO₃-N mg/L
 - ClO₂ ug/L
 - TCE ug/L
 - 1,1 DCE ug/L
 - Cr (VI) ug/L
- ND = non detect
 "-" = constituent not tested

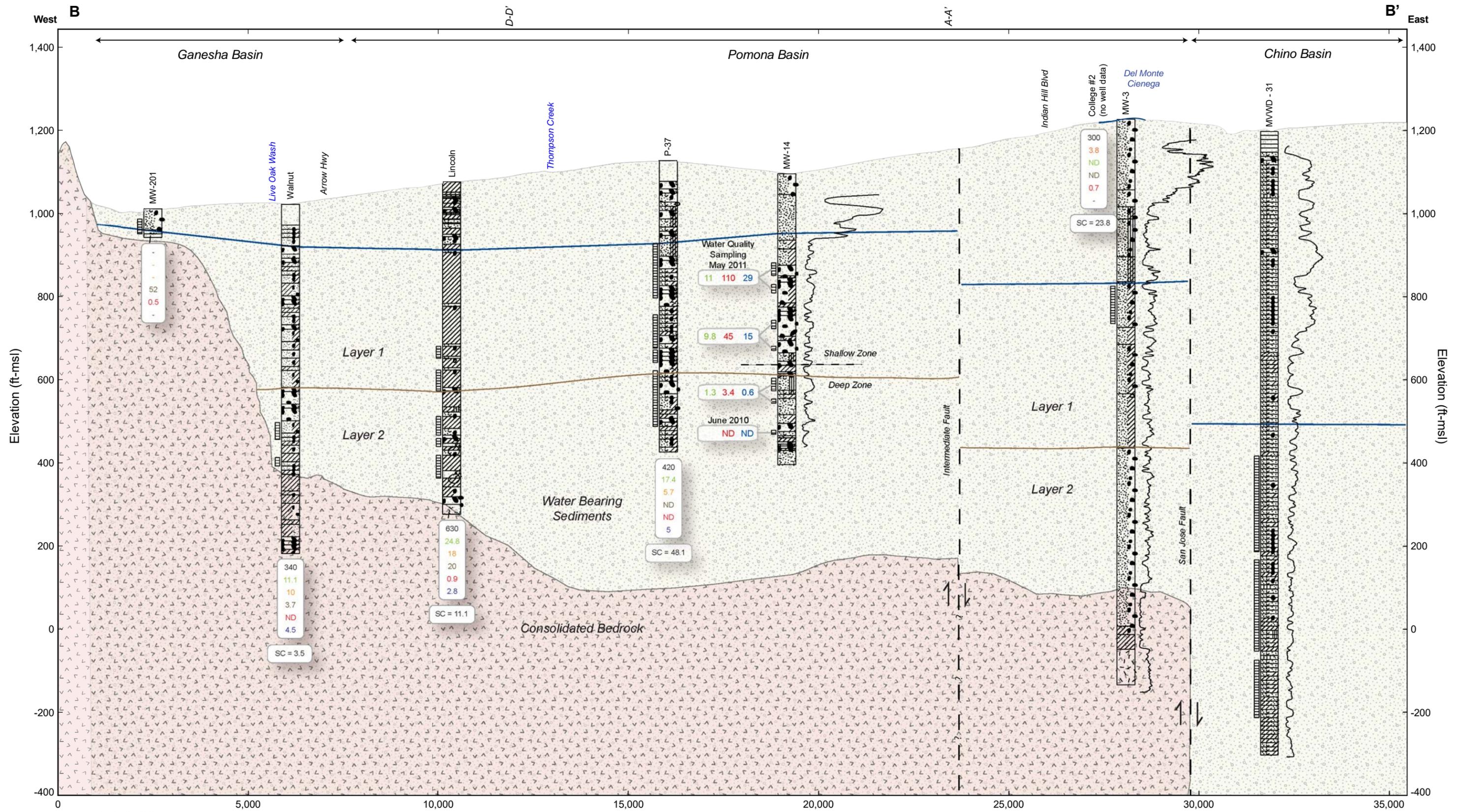
- Average Specific Capacity (gpm/ft)**
- SC = 124.6
- Layer 1 and 2 Boundary

Source: WEI Figure 2-11a



Where the lithologic graphic column is split, the primary component is on the left side of the column; secondary component(s) are on the right.

Figure 2-14
 Cross-Section A-A'



Vertical Scale: 1" = 220'
 Horizontal Scale: 1" = 2350'
 Vertical Exaggeration: 10.7:1

Lithologic Graphics

- Gravel
- Sand
- Silt
- Clay
- Granite
- Decomposed Granite
- Cobbles/Boulders

Where the lithologic graphic column is split, the primary component is on the left side of the column; secondary component(s) are on the right.

- Well Screen Interval
- Water Level (Fall 2011)
- 16" Short Normal Geophysical Log
- Layer 1 and 2 Boundary

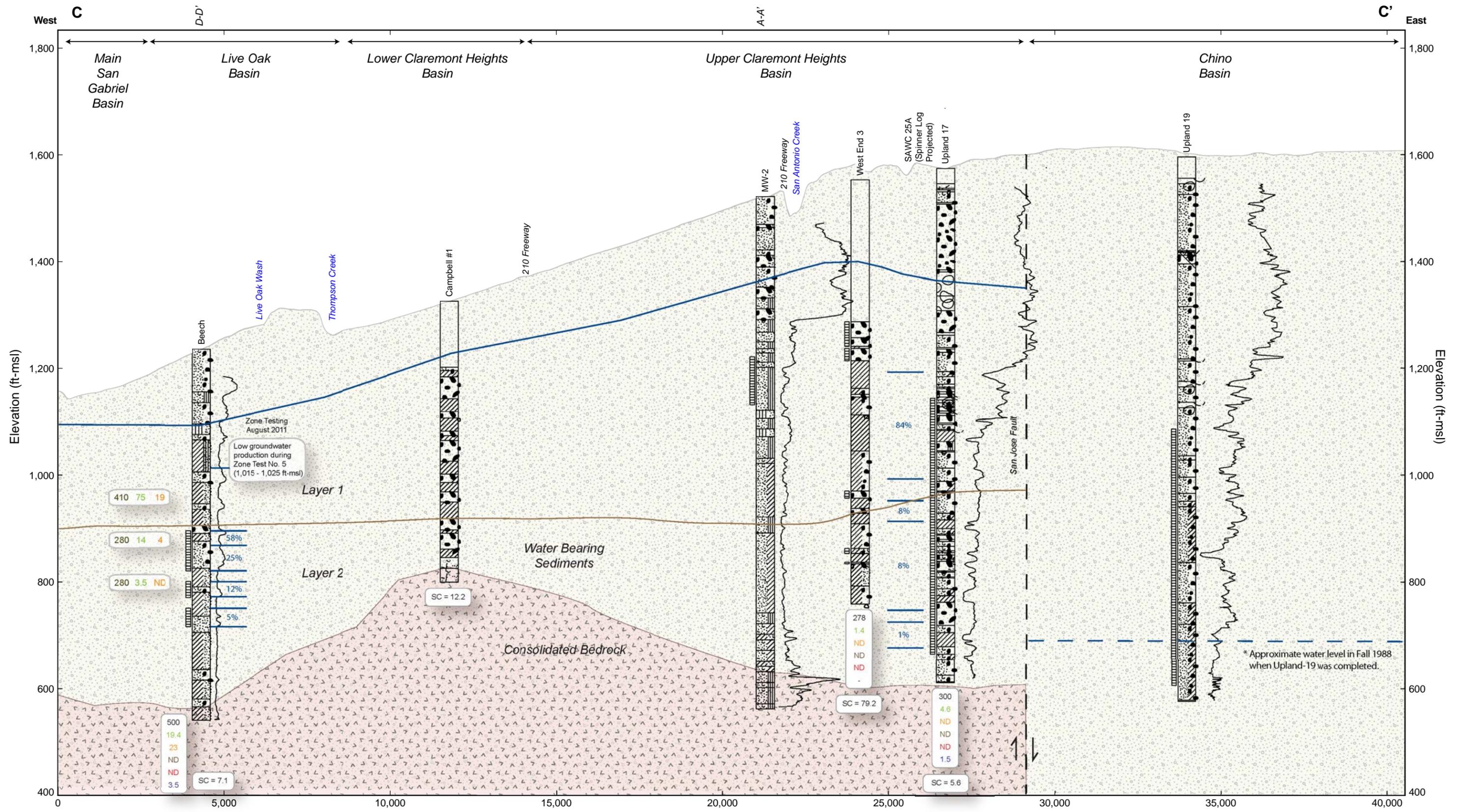
Water Quality Sampling (mg/L, ug/L, ug/L)
 Average Specific Capacity (gpm/ft)
 SC = 124.6

Maximum Concentration 2007 to 2011
 TDS mg/L
 NO₃-N mg/L
 ClO₂ ug/L
 TCE ug/L
 1,1 DCE ug/L
 Cr (VI) ug/L
 ND = non detect
 * = constituent not tested

Source: WEI Figure 2-11b



Figure 2-15
 Cross-Section B-B'



Vertical Scale: 1" = 170'
 Horizontal Scale: 1" = 2700'
 Vertical Exaggeration: 16:1

- Lithologic Graphics**
- Gravel
 - Sand
 - Silt
 - Clay
 - Granite
 - Decomposed Granite
 - Cobbles/Boulders

Where the lithologic graphic column is split, the primary component is on the left side of the column; secondary component(s) are on the right.

- Well Screen Interval
- Water Level (Fall 2011)
- 16" Short Normal Geophysical Log

- Water Quality Sampling (mg/L, mg/L, ug/L)**
- TDS
 - NO₃
 - ClO₄
 - Spinner Log Analysis
 - Percent (%) of Flow in Well Screen

- Maximum Concentration 2007 to 2011**
- TDS mg/L
 - NO₃-N mg/L
 - ClO₄ ug/L
 - TCE ug/L
 - 1,1 DCE ug/L
 - Cr (VI) ug/L
- ND = non detect
 "-" = constituent not tested

- Average Specific Capacity (gpm/ft)**
- SC = 124.6

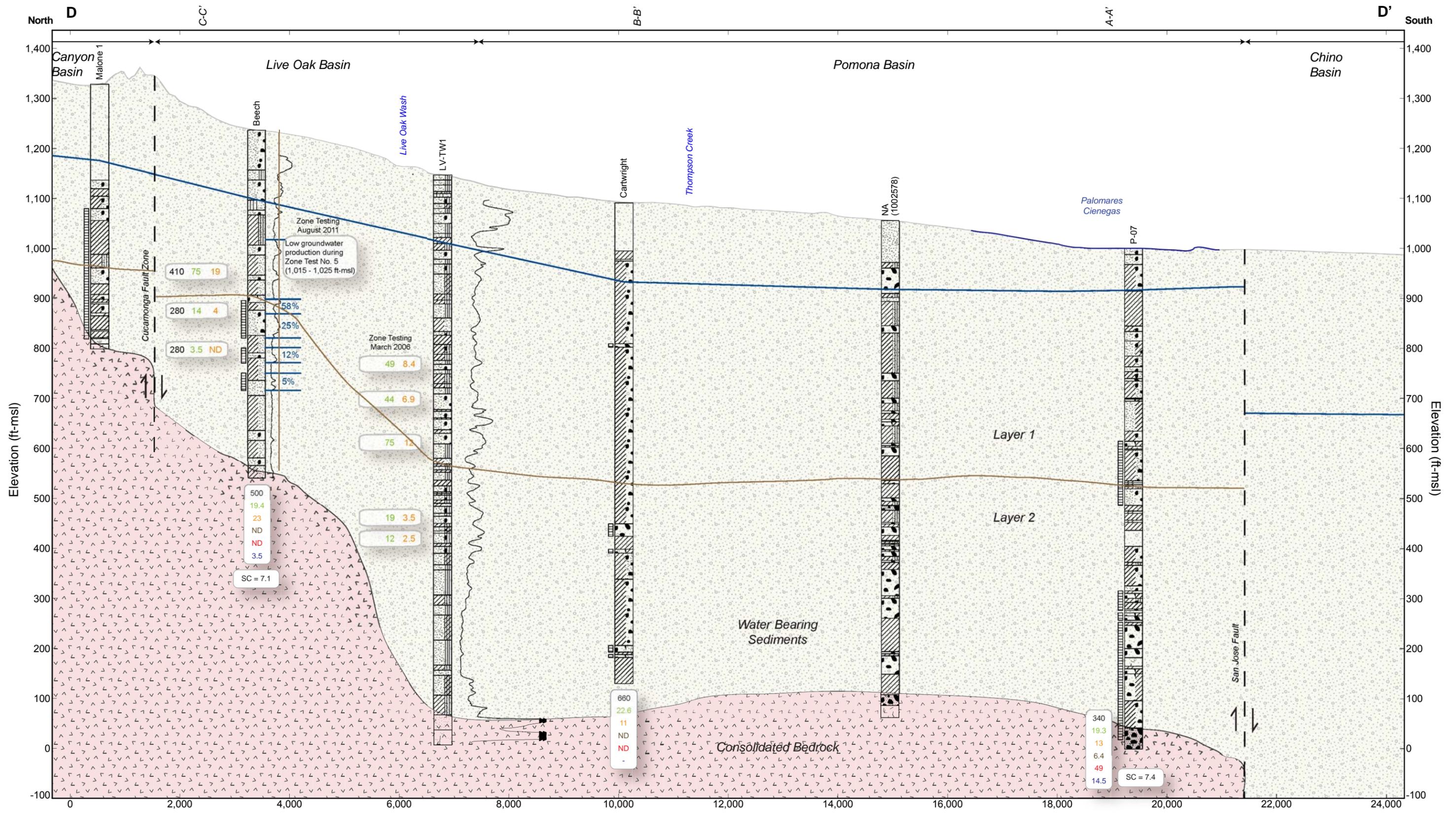
Source: WEI Figure 2-11c

Figure 2-16
 Cross-Section C-C'

6 Basins

Strategic Plan - Program EIR





Vertical Scale: 1" = 180'
 Horizontal Scale: 1" = 1,655'
 Vertical Exaggeration: 9:1

- Lithologic Graphics**
- Gravel
 - Sand
 - Silt
 - Clay
 - Granite
 - Decomposed Granite
 - Cobbles/Boulders

- Well Screen Interval
- Water Level (Fall 2011)
- 16" Short Normal Geophysical Log

Water Quality Sampling
 (mg/L, mg/L, ug/L)

TDS NO₃ ClO₄

Maximum Concentration
 2007 to 2011

TDS mg/L
 NO₃-N mg/L
 ClO₄ ug/L
 TCE ug/L
 1,1 DCE ug/L
 Cr (VI) ug/L

Average Specific Capacity
 (gpm/ft)

SC = 124.6

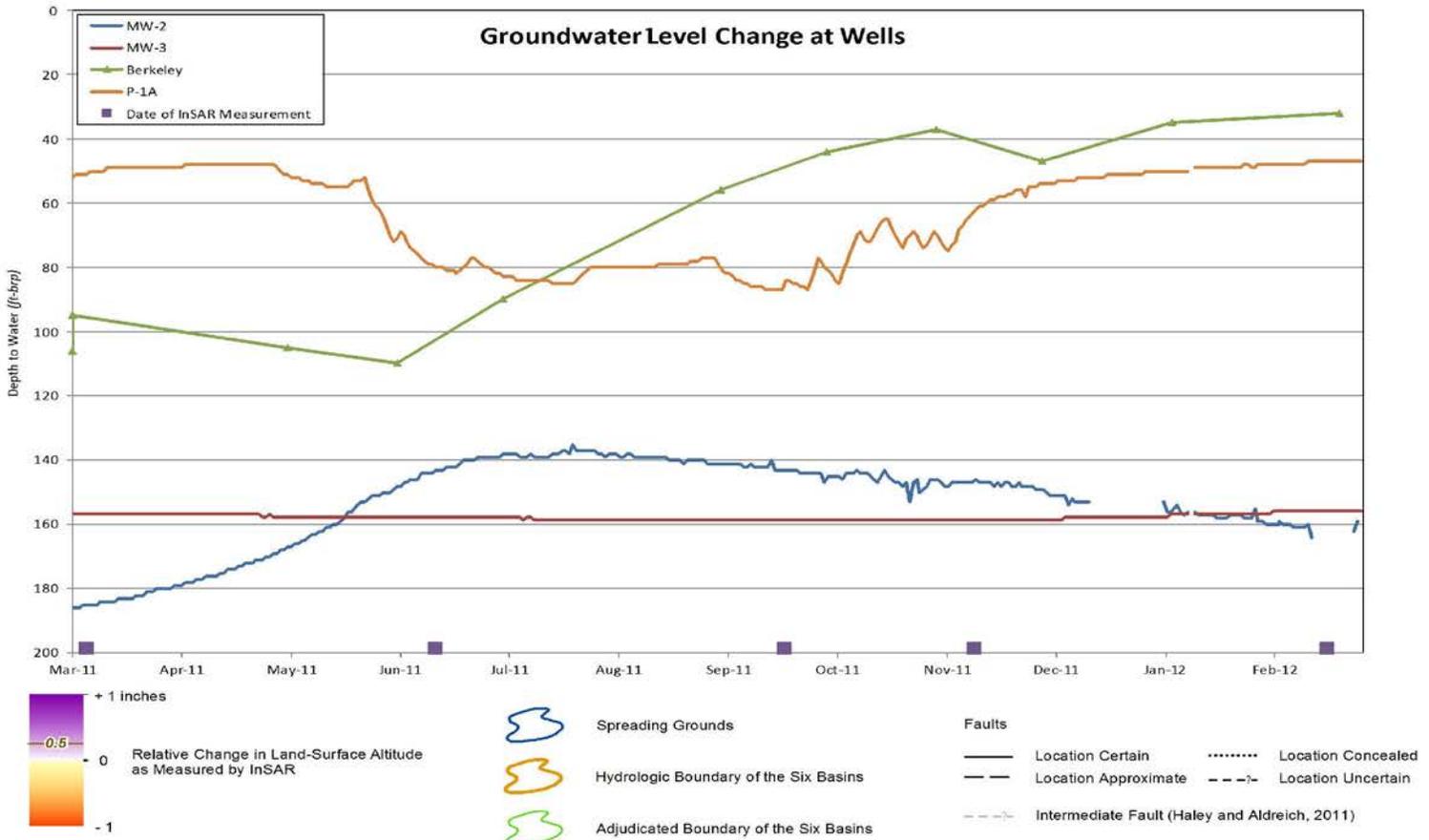
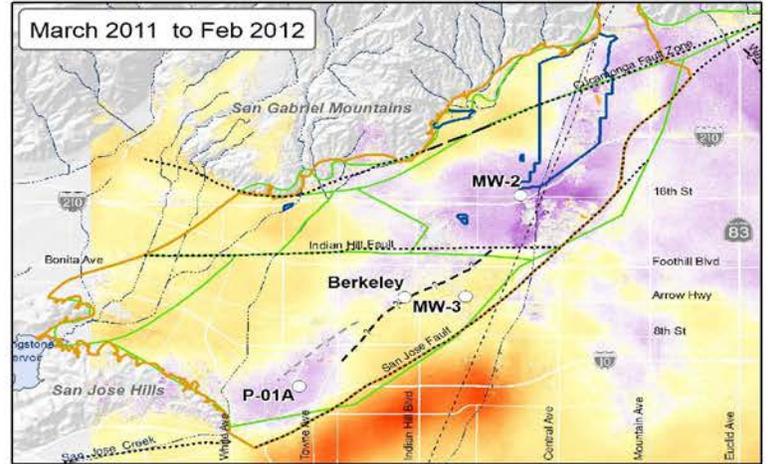
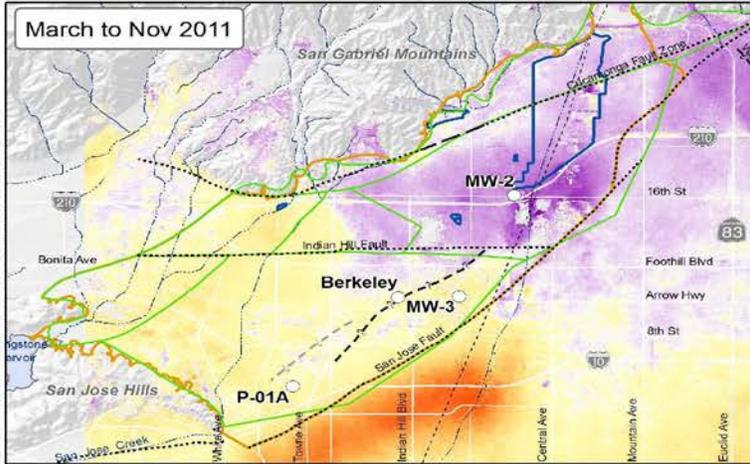
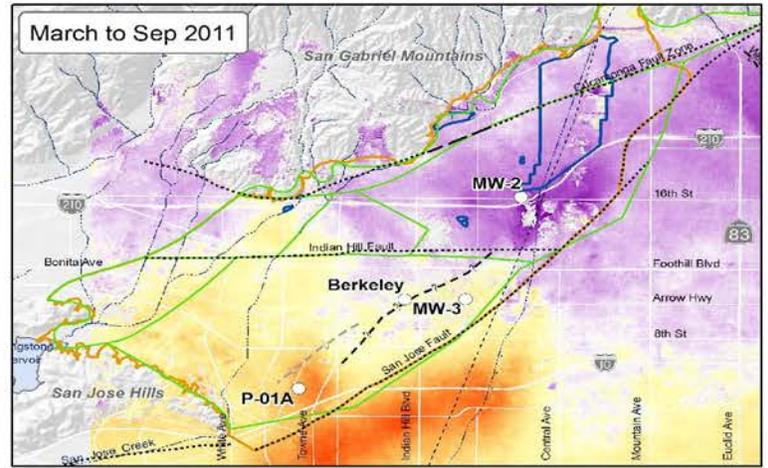
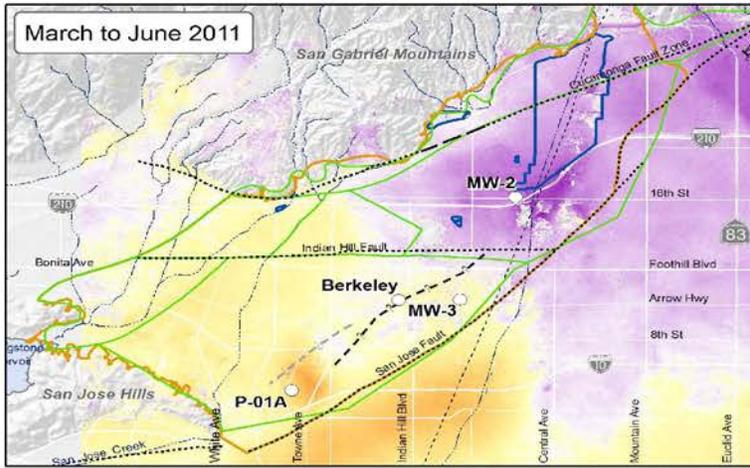
ND = non detect
 ** = constituent not tested



Where the lithologic graphic column is split, the primary component is on the left side of the column; secondary component(s) are on the right.

Figure 2-17
 Cross-Section D-D'

Source: WEI Figure 2-11d

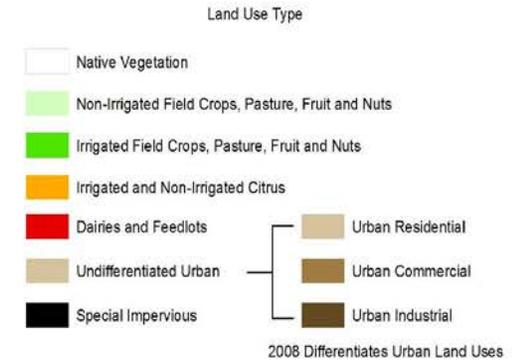
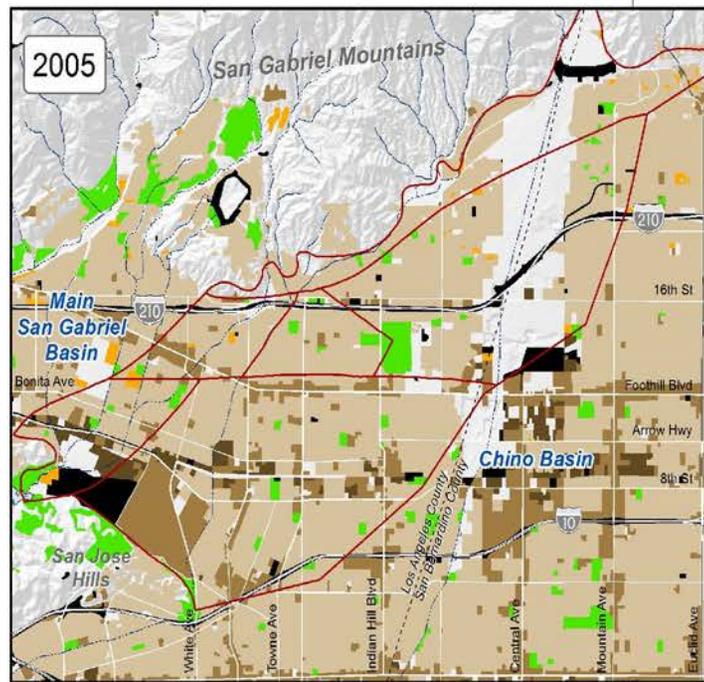
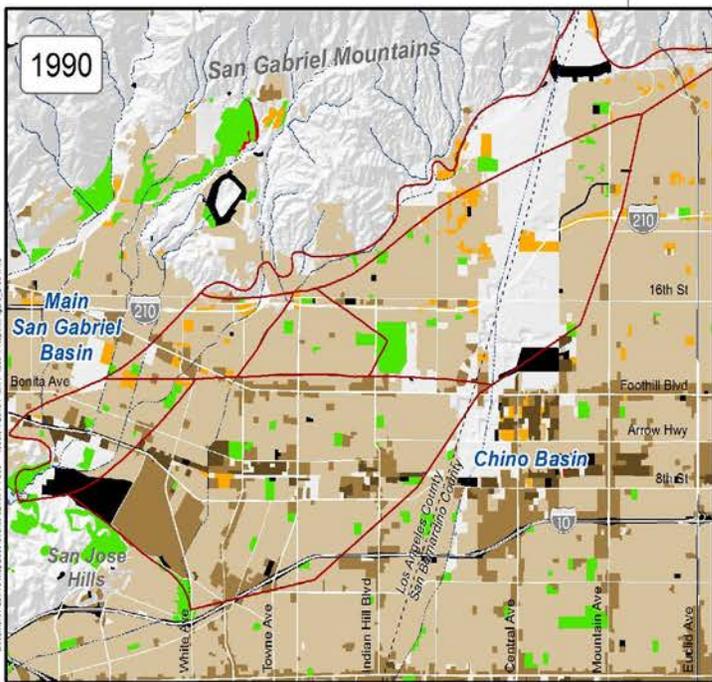
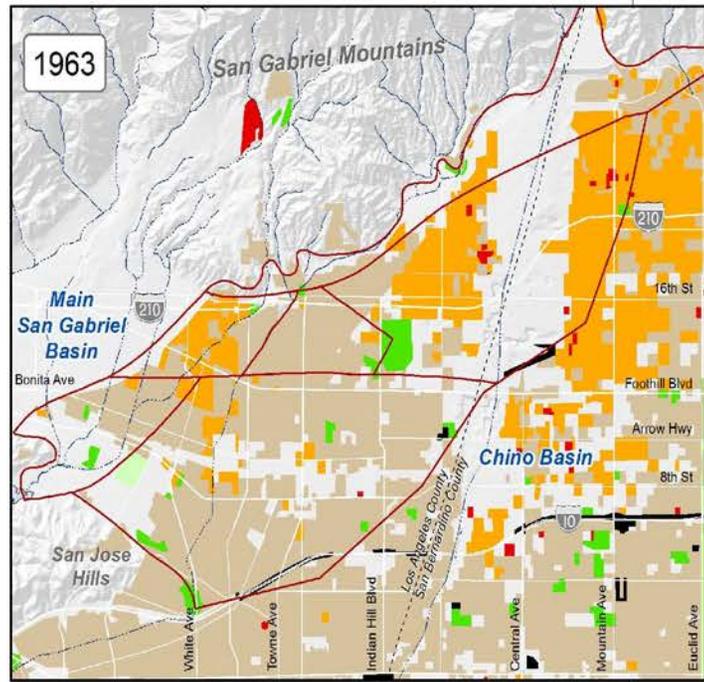
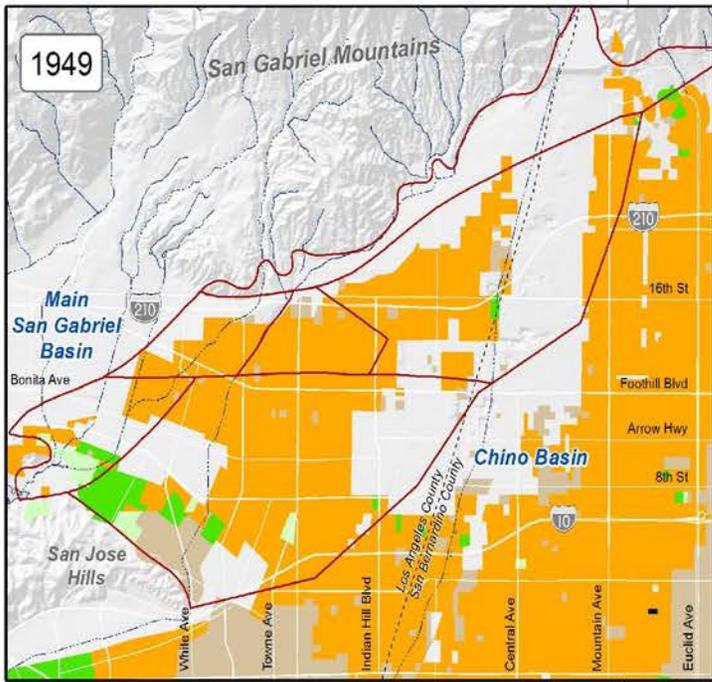


Source: WEI Figure 2-12



Figure 2-18
Location of Ground Water Barriers

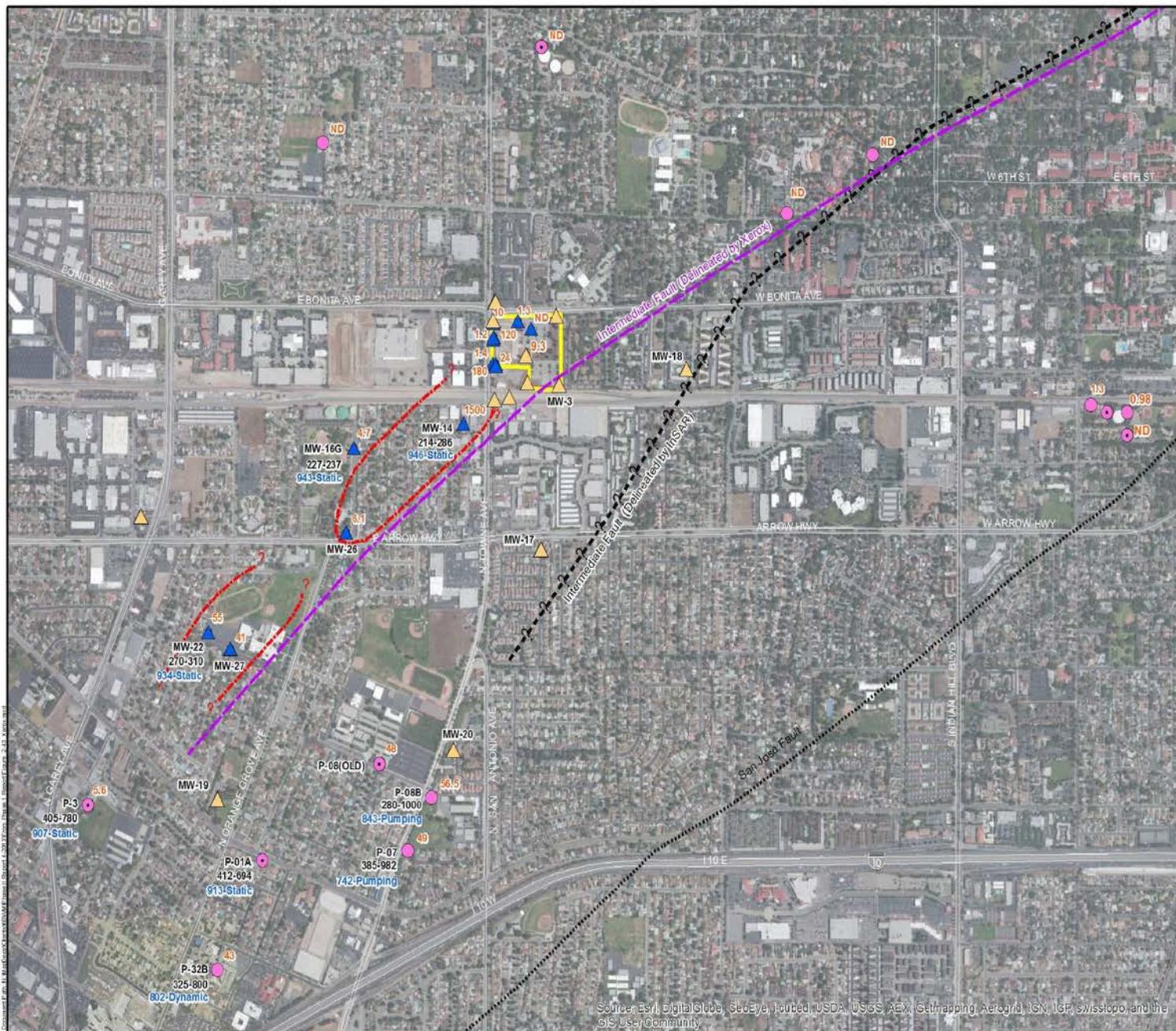
6 Basins
Strategic Plan - Program EIR



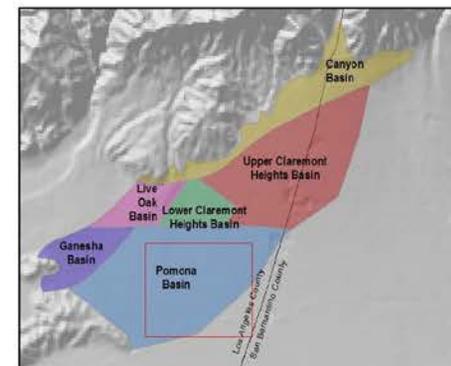
Source: WEI Figure 2-30



Figure 2-19
Land Uses Between 1949 and 2005



- Former Xerox Corporation Property
 - Active Xerox Monitoring Wells
 - Abandoned Xerox Monitoring Wells
 - Active Production Wells
 - Inactive or Abandoned Production Wells
 - 6.0 Maximum 1,1-DCE Concentrations (ug/L) from 2007 to 2011
 - P-08B**
280-1000 Well Name and Minimum to Maximum Perforations (ft-bgs)
 - 800-Static** Spring 2011 Groundwater Elevation (ft-amsl) and Well Activity
 - 1.1 DCE Plume 6 ug/L Contour, May 2011. (Haley and Aldrich, 2011; Figure 10B)
 - Intermediate Fault as Delineated by Xerox Corporation (Haley and Aldrich, 2011; Figure 3 and Figure 10)
 - Intermediate Fault as Delineated by INSAR Data in Section 2.3 of this Report
- Faults**
- Location Certain
 - Location Approximate
 - Location Concealed
 - Location Uncertain



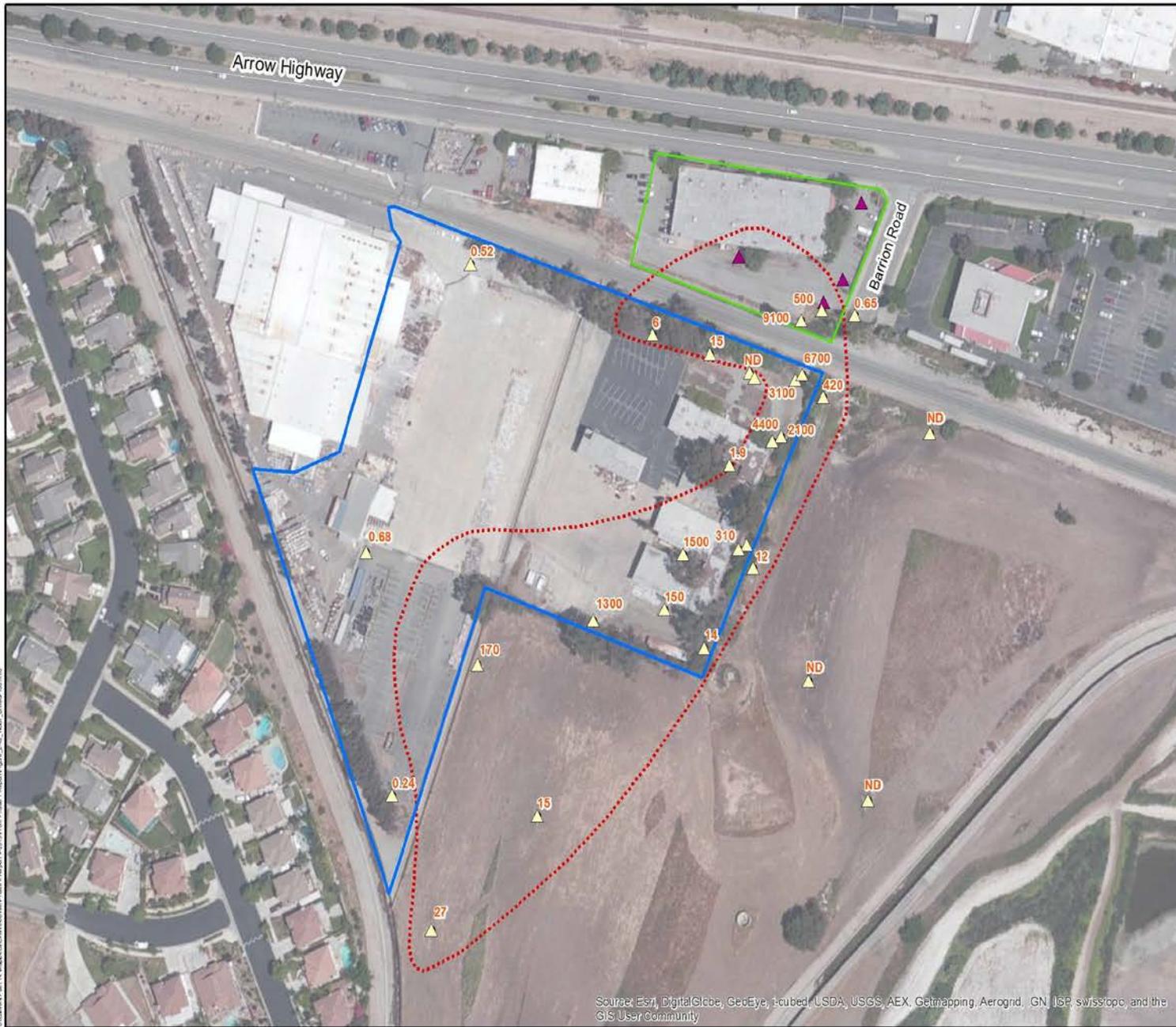
Source: Esri, DigitalGlobe, GeoEye, iSat, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Source: WEI Figure 2-43

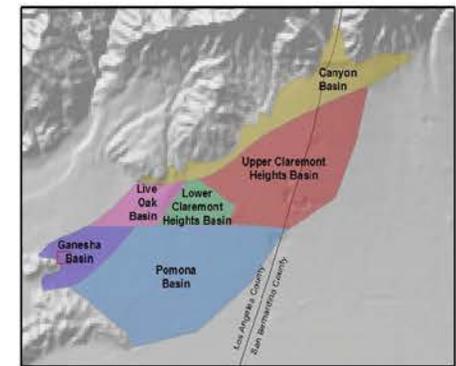


Figure 2-20
Location of Zerox Facility

6 Basins
Strategic Plan - Program EIR



- Former Victor Graphics Property
- Former United Production Services Property
- ▲ Victor Graphics Monitoring Wells
- ▲ United Production Services Monitoring Wells
- 6.0 Maximum PCE Concentrations (ug/L) from 2007 to 2011
- PCE Plume 5 ug/L Contour, 2010 (Langan, 2011; Figure 26)



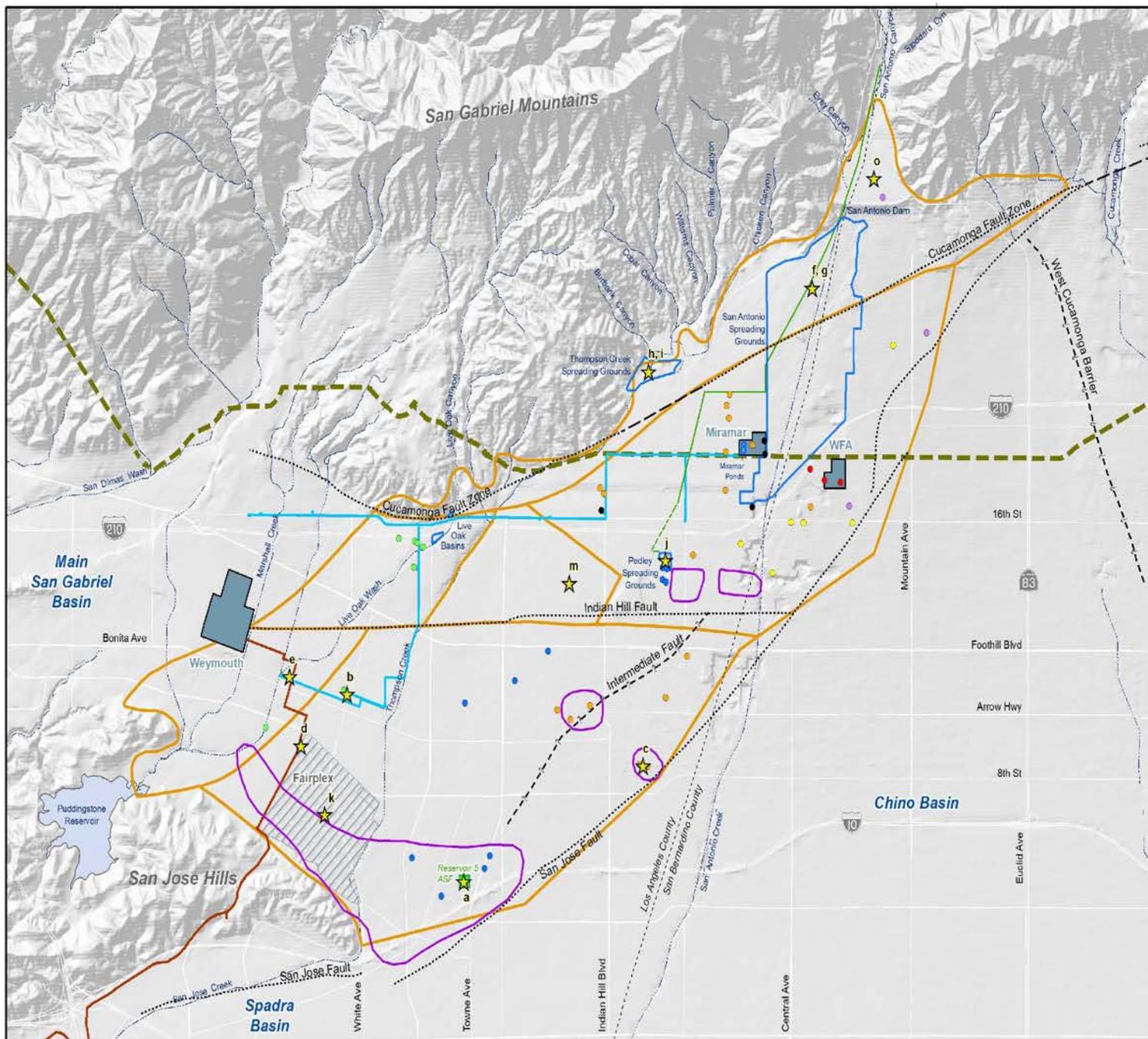
Source: Esri, DigitalGlobe, GeoEye, iSatcom, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Source: WEI Figure 2-42



Figure 2-21
Location of the United Productions Services
and Victor Graphic Facilities

6 Basins
Strategic Plan - Program EIR



- ★ Proposed Project (PID)
- Existing Facilities**
 - Water Treatment Facility
 - Cañon Pipeline
 - Miramar Pipeline
 - PWR Joint Feeder
 - Foothill Feeder-Rialto Pipeline
- Production Wells**
 - Golden State Water Company
 - City of La Verne
 - City of Pomona
 - San Antonio Water Company
 - Three Valleys Municipal Water District
 - City of Upland
 - West End Consolidated Water Company
- Imported Water Treatment Plant
- Six Basins Adjudicated Boundary
- Historical Area of High Groundwater (Mendelhall, 1908; Bean, 1982; CDM, 2006)
- Spreading Grounds
- Faults**
 - Location Certain
 - Location Approximate
 - Location Concealed
 - - - Location Uncertain



Source: WEI Figure 6-2



Figure 2-22 Projects to Optimize Conjunctive Water Management

3.0 Project Description

This chapter provides a description of the proposed projects and/or activities identified in the Strategic Plan for the Six Basins to increase groundwater recharge, increase water storage, improve water quality, and decrease the reliance on State supplied water within the Six Basins project area. The Strategic Plan can be characterized as a regional water resources management program to coordinate the use and management of all surface water and groundwater resources available to the Parties to the Judgement. The intent of the Parties in implementing the Strategic Plan is to enhance yield and improve regional water supply reliability during dry periods. Project types identified in the Strategic Plan that together would result in the successful implementation of the water resources management program in the Six Basins include:

- Pump and treat groundwater in the Pomona Basin
- Recharge improvements at existing spreading grounds and at the LA County Fairplex, and through MS4 compliance
- Increase the use of the Temporary surplus provision in the Judgement through the construction of new production wells and interconnects between treatment facilities
- Expanded groundwater and surface water monitoring program

3.1 Project Location

Figure 3-1, *Water Purveyors*, shows the location of the Six Basins within the larger San Gabriel Valley region and the Water purveyors that manage the water resources. Projects identified in the Strategic Plan will be developed within the cities of Claremont, La Verne, Upland, and Pomona. Figure 3-2, *Projects to Optimize Conjunctive Water Management*, shows the general location of existing facilities and proposed projects.

The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains. Figure 3-3, *Watersheds Tributary to the Six Basins*, shows the relationship between the source of the water and the groundwater basins. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are generally the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east.

Figure 3-4, *Adjudicated Boundary*, shows an aerial photograph with the adjudicated boundary. The aerial shows the extent of urbanization overlying the groundwater basins at the base of the San Gabriel Mountains. Chapter 2, *Existing Conditions*, includes additional Figures showing the physical features in the project area. Photographs also show examples of existing water facilities in the project area. These include spreading grounds, well sites and water treatment facilities.

3.2 Purpose and Need for the Project

Because the Six Basins project area is largely built out, the population projections show a modest increase between the years 2020 and 2040. Although the planning period for the Six Basins Strategic Plan is 58 years (2017 – 2075) this approximately 20-year period correspond to the anticipated completion of proposed projects identified in the Strategic Plan. Table 3-1, *Population Projections for Cities Overlying the Six Basins*, shows that the increase in the population over the next 20 years is approximately 8 percent.

Table 3-1 Population Projections for Cities Overlying the Six Basins

City	Year 2020	Year 2035	Year 2040	Percent Change
Claremont	36,300	38,200	39,400	7.7
La Verne	32,200	32,600	32,900	2.13
Pomona	160,800	181,700	190,400	15.55
Upland	76,200	81,600	81,700	6.73
Total	305,400	334,100	344,400	8.03

Source: SCAG Comments on the NOP for the Six Basins Strategic Plan, October 5, 2018 (see Appendix A -NOP and Comments Received)

Although the population increase is projected to be a modest 8 percent over the 20-year period when Strategic Plan projects are anticipated to be constructed and in operation, the larger issue facing the Six Basins Watermaster Parties, is the long-term sustainability (considering current use and future availability) of the water supply and the quality of that resource in order to guarantee a safe supply of potable water for the residential, commercial and industrial water users in the future.

The main source of groundwater replenishment to the Six Basins is surface-water runoff from precipitation that falls on the San Gabriel Mountains and recharges at spreading grounds located along the foot of the mountain range predominantly at the two existing recharge facilities (basins) in the San Antonio Spreading Grounds (SASG) located south of the San Antonio Dam, as well as the TVWMD's Miramar ponds. Additional spreading occurs at the Pedley Spreading Grounds (PSG) fed from a pipeline originating in the SASG. Figure 3-2 shows the location of these facilities. In addition to groundwater pumping, imported water from the State Water project and the Colorado River is used for artificial recharge at the spreading grounds and for direct consumptive uses through agreements with the Metropolitan Water District of Southern California (MWDSC). Imported water from MWDSC not used for recharge is treated at one of two water treatment plants – TVMWD's Miramar WTP located in the City of Claremont and the Weymouth WTP located in the City of Upland (see Figure 3-2 for location of these facilities).

The project area is part of the greater southern California region, a region with a Mediterranean climate characterized as relatively dry, with mild winters and hot summers.

The region has experienced prolonged dry periods that may be exacerbated by climate change in the future. The Strategic Plan takes into consideration availability of current and future water supplies and considers possible fluctuations in demand forecasts due to historic climate patterns as well as potential impacts associated with climate change which is altering hydrologic conditions statewide.

The major issues facing the Watermaster Parties in their management of surface water resources are:

- The climate of the region is such that the Six Basins area is subject to prolonged dry periods. In years when precipitation is below average, the volumes of surface-water runoff that are available for artificial recharge at spreading grounds in the Six Basins are small, so the facilities for artificial recharge go largely un-utilized.
- The facilities to divert and recharge stormwater runoff do not capture all the runoff that is available. Stormwater runoff that bypasses the spreading grounds is a loss of a low-cost, high-quality water resource.
- The current methods and protocols being employed by the US Army Corps of Engineers (USACE), Los Angeles County Flood Control District (LACFCD), and the Pomona Valley Protective Association (PVPA) to monitor the surface-water resources may not be returning accurate data for surface-water discharges and diversions. The completeness and accuracy of these data are crucial to the development and implementation of programs to improve basin management.

Project features and the benefits that would result to meet the Watermaster Parties needs to provide a safe reliable water supply are as follows:

Project Features	Project Benefits
<ul style="list-style-type: none"> • Recharge improvements • Wells and conveyance • Water treatment • Recycled water conveyance • Expanded groundwater or surface water monitoring • Potentially requires changes to Watermaster’s operating plans 	<ul style="list-style-type: none"> • New yield • Dry-year supply • Production sustainability • Enhanced reliability • Mitigates high groundwater • Water quality improvements • Improved management • Improved basin knowledge for future planning efforts

3.3 Strategic Plan Goals and Objectives

Implementation of the Strategic Plan would be accomplished through the implementation of a number of projects identified by the Watermaster Parties. The Watermaster Parties have developed management goals for the Strategic Plan that address the issues, needs and wants of the Parties. The management goals are as follows:

Goal No. 1 – Enhance Water Supplies. The Parties desire to have a diverse, cost-effective water supply portfolio that will allow them to reliably meet their water demands now and into the future. Imported water has long been a vital supply for water purveyors in Southern California, but imported water is becoming increasingly more expensive, and its reliability is threatened by natural disasters, climate change, and changing environmental regulations. Maximizing the sustainable use of local water supplies, including groundwater, surface water, and recycled water to meet future demands is the focus of the Parties. In particular, enhancing the groundwater supply of the Six Basins means increasing the yield. To achieve this goal, the Parties must find ways to increase recharge, pump more, and reduce losses in a cost-effective manner.

Goal No. 2 – Enhance Basin Management. Enhancing the water supplies of the Six Basins will require advanced basin management beyond that which is provided for in the Judgment. Increasing the yield and reliability of the Six Basins to ensure the maximum and equitable availability of groundwater for all Parties requires coordinated plans for recharge, pumping, and storage. Maximizing the use of local water supplies may necessitate partnerships with other local groundwater basins or water-supply agencies to maximize the use of assets, such as surface-water availability, storage capacity, recharge capacity, and funding. No harm must come without mitigation to the Parties, the groundwater basins, or the environment from the activities to enhance basin management.

Goal No. 3 – Protect and Enhance Water Quality. The Parties desire to improve groundwater quality in the Six Basins and deliver water that is safe and suitable for the intended beneficial use and meets all applicable regulatory standards. Management of groundwater quality, through the cleanup of point-source contamination and control of salt and nutrient accumulation, is essential to ensuring the long-term reliability of the groundwater supply in a cost-effective manner.

Goal No. 4 – Equitably Finance the Strategic Plan. The primary source of revenue to finance the development and implementation of the Strategic Plan are the consumers of Six Basins groundwater, but other sources of revenue will be aggressively pursued. The policies and agreements to implement the Strategic Plan will ensure an equitable distribution costs relative to the benefits.

Table 3-2, *Goals, Impediments and Actions for Successful Implementation of the Strategic Plan*, outlines the Strategic Plan goals, impediments to the goals, actions to remove the impediments, implications of actions and the project alternatives of the Strategic Plan. For the purposes of this discussion, the project alternatives of the Strategic Plan are meant to provide the Parties with options for resolving an impediment, and more than one alternative may be implemented for an impediment.

Implementation of the Strategic Plan would result in changes in the current management of the Six Basins, improvements to existing facilities, and development of new facilities. Each project has elements of storage and yield management, recharge management and water quality management, and will require new monitoring for both design and implementation.

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
Goal 1 -- Enhance Water Supplies				
1a	Not all of the available surface-water runoff from the San Antonio Creek, Thompson Creek, and Live Oak Wash watersheds is captured and recharged. Failure to divert and recharge stormwater is a permanently lost opportunity.	Improve operations and/or increase the capacity to divert and recharge surface-water runoff from the San Antonio Creek, Thompson Creek, and Live Oak Wash watersheds.	Increases the recharge of high-quality stormwater. Increases the yield of the Six Basins.	TS / SASG Improvements TCSG Improvements Expanded Monitoring Note: The Strategic Plan does not identify improvements to the Live Oak Basin
1b	The Two Basins (Live Oak and Ganesha) and the Pomona Basin have very limited artificial-recharge capacity at spreading grounds.	Conduct a recharge master plan for the Six Basins with the goal of characterizing the storm, dry-weather, recycled, and imported water available for recharge, the existing recharge capacity, areas where recharge is desirable, recharge potential, recharge plan alternatives, and an implementation plan.	Identifies the universe of recharge opportunities so that new or improved recharge facilities can be constructed to increase recharge and better balance recharge and discharge.	Supplemental Recharge TS / SASG Improvements TCSG Improvements Expanded Monitoring
1c	The intermittent and variable nature of recharge that occurs at the spreading grounds limits the yield of the Six Basins-- particularly the yield of the Upper Claremont Heights Basin and the Live Oak Basin.	See Action to Remove Impediments 1b	Results in a greater and more consistent volume of recharge that causes higher and more stable groundwater levels in in the Upper Claremont Heights Basin and the Live Oak Basin. This will increase the yield of these basins and make them a more stable water-supply.	Supplemental Recharge TS / SASG Improvements TCSG Improvements Expanded Monitoring
1d	Virtually all surface-water runoff that occurs downstream of the spreading grounds exits the Six Basins in lined channels and is a lost opportunity for recharge.	Characterize the amount of stormwater captured from MS4 facilities and develop programs to incentivize MS4 compliance through recharge.	Potentially increases the yield of any or all of the Six Basins.	PSG Improvements and new underground infiltration gallery at LA Fairplex

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
1e	High groundwater levels in the Upper Claremont Heights Basin can lead to maximum sub-surface outflow to the Chino Basin, which is lost yield. High groundwater levels also cause losses from rising groundwater outflow and evapotranspiration.	Increase the production capacity in key areas of the Upper Claremont Heights Basin to control groundwater levels where high groundwater is unacceptable or undesirable.	Reduces losses and thereby increases the yield of the Upper Claremont Heights Basin. Protects against unacceptable high groundwater conditions. Creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Supplemental Recharge TS / SASG Improvements Conjunctive Management
1f	Groundwater levels have increased and stayed generally high in the Pomona Basin because the Parties would rather pump elsewhere to avoid the cost of treating Pomona Basin groundwater for municipal uses. Chronic high groundwater levels have reduced the yield of the Pomona Basin by maximizing sub-surface outflow to the Chino and Spadra Basins and causing surface outflow of rising groundwater.	Construct groundwater-treatment systems to convert contaminated groundwater to potable groundwater and initiate a program of controlled overdraft of the Pomona Basin to lower groundwater levels--especially in the southern portion of the Pomona Basin. This could involve the use of the "Special Projects" provision in the Judgment.	Increases the yield of the Pomona Basin by decreasing uncontrolled losses of sub- surface outflow to the Chino Basin and rising groundwater. Protects against unacceptable high groundwater conditions. Removes groundwater contaminants. Creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Pump and Treat Conjunctive Management
1g	Sub-surface outflow across the San Jose Fault from the Six Basins to the Chino Basin is thought to be large but has heretofore uncharacterized.	Conduct research to verify the amounts, identify preferential pathways of sub-surface outflow, and develop strategies to reduce or eliminate sub-surface outflow.	Increases the yield of the Four Basins.	Pump and Treat TS / SASG Improvements Conjunctive Management Expanded Monitoring

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
1h	Concerns over lost yield and rising groundwater have limited the recharge and storage of imported water.	Develop an integrated plan for the storage of native, recycled, and imported waters that provides a shared benefit to all Parties and manages high groundwater levels.	Creates more reliable local supplies - especially during dry periods.	Conjunctive Management
1i	There is a surplus of recycled water available in the Six Basins that is not being put to beneficial use, which is a loss of a low-cost local water supply. No studies have been performed to evaluate regional recycled water recharge projects that could benefit all the parties.	See Action to Remove Impediments 1b	Results in a new, consistent volume of recharge that will increase the yield of the Six Basins and better balance recharge and discharge.	Supplemental Recharge
Goal 2 -- Enhance Basin Management				
2a	The Six Basins are situated in an area that can receive and recharge large volumes of surface water, but they are a relatively small series of groundwater sub-basins with limited storage capacity.	Conduct research and develop a set of alternative storage and yield management plans. Evaluate the alternatives and select and implement a preferred alternative(s) that provides the lowest cost and greatest benefit to all parties, maximizes yield, and manages high groundwater levels.	Increases the yield of the Six Basins. Manages high-groundwater levels. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Pump and Treat TS / SASG Improvements TCSG Improvements Conjunctive Management
2b	The groundwater-flow, groundwater-level, and storage conditions in the Six Basins area are only partially understood with the greatest unknowns in the Pomona Basin due to basin complexity and a lack of data.	Conduct research, including the construction of new monitoring wells and new groundwater-level and quality monitoring programs to improve the understanding of the hydrology,	The parties will be able to make adaptive management decisions and monitor the performance of the implementation of the Strategic Plan.	Expanded Monitoring

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
2b Con't		structure, and yield of the basins, and to verify the performance of future management programs.		
2c	During dry periods, the spreading grounds are largely un-utilized and groundwater levels decline - especially in the Upper Claremont Heights and Live Oak Basins. The parties that pump from these basins have to reduce groundwater production because of lower groundwater levels and switch to alternate water-supply sources that can be more expensive. Lower groundwater levels in these basins also reduce sub-surface outflow to the Pomona and Ganessa Basins, which is an important source of recharge to these sub-basins.	See Action to Remove Impediments 2a	Creates more reliable local supplies--and better balances recharge and discharge. Manages high-groundwater levels. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Supplemental Recharge TS / SASG Improvements TCSG Improvements Conjunctive Management
2d	The development and implementation of programs for the conjunctive use of native, imported, and recycled waters is hindered by the relatively small size of the sub-basins, current high groundwater levels, the uncoordinated management of the sub-basins, and a lack of knowledge of the hydrology of the individual sub-basins.	See Action to Remove Impediments 2a	Creates more reliable local supplies--especially during dry periods. Manages high-groundwater levels. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Pump and Treat Supplemental Recharge TS / SASG Improvements Conjunctive Management
2e	The storage capacity is greatest in the Pomona Basin, but high groundwater levels due to past management limit its use for the conjunctive use of native, imported, and recycled waters.	See Action to Remove Impediments 2a	More reliable local supplies--especially during dry periods. Protects against unacceptable high groundwater conditions.	Pump and Treat Conjunctive Management

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
2f	High groundwater levels in the Pomona Basin also increase the threat of rising groundwater, maximize sub-surface outflow to the Chino and Spadra Basins, which is loss of yield, and allow groundwater contaminants to spread to other areas or down-gradient basins.	See Action to Remove Impediments 1f	Increases the yield of the Pomona Basin by decreasing uncontrolled losses of sub- surface outflow to the Chino Basin and rising groundwater. Removes groundwater contaminants. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Pump and Treat Conjunctive Management
2g	Provisions in the Judgment related to storage management and setting a single OSY for the Four Basins allows for production patterns and practices that do not optimize the yield of the Four Basins and may lead to other basin-management problems, such as rising groundwater.	See Action to Remove Impediments 2d	Increases the yield of the Four Basins. Protects against unacceptable high groundwater conditions. May require an amendment to the Judgment, Operating Plan, or both.	Conjunctive Management
2h	Watermaster's current rules for Storage and Recovery Agreements do not include estimating and accounting for sub-surface losses from storage, and hence, can result in overdraft.	Build and calibrate numerical computer-simulation tools to simulate groundwater flow. Use the tools to update Watermaster's procedures for storage and recovery to account for losses from storage.	Prevents overdraft. May require an amendment to the Judgment, Operating Plan, or both.	Conjunctive Management Expanded Monitoring

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
2i	Watermaster's existing computer-simulation tools are not up-to-date and are not sufficient to implement the Judgment--specifically regarding the curtailment of replenishment to avoid rising groundwater-- or to evaluate Strategic Plan alternatives.	See Action to Remove Impediments 2h	Maximizes replenishment, and hence, the yield of the Four Basins. Protects against unacceptable high groundwater conditions. May require an amendment to the Judgment, Operating Plan, or both.	TS / SASG Improvements Conjunctive Management Expanded Monitoring
2j	Sub-surface outflow across the San Jose Fault from the Six Basins to the Chino Basin is thought to be large but is heretofore uncharacterized.	See Action to Remove Impediments 1g	Increases the yield of the Four Basins.	Pump and Treat TS / SASG Improvements Conjunctive Management Expanded Monitoring
2k	The current methods and protocols being employed by the USACE, LACFCD, and the PVPA to monitor the surface-water resources may not be returning accurate data for surface-water discharge and diversions for recharge. The completeness and accuracy of these datasets are crucial to measuring replenishment, to estimating the availability of stormwater for recharge, and to developing and implementing programs to maintain or enhance yield.	Improve the monitoring of discharge, diversions, and recharge at the spreading grounds.	More accurate measurements of replenishment. Better estimates of the availability of replenishment water. More accurate computer-simulation of the basin. Potentially increases recharge and yield, if not all surface water is being diverted and recharged.	Expanded Monitoring
2l	Future projections of groundwater production from the Two Basins may not be sustainable without a plan to increase recharge and yield.	See Action to Remove Impediments 2a	Increases the yield of the Two Basins.	Pump and Treat Conjunctive Management

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

	Impediments	Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
2m	There is an area within the City of Pomona along the boundary between the Pomona Basin and Chino Basin that has experienced differential land subsidence of at least one foot from 1993-2012. This is an area of potential ground fissuring because monitoring data suggest that the differential subsidence is ongoing. The causes of the differential subsidence are not entirely understood but are most likely groundwater pumping. The only current effort to address this situation is limited monitoring of ground motion conducted by the Chino Basin Watermaster, and there is no guarantee that these efforts will continue.	Collaborate with the Chino Basin Watermaster on monitoring efforts and investigations to identify and characterize the causes of differential land subsidence in this area and the threat of ground fissuring and develop mitigative management solutions to prevent additional subsidence and/or ground fissuring.	Improves the understanding of the hydrogeology of the Pomona and Chino basins in this area. Identifies the specific causes of differential land subsidence such that management solutions can be developed and implemented to minimize the threat of ground fissuring and potential damage to vulnerable overlying infrastructure.	Expanded Monitoring
3a	TDS and nitrate concentrations at wells in the Pomona, Live Oak, and Ganesha Basins suggest that there is no assimilative capacity for TDS or nitrate. A finding of no assimilative capacity could restrict the reuse and/or recharge of recycled water in the Six Basins	Conduct research and develop a set of alternative salt and nutrient management plans (SNMP). Evaluate the alternatives and select and implement a preferred alternative(s) that provides the lowest regulatory compliance cost and greatest benefit to all parties, maximizes the use of recycled water, and maintains and/or improves groundwater quality. Engage with stakeholders that are developing the SNMP in the San Gabriel Basin as necessary.	Expands the use of recycled water with the minimum cost for regulatory compliance.	Pump and Treat Conjunctive Management

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments	Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
Goal 3 -- Protect and Enhance Water Quality			
3b	The Pomona Basin is the terminal basin of the Six Basins and is partially closed, which can lead to the concentration of dissolved salts and other contaminants--especially if the Pomona Basin is operated at lower groundwater levels in the future.	See Action to Remove Impediments 3a	Maintains or enhances groundwater quality.
3c	<p>Historic irrigated agricultural practices left behind a legacy of high nitrate and perchlorate concentrations in the Lower Claremont Heights, Live Oak, Ganessa, and Pomona Basins. The parties produce less groundwater than they otherwise would from these basins because the cost of groundwater treatment is greater than the cost of acquiring other supplies.</p> <p>This creates high groundwater levels, allows contamination to spread, leaves large areas of the basin unused, and results in loss of yield.</p>	Construct groundwater-treatment systems to convert contaminated groundwater to potable groundwater. This could involve the use of the "Special Projects" provision in the Judgment.	Removes groundwater contaminants. Increases the yield of the Six Basins. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.
3d	Groundwater contamination from point-sources of PCE, TCE, 1,1,-DCE, and hexavalent chromium in the Six Basins is not being adequately addressed by potentially responsible parties or the Los Angeles RWQCB.	Conduct research to identify the sources and extent of contamination and the potentially responsible parties. Work with the Los Angeles RWQCB to force potentially responsible parties to clean-up contamination and share in the cost to pump and treat impaired groundwater.	Removes groundwater contaminants. Provides a funding source for facilities needed to pump and treat impaired groundwater.
			Expanded Monitoring

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments		Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects
3e	Groundwater in the Live Oak, Ganesha and Pomona Basins is contaminated with TCE, PCE, 1,1-DCE, and hexavalent chromium. The Parties produce less groundwater than they otherwise could from these basins because the cost of groundwater treatment is greater than the cost of acquiring other supplies. This creates high groundwater levels, allows contamination to spread, leaves large areas of the basin unused, and results in loss of yield.	Develop a regional plan to characterize all water quality limiting issues in the Six Basins, work with regulatory agencies to force potentially responsible parties to clean-up contamination, and subsequently develop a plan to pump and treat impaired groundwater. This could involve the use of the "Special Projects" provision in the Judgment.	Removes groundwater contaminants. Increases the yield of the Six Basins. Provides a funding source for facilities needed to pump and treat impaired groundwater. Potentially creates an exportable supply that can be sold to fund other Strategic Plan initiatives.	Pump and Treat Conjunctive Management Expanded Monitoring
3f	The recharge of high-quality stormwater in the Six Basins is not as high as it could be-- in particular, in the Pomona Basin and the Two Basins, where groundwater-quality problems are greatest.	See Action to Remove Impediments 1b	Maintains or enhances groundwater quality. Increases the yield of the Six Basins.	TS / SASG Improvements TCSG Improvements Expanded Monitoring
3g	The hydrologic, hydrogeologic, and water-quality conditions in the Six Basins are only partially understood with the greatest unknowns in the Pomona Basin due to basin complexity and a lack of data.	Conduct research, including the construction of new monitoring wells and groundwater-level and water-quality monitoring programs to improve water- quality characterization, to provide data for use in planning and designing groundwater treatment facilities, and to verify the performance of the implementation of the Strategic Plan.	The Parties will be able to make informed water quality management decisions and monitor the performance of Strategic Plan implementation.	Expanded Monitoring

Table 3-2 Goals, Impediments and Actions for Successful Implementation of the Strategic Plan (continued)

Impediments	Actions to Remove Impediments	Implications of Actions	Strategic Plan Projects	
Goal 4 -- Equitably Finance the Strategic Plan				
4a	<p>The equitable distribution of cost associated with the implementation of the Strategic Plan is not defined.</p>	<p>Identify an equitable approach to spread the cost of Strategic Plan implementation either on a per acre-ft basis or some other equitable means.</p> <p>Identify ways to recover value from utilizing basin assets, including recharge capacity, storage, export, and sub-surface outflow.</p>	<p>This action will improve the likelihood that the Strategic Plan will be implemented.</p> <p>This action will lower the cost of the Strategic Plan to producers and improve the likelihood that the Strategic Plan will be implemented.</p>	N/A
4b	<p>Limit? resources may restrict the implementation of the Strategic Plan. ?Limited?</p>	<p>Evaluate project and management components and rank components with equal consideration given to water quantity, water quality, and cost.</p> <p>Aggressively pursue outside sources of funding (grants, etc.).</p>	<p>Results in the implementation of the optimum set of project and management components of the Strategic Plan.</p> <p>This action will lower the cost of the Strategic Plan to producers and improve the likelihood that the Strategic Plan will be implemented.</p>	N/A

Source: 6BWM Strategic Plan, 2017, Figure 2-6a

Notes:

Abbreviations:

TS / SASG Improvements = Increase the Use of Temporary Surplus and Increase Stormwater Recharge in the San Antonio Spreading Grounds

TCSG Improvements = Thompson Creek Spreading Grounds Improvements

Supplemental Recharge = Supplemental Water Recharge in the Upper Claremont Heights Basin

Pump and Treat = Pump and Treat Groundwater in the Pomona Basin

Conjunctive Management = Conjunctive Water Management in the Six Basins

Expanded Monitoring = Expanded Groundwater and Surface-Water Monitoring Program

3.4 Description of Strategic Plan Projects

The Watermaster Parties are proposing to construct and operate projects in a coordinated manner to optimize water resources management activities in the Six Basins, and thereby increase the reliability of regional water supplies. The Parties agreed to four goals for the Strategic Plan: (1) enhance water supplies; (2) enhance basin management, (3) protect and enhance water quality; and (4) equitably finance the Strategic Plan implementation.

Implementation of the Strategic Plan includes two elements: 1) a planning element consisting of the development of an updated Operating Plan last updated in 2012) for storage and recovery agreements, special projects and temporary surplus; and 2) a physical element consisting of the construction of new facilities and/or improvements to existing facilities, and on-going operation/maintenance of those facilities.

For the environmental evaluation of Strategic Plan implementation, the projects identified in Table 3-3, *Proposed Projects to Optimize Conjunctive Water Management*, have been placed in four categories. The water resources management program is a planning and programming project that would be implemented through the development of projects identified within four categories which are:

Project Category 1: Pump and Treat. These projects were conceptualized to (1) remove contaminants from groundwater and put the treated groundwater to beneficial use and (2) lower groundwater levels to reduce the threat of high groundwater and increase the yield of the Pomona Basin by reducing subsurface outflow. These types of projects also can facilitate the Conjunctive Water Management (CWM) program by creating storage space in the Pomona Basin to facilitate the implementation of a storage and recovery program, and by increasing groundwater-pumping capacity to enable “takes” from storage.

Project Category 2: Stormwater and Supplemental Water Recharge. These projects were conceptualized to enhance the yield of the Six Basins by increasing the capacity to divert and recharge stormwater, improve groundwater quality through the recharge of high-quality stormwater, and increase the volume of groundwater that can be sustainably pumped from the Six Basins via recharge of supplemental water. Such projects can facilitate the implementation of a CWM program by increasing the volumes of stormwater recharge and providing additional recharge capacity for supplemental water recharge during “put” years.

Project Category 3: Temporary Surplus. These projects were conceptualized to increase groundwater pumping during wet periods to minimize the potential for high groundwater conditions, provided that the pumping wells that extract the Temporary Surplus are located in areas that will mitigate the potential for high groundwater. Temporary Surplus projects can facilitate the implementation of a CWM program by increasing the use of surplus groundwater during wet periods, which can then be used for in-lieu recharge of the Pomona Basin.

Project Category 4: Monitoring Programs in Support of the Strategic Plan. Under existing conditions Watermaster conducts a comprehensive groundwater-level monitoring program across the Six Basins project area. The information developed from this monitoring program is used to identify potential impacts associated with the threat of high groundwater, pumping sustainability, chronic lowering of groundwater levels, developed yield and subsurface outflow to the Chino Basin. Under future conditions, the information developed from monitoring programs will be used to develop operating strategies and requirements for Strategic Plan projects to mitigate for these impacts.

Implementation of the projects identified in Table 3-3 would allow Watermaster to optimize Conjunctive Water Management in the Six Basins through the following actions:

- Takes from the dry-year storage program would be accomplished by the expansion of treatment activities at Reservoir 5 and Lincoln and Mills facilities and utilizing this new pump-and-treat capacity in the Pomona Basin.
- Puts to the dry-year storage program would be accomplished through in-lieu recharge. The put would be accomplished by reducing the pumping of operating safe yield rights in the Pomona Basin and replacing those rights with other water supplies including the Temporary Surplus or treated imported water.
- Declare Temporary Surplus during very wet years. The Temporary Surplus would be accomplished by pumping more groundwater than the Parties' operating safe yield rights at wells within the Lower Claremont Heights Basin and Upper Claremont Heights Basin.

The CWM program would consist of:

- A 65,000 acre-ft dry-year storage account that resides in the Pomona Basin.
- Puts to the storage account are accomplished through in-lieu recharge and wet-water recharge.
 - a. *In-lieu put.* The put is accomplished by reducing the pumping of operating safe yield rights in the Pomona Basin and replacing those rights with other water supplies including the Temporary Surplus or treated imported water. This method is the priority and is maximized before conducting wet-water recharge.
 - b. *Wet-water put.* Untreated imported water is physically recharged at existing spreading grounds and/or planned recharge basins.
- Takes from storage are accomplished by (1) expanding the treatment at Reservoir 5 and Lincoln and Mills facilities, (2) rehabilitating and constructing wellhead treatment at the Old Baldy well, and (3) constructing Durward 2 and its corresponding treatment facilities and utilizing this new pump-and-treat capacity in the Pomona, Ganesha and Live Oak basins.

**Table 3-3
Proposed Projects to Optimize Conjunctive Water Management**

PID¹	Project Description
<i>Pump and Treat²</i>	
A	Increase Groundwater Production and Treatment Capacity at Reservoir 5 Treatment Facility
B	Increase Groundwater Production and Treatment Capacity at Lincoln/Mills Treatment Facility
C	Rehabilitate Del Monte 4 and Add Arsenic Treatment
D	Construct Durward 2 Well and a Wellhead Treatment Facility
E	Rehabilitate Old Baldy Well and Construct Wellhead Treatment Facility
<i>Recharge Improvements</i>	
f	Enhance Stormwater Recharge at the San Antonio Spreading Grounds
g ³	Enhance Supplemental-Water Recharge at the SASG
h ⁴	Enhance Stormwater Recharge at the Thompson Creek Spreading Grounds
i	Supplemental-Water Recharge at the TCSG
j ⁵	Enhance Stormwater Recharge at the Pedley Spreading Grounds
k ⁶	Recharge Stormwater and Supplemental Water at the LA County Fairplex
n	Enhance Stormwater Recharge through MS-4 Compliance
o ⁷	Create a Conservation Pool Behind San Antonio Dam
<i>Temporary Surplus</i>	
l ⁸	Construct Interconnections between water supply agencies
m ⁹	Rehabilitate P-20 and a Wellhead Treatment Facility
p ¹⁰	Construct New Production Wells

Source: Wildermuth Environmental, Inc., Final Strategic Plan for the Six Basins, November 2017, Table 6-2

Notes:

1. Project Identification Number.
2. Pump and Treat projects will be carried out at existing well sites and/or treatment facilities. No new site disturbance is anticipated through the physical expansion of a well site or treatment facility.
3. Potential area of disturbance to develop the new recharge basin in the SASG is 50 acres to a depth of up to 200 feet to capture additional stormwater for groundwater recharge. The new basin would also recharge recycled water from the Pomona Water Treatment Plant delivered through a newly constructed pipeline of up to 68,000 linear feet (see item 8 below).
4. Potential area of disturbance to expand the TCSG is 143 acres to a depth of up to 10 feet.
5. Potential area of disturbance to expand the Pedley Spreading Grounds is 6 acres to a depth of up to 10 feet. Note: Improvements at the PSG sites are also a part of the MS4 Compliance group of projects.
6. Potential area of disturbance to create the new Fairplex underground infiltration gallery is 10 acres to a depth of up to 10 feet. Note: Improvements at the Fairplex site are also a part of the MS4 Compliance group of projects.
7. Subsequent to the completion of the Draft Strategic Plan, the Watermaster Parties determined that this project was speculative at this time and is no longer being considered in conjunction with the other Strategic Plan projects.
8. Pipe sizes ranging from 8" to 20" in diameter. Includes a new, approximately 68,000 linear foot pipeline between the Pomona Water Treatment Plant and the new SASG recharge basin.
9. See note No. 2 above.
10. Construction of new production wells is assumed to disturb up to 0.5 acre per well site (includes well site and site access).

Table 3-3 lists the project by Project ID number which correspond to the locations identified on Figure 3-2. Note: projects identified in Category 4 are not included on Figure 3-2 because this category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3.

Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to separate environmental review, that may be tiered from the Six Basins Strategic Plan Program EIR or in a stand-alone CEQA document.

Also, as part of the Strategic Plan, an investigation into recharge improvements at Live Oak Spreading Grounds was undertaken but this project was screened out early in the evaluation process as cost prohibitive. Therefore, no improvements at the Live Oak Spreading Grounds were considered in the Program EIR.

3.4.1 Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Projects in this category include increased groundwater production and treatment capacity at the Reservoir 5 and Lincoln Mills treatment facilities, the construction of well head treatment facilities at the Old Baldy and Durward 2 well sites, and the rehabilitation of the Del Monte 4 well including the addition of arsenic treatment.

The Pomona Basin has the greatest storage capacity of the Six Basins. Pump and treat would allow the Parties to store water or “put” water into storage during wet years, “hold” water until needed, and produce or “take” the stored water when imported water supplies are reduced due to drought or otherwise not available.

Figure 3-5, *Facilities Map for Conjunctive Water Management*, shows the location of proposed new production wells and water treatment facilities to supplement existing wells and facilities in the Six Basins including the Pomona Basin.

Increase Groundwater Production and Treatment Capacity at Reservoir 5 Treatment Facility

Current Operations. The Reservoir 5 treatment facility is an air stripping facility owned by the City of Pomona and is located at the I-10 freeway and Towne Street (see PID a on Figure 3-2). Groundwater from Pomona’s P-3, P-7, P-8B and P-32B wells is conveyed to the facility to remove dichloroethene (DCE) and blended with treated imported water to reduce chromium-6 (Cr-6), nitrate, and perchlorate concentrations. The P-3, P-7, P-8B and P-32B

wells have a combined capacity of about 3,000 gpm, and if operated at maximum capacity, can produce a total of 3,625 acre-ft/yr. From 2010-2015, the City of Pomona produced about 1,500 acre-ft/yr from the P-3, P-7, P-8B and P-32B wells. The wells are not operated at their full capacity because well P-3 and P-7 are currently not equipped with pumps. The current capacity of the treatment facility is 2,000 gpm.

Proposed Project. The proposed project is to increase groundwater production and treatment capacity in the southeast portion of the Pomona Basin by increasing production from the P-3, P-7, P-8B and P-32B wells, and increasing the treatment capacity of the Reservoir 5 treatment facility. The project could decrease the volume of treated imported water needed for treatment through blending to zero.

By operating the P-3, P-7, P-8B and P-32B wells at their maximum capacity, groundwater production will be increased by approximately 2,100 acre-ft/yr compared to the average production rate over the past five years of approximately 1,500 acre-ft/yr.

If the project's production exceeds the water demands of the City of Pomona, the excess water can be supplied to other water-supply agencies. The project could include combinations of various treatment methods to produce potable water, depending on the ultimate project capacity and the desire to minimize the use of treated imported water for blending. Potential facility improvements include:

- Construct ion exchange (IX) or biological treatment facilities at the Reservoir 5 treatment facility to remove Cr-6, nitrate and perchlorate.
- Expand the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove DCE.
- Construct conveyance facilities to supply the product water to other agencies, if necessary.

The proposed operating scheme is:

Groundwater Production. Production at P-3, P-7, P-8B and P-32B wells is increased to produce up to 3,625 acre-ft/yr.

Groundwater Treatment. All groundwater production is treated at the Reservoir 5 treatment facility. A goal of this project is to not increase, and possibly reduce, the demand for imported water.

Distribution. The product water is used by the City of Pomona through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to provide product water to other agencies or to connect other wells to the treatment facility are identified in Project Category 3, *Temporary Surplus Projects*.

Increase Groundwater Production and Treatment Capacity at Lincoln/Mills Treatment Facility

Current Operations. The Lincoln/Mills treatment facility is an air-stripping facility owned by the City of La Verne and is located at 6th Street and White Street (see PID b on Figure 3-2). Groundwater pumped by the Lincoln and Mills Tract wells is conveyed to the facility to remove TCE and is blended with treated imported water via a static mixer to reduce nitrate and perchlorate concentrations. The Lincoln and Mills Tract wells have a combined capacity of about 2,000 gpm, and if operated at maximum capacity, can produce a total of 2,400 acre-ft/yr. From 2010-2015, the City of La Verne produced approximately 1,100 acre-ft/yr of from the Lincoln and Mills Tract wells. The wells are not currently operated at their full capacity because the capacity of the treatment facility is limited to 1,200 gpm, and it is not economically feasible for the City of La Verne to buy replacement water if doing so would incur a Replacement obligation.

Proposed Project. The proposed project is to increase groundwater production and treatment capacity in the western portion of the Pomona Basin by increasing production from the Lincoln and Mills Tract wells and other wells and increasing the treatment capacity of the Lincoln and Mills treatment facility. The project could decrease the volume of treated imported water needed for treatment through blending to zero, depending on the project's design and capacity.

By operating the Lincoln and Mills Tract wells at their maximum capacity, groundwater production will be increased by approximately 1,300 acre-ft/yr compared to the average production rate over the past five years of approximately 1,100 acre-ft/yr. Increased production from existing and/or new wells, conveyance pipelines, and expansion of the treatment facility would increase the facility's capacity. For example, the Old Baldy well could be rehabilitated and connected to the Lincoln and Mills treatment facility. If the project's production exceeds the water demands of the City of La Verne, the surplus water could be supplied to other water-supply agencies.

The project could include combinations of various treatment methods to produce potable water, depending on the facility's capacity and the desire to minimize the use of treated imported water for blending.

Potential facility improvements include:

- Construct ion exchange (IX) or biological treatment facilities at the Lincoln and Mills treatment facility to remove nitrate and perchlorate.
- Expand the existing air-stripping facility or construct a granular activated carbon (GAC) facility to remove TCE.
- Construct conveyance facilities to connect other wells to the treatment facility, if necessary.
- Construct conveyance facilities to supply product water to other agencies, if necessary.

The proposed operating scheme is:

Groundwater Production. Production at the Lincoln and Mills Tract wells is increased to 2,400 acre-ft/yr.

Groundwater Treatment. All groundwater production is treated at the Lincoln and Mills treatment facility. A goal of this project is to not increase, and possibly reduce, the demand for imported water.

Distribution. The product water is used by the City of La Verne through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to provide product water to other agencies or to connect other wells to the treatment facility are identified in Project Category 3, *Temporary Surplus Projects*.

Rehabilitate Del Monte 4 and Add Arsenic Treatment

Current Operations. The Del Monte treatment facility is a GAC facility owned by GSWC and is located at College Avenue and 1st Street (see PID c on Figure 3-2). The Del Monte 4 well has a design capacity of 700 gpm, and if operated at maximum capacity, can produce a total of 850 acre-ft/yr. GSWC has not produced groundwater from the Del Monte 4 well since 2005 due to high arsenic concentrations. The well was drilled in 1991 and had a design flow rate of 700 gpm. Periodic sampling taken during its operation revealed arsenic levels that rose above the maximum contaminant level (MCL), thus requiring the well to be taken out of service. The latest sampling showed the levels ranged from 35-90 parts per billion (ppb). In its current configuration, Del Monte 4 pumps through an existing GAC treatment system, for VOCs (TCE) and 4-log inactivation, before entering the 1.5 mg Del Monte reservoir; consequently, the added friction loss of pumping through the proposed arsenic treatment system will require the replacement of the pump and motor to match the new operating point.

Proposed Project. The proposed project is to increase groundwater production and treatment capacity in the eastern portion of the Pomona Basin by rehabilitating the Del Monte 4 well and adding a wellhead treatment system to remove arsenic. By rehabilitating and operating the Del Monte 4 well at its maximum capacity, groundwater production capacity will be increased by about 850 acre-ft/yr. If the project's production exceeds the water demands of the GSWC, the excess water can be supplied to other water-supply agencies.

Potential facility improvements include:

- Construct an arsenic treatment system at the Del Monte 4 well.
- Construct conveyance facilities to supply product water to other agencies, if necessary.

The proposed operating scheme is:

Groundwater Production. Produce up to 850 acre-ft/yr at the Del Monte 4 well.

Groundwater Treatment. All groundwater production from Del Monte 4 is treated at a wellhead treatment system to reduce arsenic concentrations and is then conveyed to the Del Monte treatment facility to reduce TCE concentrations.

Distribution. The product water is used by GSWC through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to provide product water to other agencies is identified in Project Category 3, *Temporary Surplus Projects*.

Construct Durward 2 Well and a Wellhead Treatment Facility

Current Operations. This project involves the construction of new facilities adjacent to the former Durward well site. Historical groundwater-quality data from the Durward well indicates that high concentrations of nitrate, perchlorate, and TCE are present in the underlying groundwater.

Proposed Project. The proposed project is to increase groundwater production and treatment capacity in the southwest portion of the Pomona Basin by constructing a new well at the Durward 2 site, and constructing a wellhead treatment facility to reduce nitrate, perchlorate, and TCE concentrations (see PID d on Figure 3-2). By constructing the Durward 2 well and operating it at an estimated maximum capacity of 500 gpm, groundwater production will be increased by approximately 600 acre-ft/yr. If the project's production exceeds the water demands of GSWC, the surplus water can be supplied to other water-supply agencies. A goal of this project is to not increase, and possibly reduce, the demand for imported water.

Potential facility improvements include:

- Construct a new well adjacent to the Durward well site.
- Construct air stripping, GAC, IX and/or biological treatment facilities at the new well site to remove nitrate, perchlorate, and TCE.
- Construct conveyance facilities to supply the product water to its ultimate demand.

The proposed operating scheme is:

Groundwater Production. Produce up to 600 acre-ft/yr at the Durward 2 well.

Groundwater Treatment. All groundwater production is treated at the Durward 2 well site to reduce nitrate, perchlorate, and TCE concentrations.

Distribution. The product water is used by GSWC through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to provide product water to other agencies is identified in Project Category 3, *Temporary Surplus Projects*.

Rehabilitate Old Baldy Well and Construct Wellhead Treatment Facility

Current Operations. The Old Baldy well is owned by the City of La Verne and is located in the northeast portion of the Ganesha Basin at the corner of 5th Street and C Street (see PID e on Figure 3-2). The Old Baldy well has a capacity of 650 gpm, and if operated at maximum capacity, can produce a total of 800 acre-ft/yr. The City has not produced groundwater from the Old Baldy well since 2002 due to high nitrate and perchlorate concentrations.

Proposed Project. The proposed project is to increase groundwater production and treatment capacity in the northeast portion of the Ganesha Basin by rehabilitating the Old Baldy well and constructing new treatment facilities to reduce nitrate and perchlorate concentrations in the produced groundwater. A goal of this project is to not increase, and possibly reduce, the demand for imported water.

By rehabilitating and operating the Old Baldy well at its maximum capacity, groundwater production will be increased by approximately 800 acre-ft/yr. If the project's production exceeds the water demands of the City of La Verne, the surplus water can be supplied to other water-supply agencies.

Potential facility improvements include:

- Construct IX or biological treatment facilities at the Old Baldy well site to remove nitrate and perchlorate.
- Construct conveyance facilities to supply product water to other agencies, if necessary.

The proposed operating scheme is:

Groundwater Production. Produce up to 800 acre-ft/yr at the Old Baldy well.

Groundwater Treatment. All groundwater production is treated at the Old Baldy well site to reduce nitrate and perchlorate concentrations.

Distribution. The product water is used by the City of La Verne through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to provide product water to other agencies or to connect other wells to the treatment facility are identified in Project Category 3, *Temporary Surplus Projects*.

3.4.2 Project Category 2: Stormwater and Supplemental Water Recharge

This category of projects represents: (1) improvements that would be undertaken within the SASG in a new recharge basin to supplement the recharge activities occurring at the two existing recharge facilities, and the TCSG to enhance stormwater recharge and supplemental water recharge; (2) enhance stormwater recharge at the PSG; (3) create an area for the recharge of stormwater and supplemental water at the LA County Fairplex; and (4) to

identify opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The Strategic Plan identified two MS4 projects: (1) improvements at the PSG site; and (2) development of an underground infiltration gallery at the Fairplex site.

Figure 3-6, *Facilities Map for Supplemental Water Recharge*, shows the area where improvements for stormwater and supplemental recharge in the Canyon Basin (TCSG and SASG) and the Upper Claremont Heights Basin (UCHB) (PSG) would occur. The Strategic Plan did not identify any improvements at the Miramar Water Treatment Plant (WTP) wash ponds that are also used for groundwater recharge.

Impediments to enhancing the recharge of storm and supplemental water as outlined in Table 3-2 include: (1) incomplete understanding of the limiting factors for increasing stormwater recharge from the San Antonio Creek and Thompson Creek; (2) limited sources and availability of supplemental water; the potential for the occurrence of rising groundwater and liquefaction potential; and (3) the lack of a coordinated program to re-capture the enhanced recharge.

The storm and supplemental water recharge projects were conceptualized to remove these impediments and achieve the following:

- Enhance the yield of the Six Basins by increasing the capacity to divert and recharge stormwater.
- Improve groundwater quality through the recharge of high-quality storm water.
- Increase the volume of groundwater that can be sustainably pumped from the Six Basins via recharge of supplemental water.

In addition, the recharge projects described below facilitate the implementation of a water resources management program in the Six Basins by maximizing the use of surplus local and imported surface water when they are available in greater volumes during wet periods, so that groundwater will be more available and reliable during dry periods when the surface-water supplies are reduced.

Enhance Stormwater Recharge at the San Antonio Spreading Grounds

Current Operations. Runoff from the San Antonio Creek watershed that exceeds what can be diverted and used by SAWCo and the City of Pomona at the 60/40 splitter is captured behind the San Antonio Dam. Except under the most critical conditions, water impounded behind the Dam is discharged in a controlled manner into the PVPA diversion works. The diversion works consist of six slide gates that divert water into the SASG recharge facilities (basins) each with a capacity to divert up to 200 cfs. There are two existing recharge facilities in the upper reach of the SASG; the Los Angeles County Flood Control District (LACFCD) basins on the Los Angeles County side of the SASG and the PVPA basins on the San Bernardino County side of the SASG. Two gates on the west side of the diversion works direct water to the Los Angeles County side of the SASG through a 72-inch diameter reinforced

concrete pipeline. Four gates on the east side of the diversion works direct water to the San Bernardino County side of the SASG through two 72-inch diameter reinforced concrete pipelines. Flow meters are installed in each 72-inch pipeline to record the diversions to the SASG. Discharge from the Dam that exceeds the PVPA's diversion capacity by-passes the diversion works and enters the concrete-lined San Antonio Creek Channel. Water discharged to the concrete-lined San Antonio Creek Channel has one more opportunity to be diverted to the SASG via the Lower San Bernardino Turnout. The turnout is a drop-inlet structure that diverts water to the San Bernardino County side of the SASG. When the gate is fully open, this turnout can divert water at a maximum rate of approximately 300 cfs. The Lower San Bernardino Turnout is not metered by the PVPA.

Based on PVPA records, from 1961 to 2015 annual diversions to the SASG ranged from 0 to 33,370 acre-ft/yr. Based on historical discharge measurements made by USACE, the Watermaster has estimated that the volume of storm water discharged from San Antonio Dam that was not diverted by PVPA ranged from a low of 4 acre-ft/yr to a maximum of about 44,900 acre-ft/yr. However, based on anecdotal information from USACE, the discharge measurements at the Dam are not accurate in low-flow conditions and may over-estimate outflow from the Dam under such conditions.

Proposed Project. The proposed project is to enhance stormwater recharge at the SASG (see PID f on Figure 3-2). There are three limitations on total diversions to the SASG for recharge: (1) the physical capacity of the diversion works, (2) the recharge capacity of the spreading grounds, and (3) the requirement in the Judgment to manage recharge to avoid high groundwater conditions. The recharge capacity at the SASG under its current configuration of unlined channels, berms, ponds, deep mining pits, and unimproved land is not precisely known; and the amount of stormwater available for capture is not well understood, so the optimal facilities and operating schemes to accomplish recharge enhancement cannot yet be defined.

The first step in the development of physical options to enhance recharge is to implement a monitoring program (see Project Category 4) to improve the characterization of the water available for diversion and the factors that limit recharge capacity. Figure 3-7, *Facilities Map for San Antonio Spreading Grounds*, identifies an area below the existing LACFCD basins for development of a new recharge basin. Initially, the Strategic Plan identified the development of a series of cascading basins located on the Los Angeles County side of the SASG generally between the existing recharge basins and a point north of E. Pomello Drive. Subsequently, a second option is being considered instead of the cascading basins. This project would provide recharge capacity within an approximately 50-acre area to a depth of 150-200 feet. The excavated material would be crushed on-site then conveyed across the SASG to the existing Holliday Rock conveyor system located on the east side of the San Antonio Channel (see Figure 3-7). It is estimated that the resulting recharge basin can be completed within three to five years, at which time the crusher and conveyor system would be removed and the basin will become operational. The following is a set of assumptions regarding this SASG option:

- 50 acres in area within a larger 90-acre area within the San Antonio Creek wash, west of the San Antonio Creek Channel, east of the power transmission lines, south of the existing LACFCD basins, and north of the extension of East Pomello Drive.
- 150-200 feet in depth (depending on groundwater level).
- Approximately 20 million tons of aggregate material will be excavated with typical aggregate mining equipment (dozers, scrapers) and hauled to a portable crusher within the excavation area over a five-year period (2.5 million tons per year).
- Material is crushed on site and released onto a conveyor system. A typical system consists of a rubberized belt on a series of rollers within a frame that may range in size from 2-4 feet in width and between 2-4 feet above ground surface.
- Material would be conveyed to an active mining area between Holliday Pits 4 and 5. The material would be either stockpiled at that location or conveyed south to be processed at the Foothill Plant located south of Baseline Road – no material is transported by haul truck.
- The crusher and conveyor system are portable and can be moved around the excavated area as mining lowers the level of the excavation area.
- Excavation activities at the SASG site could take up to 5 years to complete but could be completed in 2 years depending on the ultimate depth (i.e., shallower depth, shorter duration).
- No transport of excavated material would be hauled on surface streets through neighborhoods.
- Upon cessation of excavation activities, the site would be used as a recharge basin.

Enhance Supplemental-Water Recharge at the SASG

Current Operations.

Imported Water. TVMWD is the only Watermaster Party that recharges supplemental imported water at the SASG. The source of the imported water is MWD's Rialto Feeder Pipeline (see Figure 3-2 for location of this pipeline) that conveys water to the Los Angeles County side of the SASG through an 80 cfs pipeline constructed by TVMWD in 2011 (maximum of 5,000 acre-ft per month). Because the facilities to recharge supplemental water at the SASG are already in place, there is no proposed scope of work for planning facilities to increase imported water recharge. However, the initial task in this project is to perform an economic analysis for the purchase and recharge of imported water at the SASG as part of the water resources management program engineering analysis. Therefore, at this time, the Strategic Plan does not include a project to route additional imported water to the SASG.

Recycled Water. Currently, there are no facilities to deliver recycled water for recharge at the SASG.

Project Description. The proposed project to enhance supplemental water recharge is to recharge tertiary-treated recycled water at the SASG to increase the amount of groundwater

that can be sustainably pumped from the Six Basins and to increase groundwater production in the UCHB to capture this recharge (see PID g on Figure 3-2). Figure 3-7 shows the proposed path of travel for a new interconnect pipeline between the Pomona Water Reclamation Plant and SASG.

The potential sources of the recycled water supply include: the Pomona Water Reclamation Plant (WRP), the IEUA's recycled water distribution system in the Chino Basin, a potential satellite water reclamation plant, and/or the MWDSC's proposed recycled water treatment project in Los Angeles County.

Exchange agreements are also possible; for example, the recycled water from the Pomona WRP could be exchanged for like amounts of untreated imported water delivered through TVMWD to the SASG. In the draft Strategic Plan report, one project was evaluated that assumed recycled water was delivered from the Pomona WRP to the SASG at a rate of 3,500 acre-ft/yr with an accompanying groundwater extraction program of 3,500 acre-ft/yr.

In addition to the proposed new recharge basin at the SASG, potential facility improvements include:

- New pipelines and booster pumping stations to convey recycled water from its source to the SASG.
- New wells to recover the recharge.

The Watermaster Parties participating in this project could either produce groundwater in excess of their OSY rights in an amount equal to the annual supplemental water recharge or store the water for recovery in dry periods (pursuant to a Watermaster-approved Storage and Recovery agreement).

Enhance Stormwater Recharge at the Thompson Creek Spreading Grounds

Current Operations. Runoff generated from the Thompson Creek watershed enters the PVPA property through a diversion structure upstream of the Thompson Creek dam. The diversion structure and dam are operated by LACFCD in cooperation with PVPA. At the diversion structure, stormwater can be diverted to the reservoir behind the dam and/or the PVPA's conveyance ditch that subsequently discharges to the TCSG through a tunnel with a capacity of approximately 75 cfs. Water that accumulates behind the Thompson Creek Dam does not contribute to the recharge of the Six Basins because the dam is partly grouted to bedrock and the reservoir is not maintained for recharge. PVPA has requested LACFCD to divert as much stormwater as possible into the TCSG, but the diversion is constrained by LACFCD operating rules that focus primarily on flood control operations. Based on PVPA records, from 2000 to 2015 annual diversions to the TCSG ranged from 0 to 269 acre-ft/yr. Based on historical discharge measurements made by LACFCD, the Watermaster has estimated that the volume of stormwater captured at or discharged from Thompson Creek Dam, and therefore not diverted by the PVPA, ranged from a low of 3 acre-ft/yr to a maximum of about 1,634 acre-ft/yr.

Project Description. The proposed project is to enhance stormwater recharge at the TCSG (see PID h on Figure 3-2). The ability to increase recharge is constrained by the diversion capacity of the conveyance facilities to the TCSG, the recharge capacity of the TCSG, and the requirement in the Judgment to manage recharge to avoid high groundwater conditions. Neither the recharge capacity, the amount of stormwater available for capture, nor the hydrogeology underlying the TCSG are well understood and so the optimal facilities and operating schemes to accomplish recharge enhancement cannot yet be defined. The first step in the development of alternatives to enhance recharge is to implement a monitoring program to improve the characterization of the water available for diversion and the factors that limit recharge capacity. Figure 3-8, *Facilities Map for Thompson Creek Spreading Grounds*, shows the proposed configuration of the proposed TCSG improvements.

In order to provide recharge capacity, the project calls for the expansion of the spreading grounds by approximately 25 acres to a depth of approximately 10 feet.

Enhance Supplemental-Water Recharge at the Thompson Creek Spreading Grounds

Current Operations. The TCSG are currently used when LACFCD allows PVPA to divert stormwater into the recharge facilities instead of behind the Thompson Creek Dam. In 10 of the last 16 years, stormwater diversions to the TCSG totaled less than 50 acre-ft/yr, and in eight of those years, there were no stormwater diversions. The spreading grounds are not currently used to recharge supplemental water, nor are there existing facilities to convey supplemental water to the TCSG.

Project Description. The proposed project is to recharge untreated imported water at the TCSG to increase the amount of groundwater that can be sustainably pumped from the Six Basins (see PID i on Figure 3-2). The source of the untreated imported water would be MWD's Rialto Feeder Pipeline (see Figure 3-2 for the location of the TCSG and the Rialto Feeder Pipeline). A new pipeline would need to be constructed from the Rialto Pipeline to the TCSG. To the extent possible, the water would be conveyed to the TCSG by pressure head in the Rialto Pipeline. A booster pump station may be necessary to convey the imported water to the TCSG, at least at times when the pressure head is low in the Rialto Pipeline.

The Parties participating in this project could either produce groundwater in excess of their OSY rights in an amount equal to the annual supplemental water recharge or store the water for recovery in dry periods (pursuant to a Watermaster-approved Storage and Recovery agreement).

Enhance Stormwater Recharge at the Pedley Spreading Grounds

Current Operations. San Antonio Creek water diverted by the City of Pomona at the 60/40 splitter box that exceeds the treatment capacity of the Pedley Treatment Plant, or does not meet turbidity standards for treatment, is recharged at the SASG or at the Pedley Spreading

Grounds (PSG). Currently, the PSG does not receive stormwater or dry-weather runoff from the surrounding urbanized areas for recharge.

Project Description. The proposed project is to enhance recharge at the PSG to include stormwater and dry-weather runoff from the surrounding urbanized areas (see PID j on Figure 3-2). The City of Pomona is proposing to deepen the ponds to accommodate local urban runoff. Drainage from the residential areas north of the PSG site flow by gravity through an existing 18-inch pipe at the northwest corner of Basin 1 and a 42-inch pipe at the northeast corner of Basin 2. The 42-inch pipe reaches site through a junction structure with a 30-inch pipe which is connected to the storm main along Baseline Road. To include additional flows, a connection is proposed at an existing manhole at Chaparral Drive and N Mills Avenue. Flows from the proposed connection would then enter a hydrodynamic separator for pretreatment, and then discharge into Basin 3. The existing basins have a ponding area of approximately 4.09 acres. The design depth to accommodate the urban runoff would require 1 foot of depth plus an additional 1 foot of freeboard.

In order to provide recharge capacity, the project calls for the expansion of the spreading grounds by approximately 6 acres to a depth of approximately 10 feet. This project was identified as a project to Enhance Stormwater Recharge through MS-4 Compliance. The Municipal Separate Storm Sewer System (MS4) program is part of the National Pollutant Discharge Elimination System (NPDES) permit program that requires permittees such as the County of Los Angeles (and cities within the county as co-permittees) to develop and implement a comprehensive Storm Water Management Program (SWMP) that must include pollution prevention measures, treatment or removal techniques, monitoring, and other appropriate measures to control the quality of storm water discharged to the storm drains and ultimately into waters of the United States. The Strategic Plan includes a program to identify opportunities to utilize sites where stormwater flows can be captured, treated and used for groundwater recharge. Proposed improvements at the PSG site represent such a project.

Recharge Stormwater and Supplemental Water at the LA County Fairplex

Current Operations. There are currently no storm or supplemental water recharge facilities at the site.

Project Description. The proposed project is to utilize an approximately 10-acre area at the LA County Fairplex to construct facilities to recharge stormwater and dry-weather runoff, and supplemental water into the Pomona Basin (see PID k on Figure 3-2). The proposed project could also help the City of Pomona to comply with the MS4 permit as a regional stormwater diversion and recharge project. The intent of an MS4 project is to prevent and reduce the amount of pollutants discharged into local water bodies, and to prepare for more extreme and frequent drought conditions by capturing and using runoff to reduce demand on water supplies, recharge groundwater.

Three potential sources of water are considered for recharge at the Fairplex:

- *Stormwater and Dry-Weather Runoff.* Divert stormwater and dry-weather runoff from the LA County Fairplex and the Thompson Creek channel into new recharge basins (underground infiltration gallery) at the Fairplex. Drainage from W. Arrow Highway would flow via gravity into the infiltration gallery. A second gravity connection is proposed at a new catch basin to be located adjacent to Thompson Creek, which will flow into a hydrodynamic separator for pretreatment before being conveyed into the infiltration gallery. A third connection would flow via pump well from W McKinley Avenue into the infiltration basin. The infiltration gallery will discharge into Thompson Creek.
- *Recycled Water.* Pump recycled water from the Pomona WRP to the new recharge basins at the Fairplex. Recycled water would be recharged throughout the year except when stormwater recharge operations would conflict with it.
- *Imported Water.* Untreated imported water from the Rialto Feeder may be discharged to Thompson Creek and diverted to the new underground gallery at the Fairplex. Imported water can be recharged throughout the year except when stormwater recharge operations would conflict with it.

The potential facility improvements include:

- Construct new underground infiltration gallery at the Fairplex.
- Construct necessary facilities to divert and convey stormwater and dry weather runoff and imported water to the new infiltration gallery.
- Construct necessary conveyance facilities to deliver recycled water to the new infiltration gallery.
- Construct and install monitoring facilities necessary to comply with the State Department of Drinking Water Title 22 regulations.

Similar to proposed improvements at the PSG site, the Fairplex project was also identified as an MS4 project to capture, treat and recharge groundwater.

3.4.3 Project Category 3: Temporary Surplus

Historically, high groundwater problems have occurred in the Six Basins because during wet periods, high volumes of stormwater recharge within the SASG cause groundwater levels to rapidly increase in the UCHB. The mound of high groundwater migrates to the south and can cause or contribute to high groundwater conditions in the southern portion of the UCHB, the LCHB, and the northern portion of the Pomona Basin. High groundwater conditions are undesirable because they increase the threat of rising groundwater and liquefaction potential, and they reduce the yield of the Six Basins by increasing subsurface outflow to the Chino Basin and by limiting the volume of stormwater recharge that can occur during wet periods.

The potential for high groundwater can be mitigated by managing groundwater production. The Temporary Surplus provision in the Judgment can be employed to increase groundwater

production during wet periods to minimize the potential for high groundwater conditions, provided that the production to recover the Temporary Surplus is located in areas that will mitigate the potential for high groundwater (i.e. UCHB and LCHB). The physical impediments to implementing a Temporary Surplus in a manner that minimizes the potential for high groundwater conditions include: the lack of local water demands to utilize the Temporary Surplus when it needs to be extracted, the lack of facilities to convey the Temporary Surplus to areas of demand, and potentially insufficient pumping capacity. The Temporary Surplus projects described below were conceptualized to remove these impediments.

In addition, the Temporary Surplus projects facilitate the implementation of a conjunctive water management program in the Six Basins by increasing the use of surplus stormwater during wet periods, which can enable in-lieu recharge of the Pomona Basin so that groundwater is more available during dry periods.

Rehabilitate Pomona's P-20 Well and a Wellhead Treatment Facility

Current Operations. The P-20 well is owned by the City of Pomona and is the only well located in the LCHB (see PID m on Figure 3-2). The project site is located on Oxford Drive north of Hood Drive in the City of Claremont. The P-20 well has a capacity of 800 gpm, and if operated at maximum capacity, can produce a total of 80 acre-ft per month. The City has not produced groundwater from the P-20 well since 2000 due to high nitrate concentrations.

Project Description. The proposed project is to increase groundwater production and treatment capacity in the LCHB by rehabilitating the P-20 well and constructing new treatment facilities to reduce nitrate concentrations in the produced water.

Rehabilitating and operating the P-20 well increases the groundwater production capacity in the LCHB to better ensure that the Temporary Surplus can be produced when invoked. In addition, the City of Pomona and TVMWD are considering constructing a pipeline between the TVMWD Miramar Water Treatment Plant to convey treated water to the P-20 site in order to blend treated water from the WTP with the groundwater pumped from the P-20 well, as an alternative method for treating the groundwater from P-20. The Miramar WTP is located at the northeast corner of Padua Avenue and Miramar Avenue approximately one-mile northeast of the P-20 well site.

If the project's production exceeds the water demands of the City of Pomona, the excess water can be supplied to other water-supply agencies through interconnections or by exchange.

Potential facility improvements include:

- Construct IX or biological treatment facilities at the P-20 well site to remove nitrate.
- Construct conveyance facilities to supply product water to other water-supply agencies, if necessary.

- Construct conveyance facilities between the TVMWD Miramar WTP and the P-20 well site to blend treated water with groundwater.

The proposed operation scheme is described below:

Groundwater Production. Produce 960 acre-ft/yr.

Groundwater Treatment. All groundwater production is treated at the P-20 well site to reduce nitrate concentrations.

Distribution. The product water would be used by the City of Pomona through its existing distribution system or is supplied to other water-supply agencies via interconnections and/or exchanges. Note: Constructing conveyance facilities (pipelines and interconnects) to connect the Miramar WTP to the P-20 well site or to provide product water to other agencies are identified below under *Construct Interconnections*.

Construct Interconnections

Current Operations. N/A.

Project Description. The proposed project is to increase the flexibility in conveying water to water-supply agencies in the region to facilitate the use of Six Basins groundwater during a Temporary Surplus, including connecting Pomona's P-20 well site to the TVMWD Miramar WTP in order to blend treated water with groundwater pumped at P-20.

Potential facility improvements include:

- Interconnections of wells and/or distribution systems to the regional treated-water pipelines (e.g. Benson Avenue feeder; Miramar system).
- Interconnection of the Water Facilities Authority (WFA) Agua de Lejos and TVMWD Miramar water treatment plants. The WFA is a Joint Powers Authority consisting of member agencies including the cities of Chino, Chino Hills, Ontario, and Upland; and the Monte Vista Water District. The Agua de Lejos WTP is located in the City of Upland.
- Other interconnections necessary to ensure all Parties have the ability to:
 - convey and receive water from all other Parties
 - export water to the Chino Basin
 - export water through the PWR pipeline

The locations of these facilities are shown on Figure 3-6. For the purposes of environmental analysis of interconnections, it was assumed that up to 85,000 linear feet (approximately 16 miles) would be developed between Temporary Surplus projects, Conjunctive Use projects, and Recycled Water Recharge projects.

Construct New Production Wells

Current Operations. N/A.

Project Description. The proposed project is to create surplus production capacity in the UCHB to maximize Temporary Surplus takes by constructing new production wells. However, given that Watermaster has yet to develop and test a plan to implement a Temporary Surplus utilizing existing well capacity, and the agencies do not yet have the interconnections to pump and deliver the Temporary Surplus water to places of demand, there is no proposed scope of work for this category of projects. This project should be revisited after the Watermaster has approved a plan to invoke a Temporary Surplus and it is demonstrated that additional capacity is needed. However, there are a number of production wells in the Six Basins project area that can be studied to generally describe construction and operation of these wells; and to evaluate the potential environmental effects.

For example, TVMWD is currently developing two new groundwater production wells in the UCHB in the City of Claremont. Upon completion, both wells would produce groundwater to be conveyed in new pipeline interconnects to the TVMWD Miramar WTP.

Miragrand Well Site. The Miragrand groundwater production well is proposed to be developed on approximately $\frac{1}{4}$ of a one-acre site located on the northeast corner of Miramar and Grand Avenues in the City of Claremont. The site is currently vacant, located in a residential neighborhood. Once completed, approximately 700 to 800 acre-ft/yr of untreated groundwater would be pumped from this production well and conveyed through a new approximately 150 linear foot 8-inch pipeline to interconnect with the existing water line on Grand Avenue as it intersects with Miramar Avenue. Ultimately, this water will be conveyed to TVMWD's Miramar Plant (1021 E. Miramar Avenue) where it will be treated and made available to its member agencies.

Grand Avenue Well. The proposed well is located on a former Caltrans property at the southeast end of the Grand Avenue cul-de-sac in the City of Claremont. The project includes the development of a new groundwater production well and an approximately 6,100 linear-foot of 8-inch to 12-inch pipeline between the new well and the TVMWD Miramar WTP where it will be treated and made available to its member agencies. The well could pump between 775 and 1,030 acre-ft/yr. The pipeline would intercept and convey water being sent to the Miramar WTP from the Miragrand well.

3.4.4 Project Category 4: Monitoring Programs in Support of the Strategic Plan

This category of projects consists of the development and implementation of a groundwater monitoring program to support the design of new wells and treatment facilities (Project Categories 1 and 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to

monitor and develop new strategies and projects identified as Temporary Surplus projects, conjunctive use projects, and recycled water recharge projects. Part of the implementation of the groundwater monitoring program, up to three new multi-depth clustered monitoring wells will be constructed in the Pomona Basin within the historically high groundwater in the cities of Claremont and Pomona and within the areas where Strategic Plan projects are contemplated for pumping and treating groundwater (Project Category 1) and for conjunctive water management (Project Category 3).

This category of projects also includes the development and implementation of surface water monitoring in the SASG that would resolve discrepancies between of the volume of releases from San Antonio Dam as measured and recorded by USACE and the volume of diversions from San Antonio Creek as measured and recorded by PVPA. This will better characterize the opportunities for enhancing storm-water recharge at the existing and proposed spreading grounds in the San Antonio Creek wash, provide data to improve the operations and maintenance activities within the spreading grounds to maximize recharge, maximize basin yield, and avoid high groundwater conditions; and provide data to improve the surface-water and groundwater models.

For the purposes of the environmental analysis of the Six Basins Strategic Plan projects, the physical changes in the environment that may occur with development and operation of three new monitoring wells in the Pomona Basin have been evaluated along with the proposed new production wells and treatment facilities and/or the pipelines that may need to be developed to interconnect between wells and water treatment plants, in Project Categories 3. Therefore, Project Category 4 has been defined as *Monitoring Programs in Support of the Strategic Plan*. This category includes only monitoring activities, additional research and study of hydrological conditions in the groundwater basins, collection and dissemination of groundwater production and water level data, support well siting investigations, provide information to develop mitigation or management strategies to minimize or abate high groundwater, and support on-going monitoring efforts.

CEQA Guidelines Section 15162, *Feasibility and Planning Studies*, allows such an approach where a planning project such as a groundwater monitoring program, involves only feasibility or planning studies to identify possible future actions which an agency, board, or commission may approve, adopt, or fund. It is the action that results from the adoption and implementation of the program (e.g. new well development, construction of pipelines to connect between wells and water treatment facilities, or the development and/or the expansion of spreading grounds) that would require the environmental evaluation of future actions in a subsequent EIR or Mitigated Negative Declaration.

Therefore, Project Category 4 was evaluated as a planning/programming function only; consisting of the research, planning, report preparation, and site design in support of the adoption, approval or funding of projects identified in the groundwater monitoring program. The three new groundwater wells in the Pomona Basin are evaluated in Project Category 3 along with proposed new production wells.

3.5 Construction Schedule

Implementation of the Six Basins Strategic Plan and its related projects consists of 1) the construction of future facilities and/or improvements to existing facilities; and 2) on-going operation and maintenance of the facilities. The type and location of future specific projects are known although exact dimensions and/or ultimate size may not be known. Therefore, it is possible to evaluate the potential environmental impacts associated with construction and operation of these projects although, subsequent CEQA review of some projects such as future groundwater production wells may be required should they exceed the parameters for which they have been evaluated in this Program EIR. In such a case, review of a project to determine if the impacts identified for a project are within the range of the impacts forecast in this Program EIR (in accordance with Section 15168 of the State CEQA Guidelines), or that subsequent environmental review through either a subsequent Mitigated Negative Declaration or EIR would be required (in accordance with Section 15162 of the State CEQA Guidelines).

3.5.1 Construction Activities

Construction activities for all projects will follow the same general requirements as follows:

All Sites

- All construction activities will occur between the hours of 7 am and 6 pm Monday through Saturday (no Sunday or holiday hours).
- Not all construction equipment will be operating at the same time or for the length of the workday.

New Treatment Facility in Pomona Basin

- One new treatment facility would be developed in the Pomona Basin on an approximately 3-acre site. Similar to the existing site at Reservoir 5.
- Development includes up to 6 new groundwater production wells and related pipelines between new wells and the new treatment facility. See below for assumptions regarding new well sites and new conveyance pipeline. The new wells and new pipeline are included in those assumptions.
- Development of the new treatment facility would require excavation and removal of material from the site.
- Staging of equipment is assumed to occur on-site, so no daily arrival/departure of equipment is assumed.
- The average disturbance of the site on a daily basis is assumed to be 1 acre.
- The number of construction workers is assumed to be 15, including equipment operators and laborers.
- Construction workers would commute to the site with an average one-way commute of 20 miles.

- No maintenance of construction equipment is anticipated to be done on site.
- Assume a construction schedule of 180 days (6 months).

New Well Sites

- Construction of a new well would involve drilling, installing well casing and pump shaft, pump motor housing and piping to connect the well to a conveyance system.
- Depth of a new well may be between 500 and 1,000 feet. Use average depth of 800 feet.
- Construction equipment for well sites (development of new well sites or improvements to existing well sites) would be limited to small to medium sized trucks, drilling rig, welder, and electrical tools.
- Development of a new well will require the delivery and set up of the drilling rig. Round trip at 45 mph.
- The drilling and development of each well will take approximately 45 calendar days, of which 15 to 20 days would include 24-hour drill activity.
- Delivery of the well casings, pumps, motors, etc. for each well is forecast to result in approximately 60 vehicle miles being traveled by trucks averaging about 45 mph.
- Calculations assume up to 6 workers will each commute 40 miles round-trip to the work site.
- Typically, well drilling requires only minimal earth movement and/or grading.
- The well casings are expected to be welded.
- Well development and installation will require six weeks of a diesel generator.
- The average area of disturbance of a well site is anticipated to be ½ acre or less.
- No maintenance of construction equipment is anticipated to be done on site.

Existing Well Improvements

- Assume minor improvements to existing wells and monitoring systems to install transducers on up to 30 wells.
- Quarterly inspection and data collection from all well sites.

Note: these activities would require minimal disruption and no ground disturbance; projects that would generally be considered exempt from CEQA.

New Conveyance Pipeline

- Up to 85,000 linear feet (approximately 16 miles) of new pipeline may be installed between wells and treatment plants.
 - Temporary surplus: about 1,500 to 3,000 feet
 - Conjunctive use: about 10,000 to 14,000 feet
 - Recycled water recharge between the Pomona WTP and the SASG: about 68,000 feet

- For the purposes of this evaluation, the assumption is made the new pipe would range in diameter from 8-20 inches and that construction of new pipeline would occur over planning horizon of the Strategic Plan (approximately 20 years) where in some years, no pipeline construction would occur. Therefore, it has been assumed that in 10 of the 20 years an average of 8,500 linear feet (approximately 1.6 miles) of pipeline could be constructed during a year.
- A delivery truck is capable of hauling an average of 900 feet of 12- and 16-inch pipe per load and approximately 450 feet of 24- and 30-inch pipe per load. Therefore, it is assumed that 21,000 linear feet of pipe would require a total of approximately 23 truck deliveries of 12- to 16-inch pipe or 47 truck deliveries of 24-30-inch pipe, or a combination.
- Further, it is assumed that there are several places where pipe and related material and equipment can be obtained within the region so an average delivery round trip was assumed to be 40 miles at an average speed (freeway and surface streets) of 40 miles per hour.
- Pipeline construction would involve trenching to depths of 5 to 8 feet with a typical trench width of 5 feet. Assuming that most construction would be done in urban areas, trenching would include the removal and hauling away asphalt, excavating and stockpiling soil adjacent to the trench, use of a water truck to control dust during construction, placement of the pipe, backfilling, and resurfacing the street with new asphalt.
- Staging of equipment is assumed to occur either on-site, or in adjacent parking lots when available so no daily arrival/departure of equipment is assumed.
- The average disturbance of a site on a daily basis is assumed to be 1 acre.
- The number of construction workers is assumed to be 15, including equipment operators and laborers.
- Construction workers would commute to the site with an average one-way commute of 20 miles.
- No maintenance of construction equipment is anticipated to be done on site.
- Because a pipeline project is linear, it is assumed that trenching can occur simultaneously with backfilling once new pipe is in place. Therefore, more than one piece of some equipment such as the backhoe and dump truck may be necessary. See table below.

Equipment	Number of Pieces	Hours of Operation per Day
Backhoe/Excavator	2	6
Crane	1	6
Pavement cutter	2	6
Grinder	1	6
Delivery trucks ¹	2	6
Dump truck	2	
Water truck	1	4
Paving machine	1	6
Roller/vibrator	1	6
Total	13	--

Notes:

1. Delivery drivers are not counted in the number of construction workers as it is assumed that they are employed by the supplier and not the contractor.

Spreading Ground Sites

- Spreading ground sites are San Antonio, Thompson Creek, Pedley and Fairplex sites.
 - San Antonio Spreading Grounds:
 - Area: approximately 50 acres
 - Depth: up to 200 feet
 - Total material crushed and removed: 20 million tons (mt) over a five-year period (2.5 mt per year).
 - Material would be conveyed to an active mining area between Holliday Pits 4 and 5. The material would be either stockpiled at that location or conveyed south to be processed at the Foothill Plant located south of Baseline Road – no material is transported by haul truck.
 - Upon completion the site will be classified as unirrigated open space and will be used as a recharge basin
 - Thompson Creek Spreading Grounds:
 - Area: approximately 25 acres
 - Depth: 5 to 20 feet (5 to 7 if cascading ponds are used to balance the cut and fill and avoid export)
 - Total material removed: About 160,000 cubic yards of grading, but the goal would be to balance the cut and fill to minimize material export.
 - Pedley Spreading Grounds
 - Area: approximately 6 acres
 - Depth 5 to 10 feet
 - Total material to be removed: approximately 4,500 cubic yards but the goal would be to balance the cut and fill to minimize material export.
 - Fairplex site
 - Area: approximately 10 acres

- Depth: 5 to 10 feet to create an infiltration gallery that would be covered by soccer fields.
- Total material removed: approximately 14,000 cubic yards. Assume the site will balance with excess material being placed at other locations within the Fairplex site.
- Larger construction equipment would generally include graders, backhoes, dozers, water truck, etc.
- Smaller construction equipment would generally include welders, drilling rigs, pick-up trucks.
- No maintenance of construction equipment is anticipated to be done on site.
- Schedule for construction of spreading ground improvements may range from 60 to 120 days.
- Assume similar equipment list as for pipeline construction with modification per CalEEMod.

3.6 Potential Discretionary Actions

The Six Basin Watermaster Board of Directors must approve and certify the Program EIR prior to the development of any of the projects identified in the Strategic Plan. This Program EIR will also be used as the information source and CEQA compliance document by the respective Parties undertaking any of the projects identified in the Strategic Plan.

In addition to the Parties that would be developing projects evaluated in the Program EIR, there are a number of responsible and trustee agencies (see Section 1.5 in Chapter 1, *Introduction*, for explanation of these agencies) with authority over projects. The following is a list of agencies and the potential permits, approvals, agreements that may be required for the development and/or on-going operation and maintenance of these projects:

3.6.1 Federal Agencies

US Army Corps of Engineers (USACE)

- Clean Water Act Section 404 Permit
- Clean Water Act Section 408 Permits for any connections to Corps facilities

Federal Emergency Management Agency (FEMA)

- Letter of Map Amendment (LOMA)

3.6.2 State Agencies

California Department of Water Resources (DWR)

- Permit to Recharge
- Division of Drinking Water (DDW)
- Domestic Water Supply Permit

California Department of Fish and Wildlife (CDFW)

- Fish & Game Code Section 1602 Streambed Alteration Agreement
- Fish and Game Code 2081 Incidental Take Permit for species listed as endangered, threatened, candidate, or a rare plant

California Department of Public Health (CDPH)

- Use Permit for New Wells

California Department of Transportation (Caltrans)

- Encroachment Permit

California Water Resources Control Board (SWRCB)

- Waste Discharge Identification Number (WDID) under the State General Construction Permit for Stormwater
- WDID under the State General Dewatering Permit for projects that could release groundwater into surface waters
- WDID under the State General industrial Permit for project operations that meet the Industrial definition

Regional Water Quality Control Board

- Clean Water Act Section 401

San Bernardino County Department of Public Works SBCDPW)

- Encroachment Permit (related to flood control facilities)

Los Angeles County Department of Public Works (LACDPW)

- Encroachment Permit (related to flood control facilities)

South Coast Air Quality Management District (SCAQMD)

- Depending on the type of stationary equipment that could be installed as part of a Strategic Plan project, permits from the SCAQMD may be required. SCAQMD rules that could apply to the project include, but are not limited to:

- Rule 201: Permit to Construct
- Rule 203: Permit to Operate
- Rule 219: Equipment Not Requiring a Written Permit Pursuant to SCAQMD Regulation II
- Rule 402: Nuisance

3.6.3 Local Agencies

- Cities of Claremont, La Verne, Pomona and Upland – coordination with water providers for site plan review of new well sites, or improvements to existing well sites
- City of Claremont Community Development Department
 - Review/Approval of the Mine Reclamation Plan for the new SASG recharge basin under the State’s Surface Mine and Reclamation Act (SMARA)

3.7 References

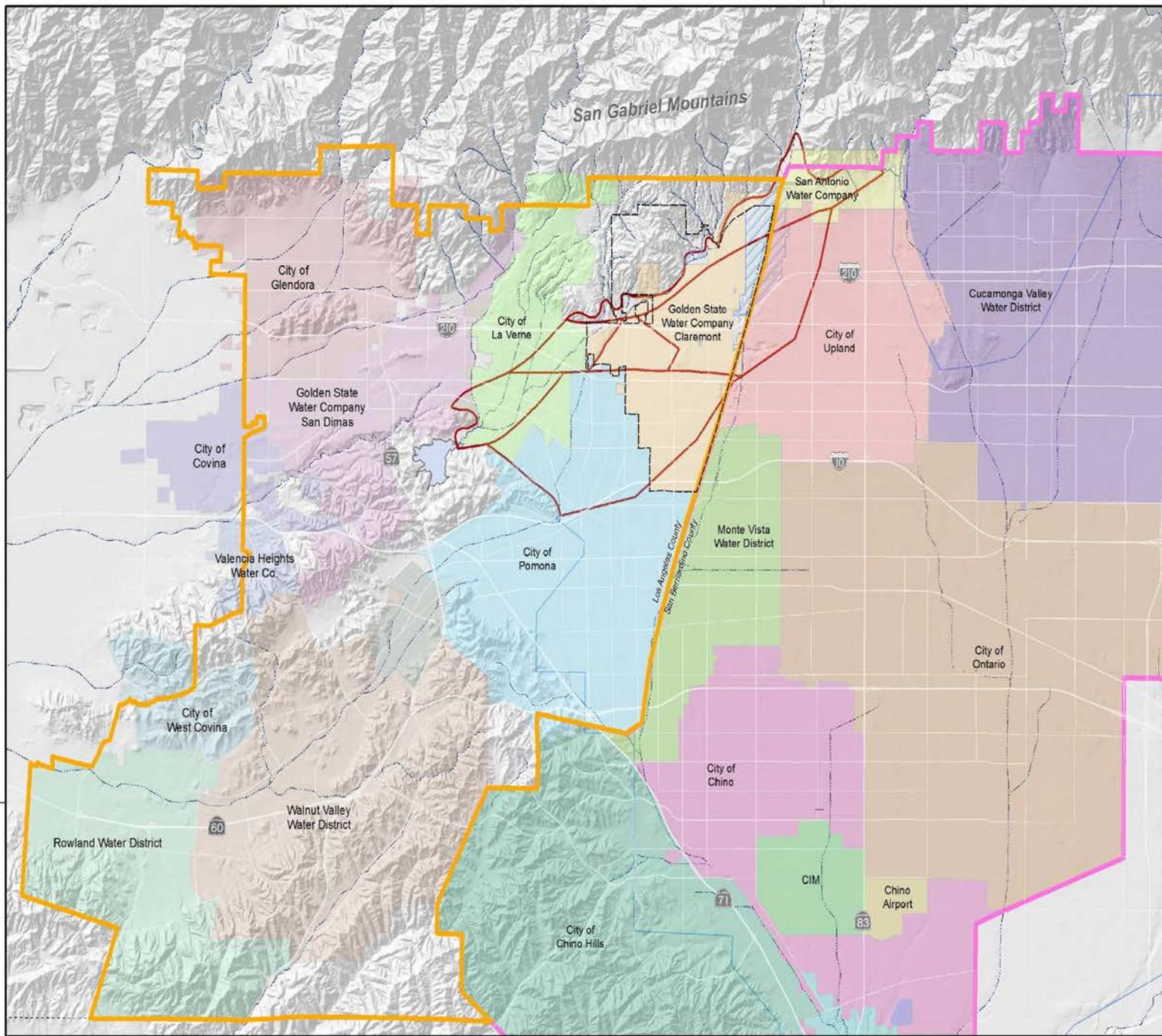
Southern California Association of Governments (SCAG), 2018, *Comments on the Notice of Preparation*.

Jericho Systems, 2019, *Final Initial Study and Mitigated Negative Declaration, Three Valleys Municipal Water District, Proposed Groundwater Production Well and Pipeline, NWC East Miramar and Grand Avenues, Claremont, Los Angeles County, California*.

WEI, 2012, *Six Basins Watermaster Operating Plan*.

WEI, 2017, *Final Strategic Plan for the Six Basins*.

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- Service Areas of Water Purveyors in the Six Basins Area
- City of Claremont
- Three Valleys Municipal Water District Boundary
- Inland Empire Utilities Agency Boundary
- Spreading Grounds

- Six Basins Adjudicated Boundaries
- 1 - Canyon
 - 2 - Upper Claremont Heights
 - 3 - Lower Claremont Heights
 - 4 - Live Oak
 - 5 - Ganesha
 - 6 - Pomona

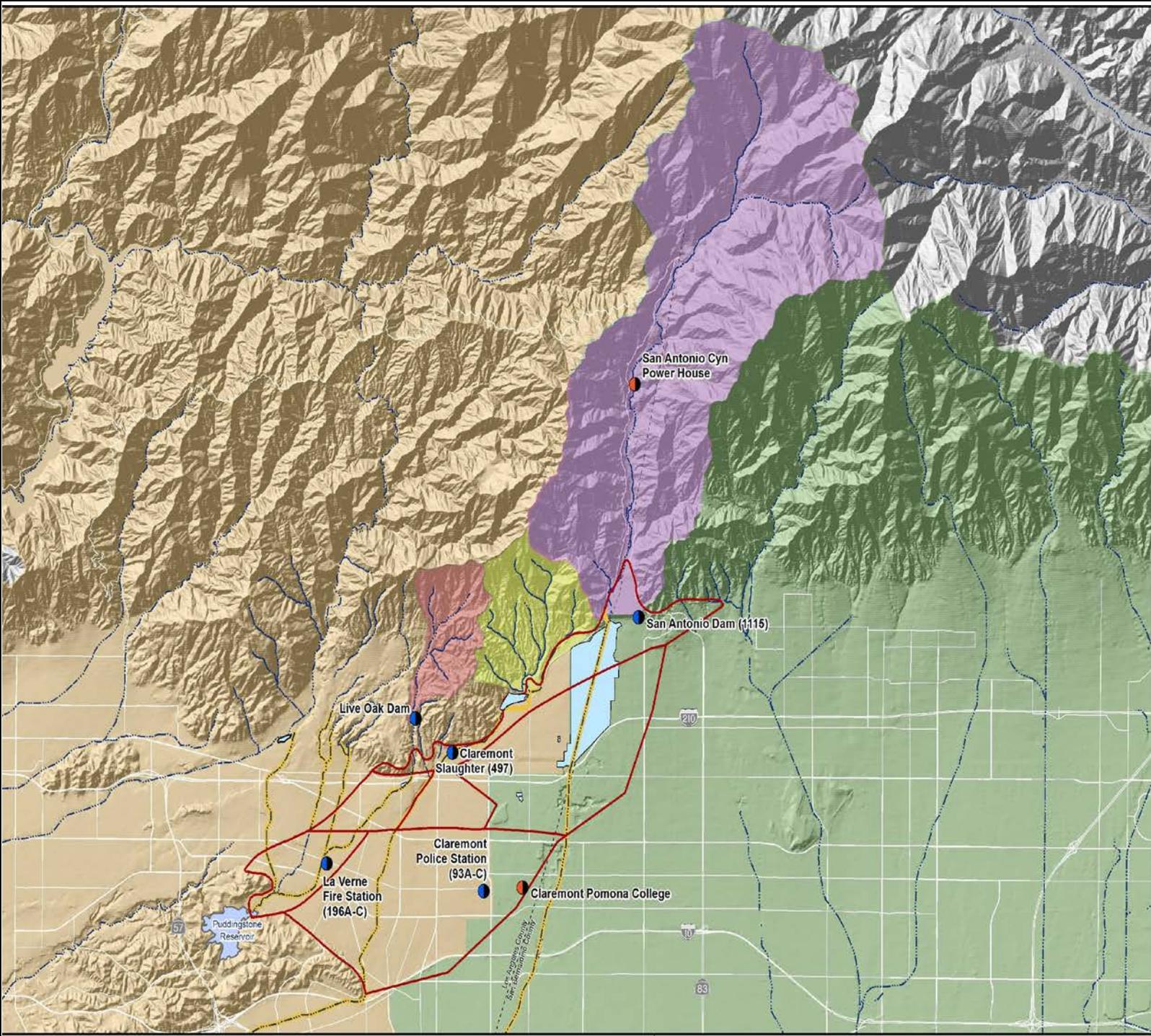


Source: WEI Figure 1-1



Figure 3-1
Water Purveyors

6 Basins
Strategic Plan - Program EIR



- Watersheds**
- Santa Ana River
 - San Gabriel River
 - San Antonio Creek
 - Thompson Creek
 - Live Oak Wash
- Other Features**
- LA County Flood Control District Daily Precipitation Station - Active
 - LA County Flood Control District Daily Precipitation Station - Inactive
 - Spreading Grounds
 - Rivers and Streams
 - Rivers and Streams - Concrete-Lined Channel
 - Adjudicated Boundaries of the Six Basins

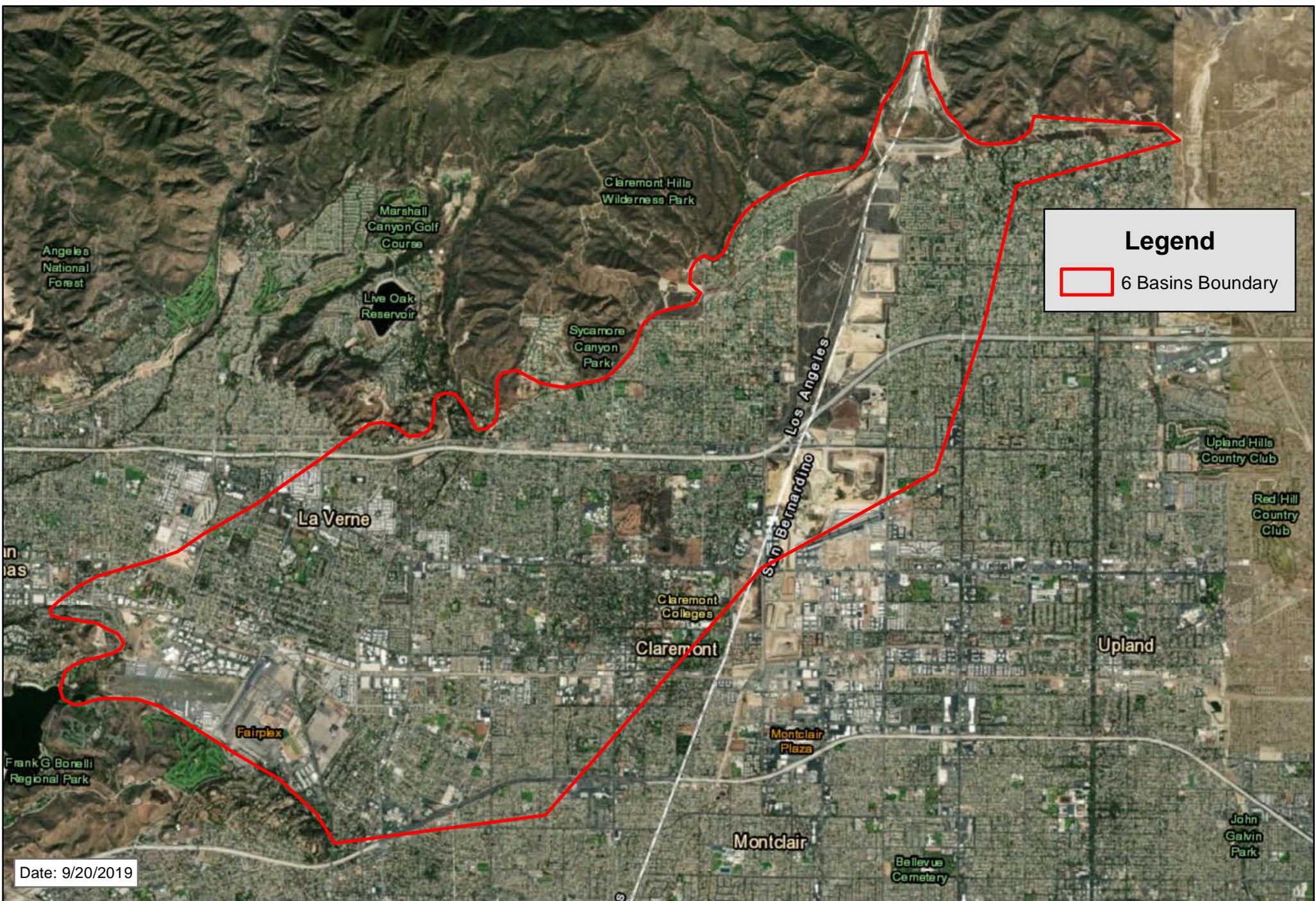


Source: WEI Figure 2-1



Figure 3-3
Watersheds

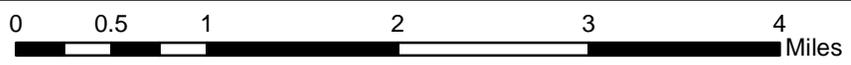
6 Basins
Strategic Plan - Program EIR



Legend

6 Basins Boundary

Date: 9/20/2019



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

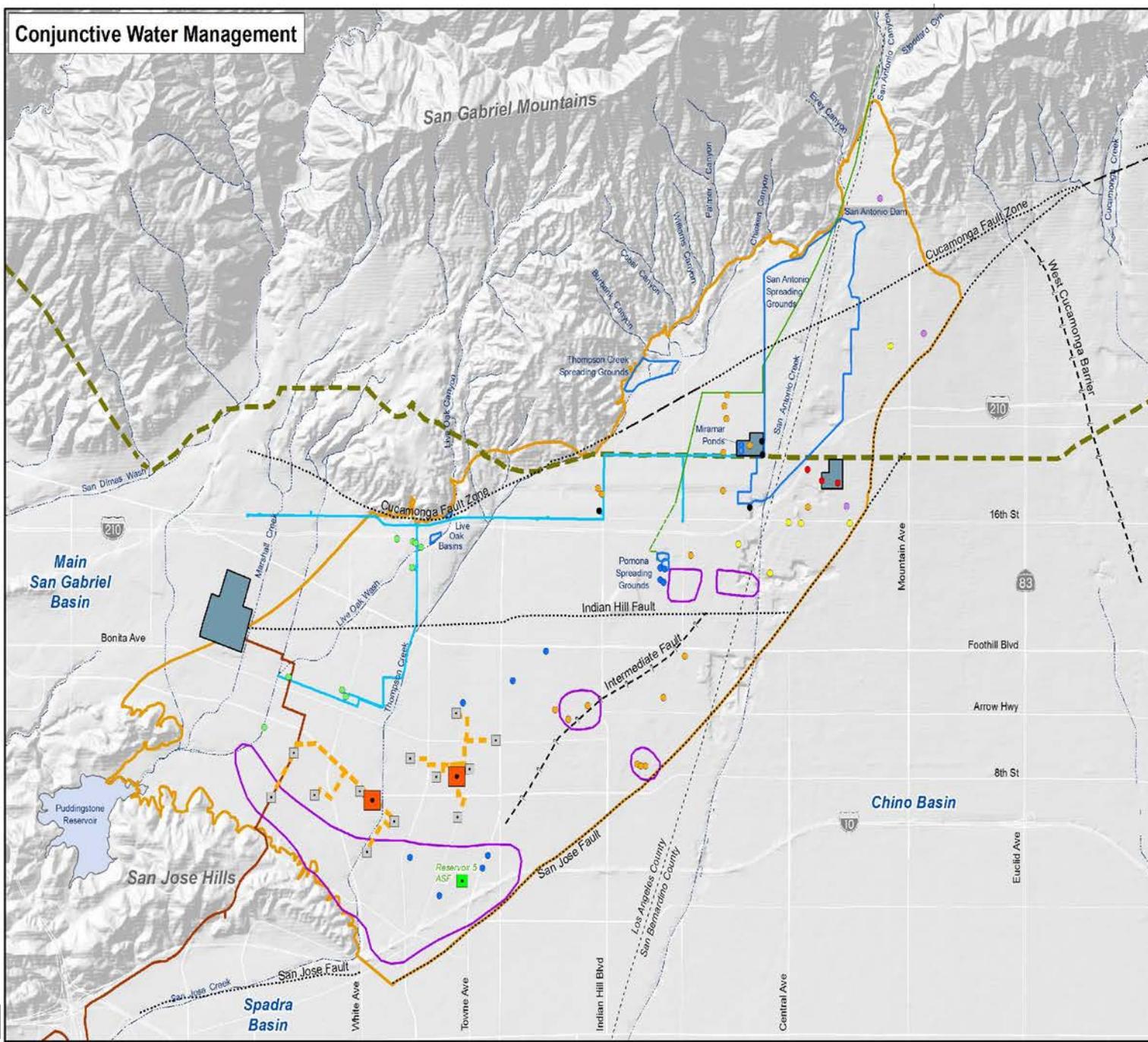


1 inch = 5,280 feet

Figure 3-4
Adjudicated Boundary

6 Basins
Strategic Plan - Project EIR

Conjunctive Water Management



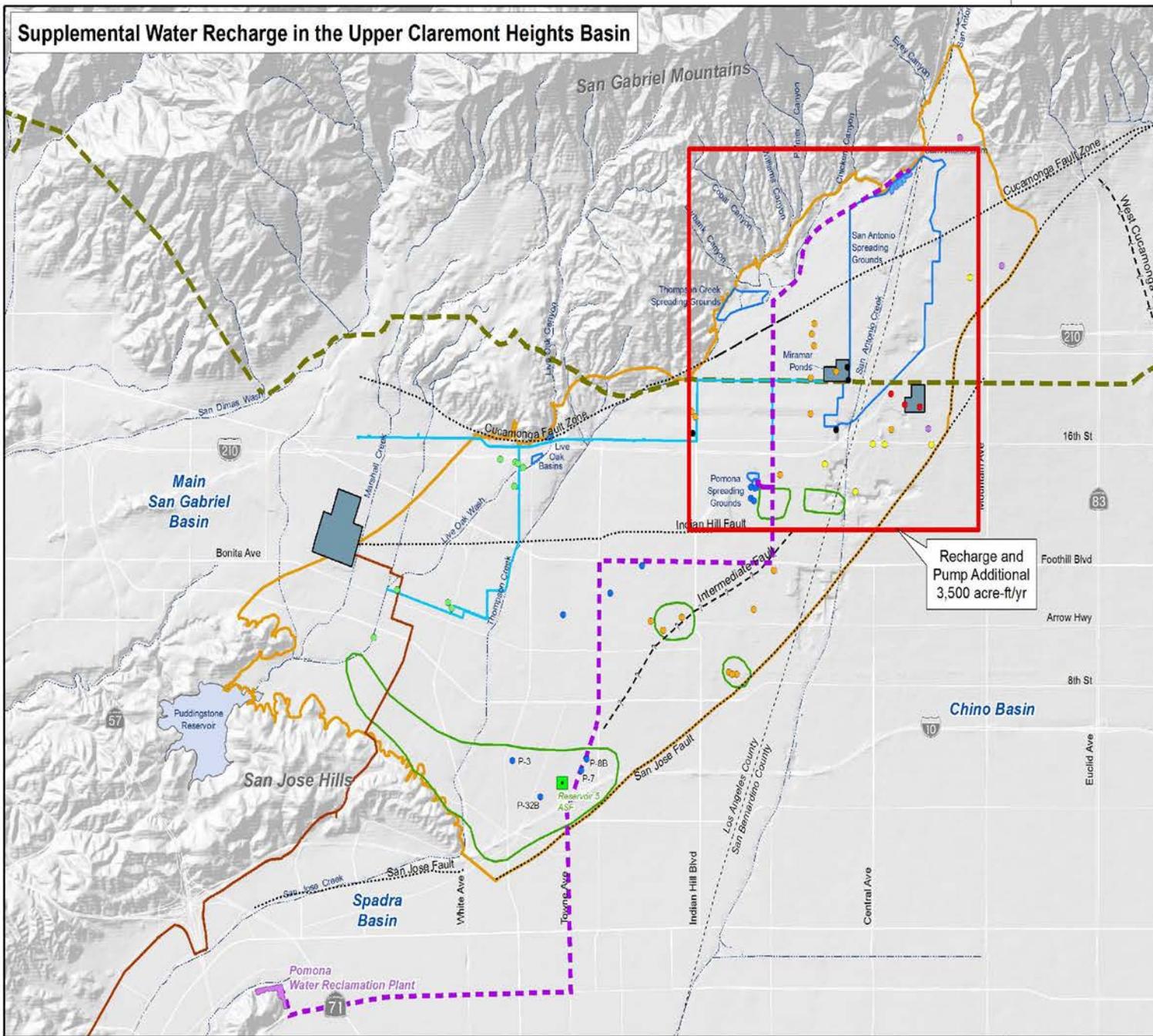
- Conceptual Facilities**
- Production Wells
 - Water Treatment Facility
 - Product Water Pipeline
- Existing Facilities**
- Water Treatment Facility
 - Cañon Pipeline
 - Miramar Pipeline
 - PWR Joint Feeder
 - Foothill Feeder-Rialto Pipeline
- Production Wells**
- Golden State Water Company
 - City of La Verne
 - City of Pomona
 - San Antonio Water Company
 - Three Valleys Municipal Water District
 - City of Upland
 - West End Consolidated Water Company
- Other Features**
- Imported Water Treatment Plant
 - Six Basins Hydrologic Boundary
 - Historical Area of High Groundwater (Mendelhall, 1908; Bean, 1982; CDM, 2006)
 - Spreading Basins
- Faults**
- Location Certain
 - Location Approximate
 - Location Concealed
 - Location Uncertain



Figure 3-5
Facilities Map for Conjunctive
Water Management

6 Basins
Strategic Plan - Program EIR

Supplemental Water Recharge in the Upper Claremont Heights Basin



- Conceptual Facilities**
- Recycled Water Pipeline
- Existing Facilities**
- Pomona Water Reclamation Plant
 - Miramar Pipeline
 - PWR Joint Feeder
 - Foothill Feeder-Rialto Pipeline
 - Imported Water Treatment Plant
- Production Wells**
- Golden State Water Company
 - City of La Verne
 - City of Pomona
 - San Antonio Water Company
 - Three Valleys Municipal Water District
 - City of Upland
 - West End Consolidated Water Company
- Other Features**
- Six Basins Hydrologic Boundary
 - Historical Area of High Groundwater (Mendelhall, 1908; Bean, 1982; CDM, 2006)
 - Spreading Basins
- Faults**
- Location Certain
 - Location Concealed
 - Location Approximate
 - Location Uncertain

Recharge and Pump Additional 3,500 acre-ft/yr



Figure 3-6
Facilities Map for Supplemental
Water Recharge

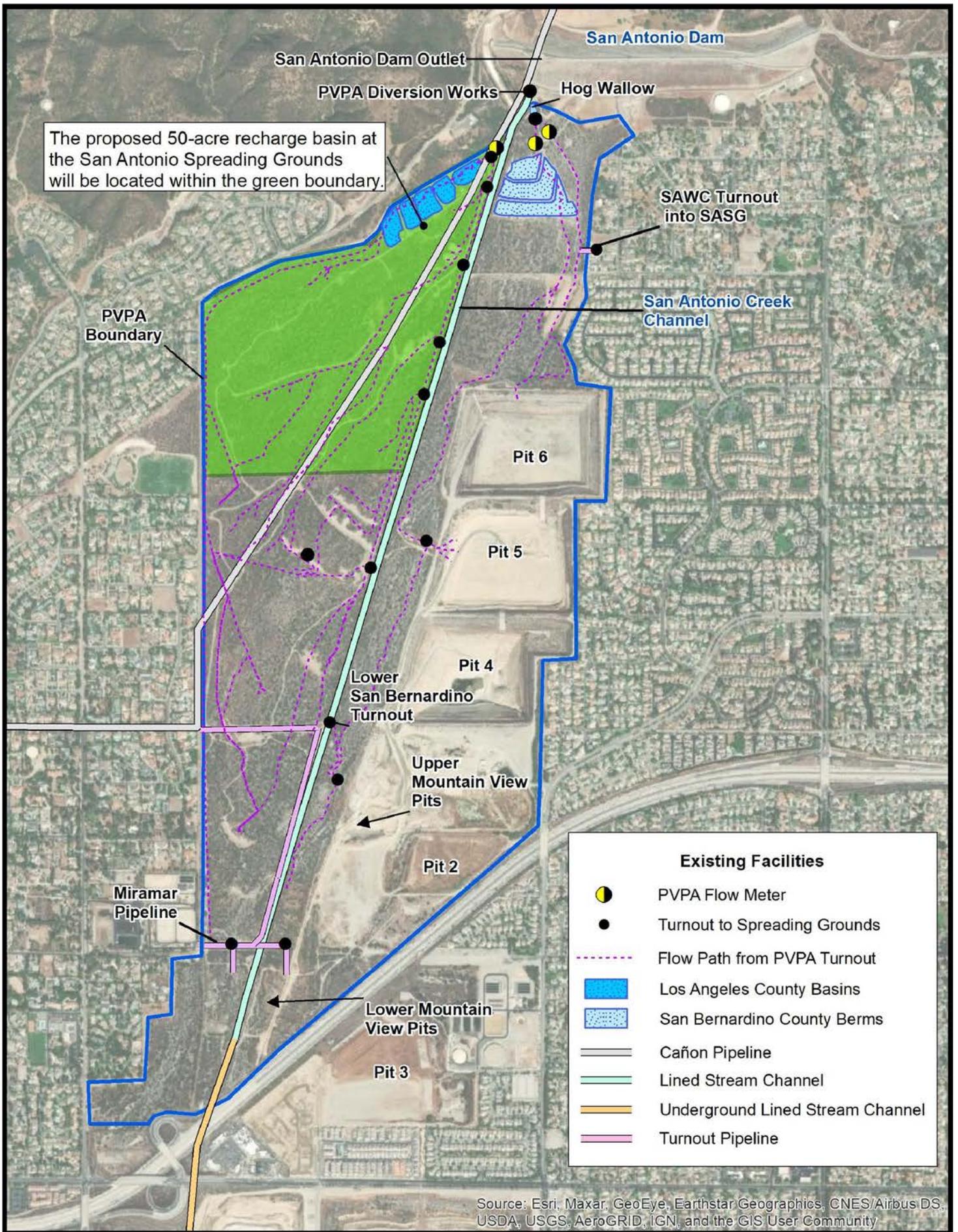
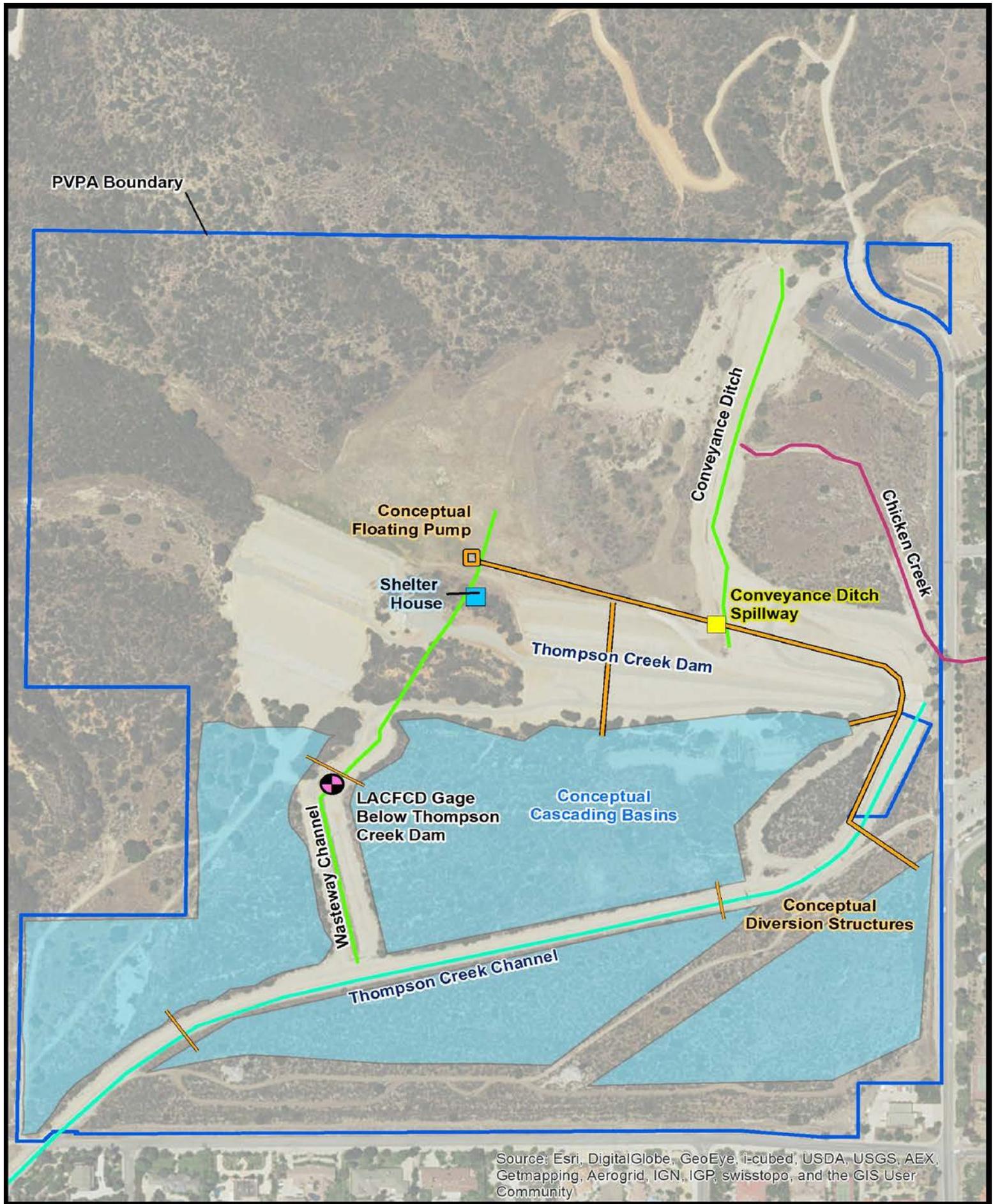


Figure 3-7
Facilities Map - San Antonio





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Source: WEI Figure 5-7



Figure 3-8
Facilities Map - Thompson Creek

6 Basins
Strategic Plan - Program EIR

4.0 Environmental Impact Evaluation

The pumping and storage rights for the Six Basins were adjudicated in 1998 through a stipulated judgment that prescribes a physical solution for the coordinated management of groundwater in the Six Basins with the objective that the Parties to the Judgment can reliably pump their respective rights and maximize the beneficial use of local groundwater. The Watermaster Parties have had over 17 years of experience with the Judgment and implementing its physical solution and, through the Strategic Plan for the Six Basins, have developed a new integrated management program for the Six Basins. The program may require amendments to the Judgment's technical approach to the management of the Six Basins.

This chapter addresses the potential environmental effects that may result from the implementation of the Strategic Plan for the Six Basins. Types of projects identified in the Strategic Plan that would be implemented by some of the Watermaster Parties include:

- Pump and treat groundwater in the Pomona Basin
- Recharge improvements at existing spreading grounds and at the LA County Fairplex, and through MS4 compliance
- Increase the use of the Temporary Surplus provision in the Judgment through the construction of new production wells and interconnects between treatment facilities
- Expand groundwater and surface water monitoring program

4.0.1 Strategic Plan Projects

Implementation of the Strategic Plan would result in the construction of a number of water supply/water quality projects including expanded recharge capabilities, development of new production wells, enhanced pump and treat capabilities, recycled water conveyance between the Pomona water treatment plant and spreading grounds, and expanded groundwater and surface water monitoring. Project implementation also includes the operation and maintenance of these facilities once they have been constructed. In addition, implementation of the Strategic Plan may require changes to the Watermaster's operating plans.

Not all project locations, treatment methods, or design elements have been finalized. Therefore, the evaluation of impacts associated with the construction and operation of these projects was conducted at a programmatic level. The Program EIR represents a first-tier environmental document that focuses on the effects of implementing the Strategic Plan as a water resources management program, and where possible, evaluate the environmental effects of categories of specific projects. These categories are as follows:

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents. No new major site disturbance is anticipated through the physical expansion of existing well sites or treatment facilities.

Construction at existing sites would require the delivery of equipment and materials as well as construction workers commuting to the site during the construction phase. Once construction is completed, operation and maintenance of the wells and treatment facilities would be similar to existing conditions at each of the sites. That is, daily site inspections, routine maintenance periodically, and occasional upgrades to monitoring systems.

Project Category 2: Stormwater and Supplemental Water Recharge

This category of projects includes enhancing stormwater and supplemental recharge water at the San Antonio and Thompson Creek spreading grounds (SASG and TCSG); enhancing stormwater recharge at the Pedley Spreading Grounds PSG); and developing recharge capacity for stormwater and supplemental recharge water at the Los Angeles County Fairplex in Pomona. Each of these projects will require physical disturbance including expanding the spreading grounds or creating new spreading grounds (SASG) and for treated water (recycled) from the Pomona Water Reclamation Plant (WRP) to be sent to the new SASG recharge facilities. The construction of a new pipeline between the Pomona WRP and the new SASG recharge facilities is included in Project Category 3, *Temporary Surplus Projects*, that includes the evaluation of up to 85,000 linear feet of pipeline to interconnect existing and new wells to water treatment plants (WTP) and between the Pomona WRP and the SASG. In addition, Project Category 2 includes Recharge Improvements for stormwater recharge through each city's or county's compliance with MS4 requirements (MS4 = municipal separate storm sewer system). Improvements to the PSG and Fairplex projects are examples of MS4 projects.

Construction of new or expanded spreading grounds would require the delivery of equipment and materials as well as construction workers commuting to the site during the construction phase. For the proposed new recharge basin in the SASG, construction also includes crushing excavating material and conveying the material across the SASG to Holliday Rock's existing mine site located on the east side of the San Antonio Creek Channel.

Once construction is completed, operation and maintenance of the expanded or new recharge facilities in existing spreading grounds would be similar to existing conditions at the SASG, TCSG and PSG sites. That is, routine inspections throughout the year and or minor maintenance and cleanup after storm events. In addition, over time, recharge basins can fill

with silt and debris that will require the operator to grade basin floors to remove this material. Impacts associated with this activity would be similar to basin development where excavation and removal of material would be required.

Project Category 3: Temporary Surplus

This category of projects consists of rehabilitating the existing City of Pomona's P-20 wellhead and treatment facility in the Lower Claremont Heights Basin (LCHB) in the City of Claremont. This category also includes the construction and operation/maintenance of up to 12 new production wells, and the construction of approximately 85,000 linear feet of new interconnects (pipelines) between new wells and the new water treatment facility in the Pomona Basin; a new interconnect between the Pomona Water Reclamation Plant (WRP) and the new recharge basins at the SASG; a distance of approximately 12 miles along existing surface streets; and an interconnect between the P-20 site and the TVMWD Miramar Water Treatment Plant (WTP) in order to blend treated water from the WTP with raw water from the well. Finally, this category includes the construction and operation/maintenance of up to three new monitoring wells in the Pomona Basin within the area of historical high groundwater.

Development of new well (production and monitoring) sites and interconnects would require the delivery of equipment and materials as well as construction workers commuting to the site during the construction phase. Once construction is completed, operation and maintenance of the well sites would be similar to sites identified in Project Category 1, *Pump and Treat in the Pomona Basin*. That is, routine inspections throughout the year and or minor maintenance and cleanup after storm events. Operation of pipelines would be limited to periodic inspections and maintenance of pumps.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

This category of projects consists of the development and implementation of groundwater monitoring program to support the design of new wells and treatment facilities (Project Categories 1 through 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use and monitor groundwater recharge activities at spreading grounds. The groundwater monitoring program includes up to three new monitoring wells in the Pomona Basin in the area of historical high groundwater. The construction and operation of new monitoring wells has been evaluated in conjunction with the construction and operation of new production wells in Project Category 3.

For the purposes of the environmental analysis of the Six Basins Strategic Plan projects, the physical changes in the environment that may occur with development and operation of new monitoring wells, production wells and treatment facilities and/or the pipelines that may need to be developed to interconnect between wells and water treatment plants, and improvements to spreading grounds have been evaluated in Project Categories 1 through 3.

CEQA Guidelines Section 15262, *Feasibility and Planning Studies*, allows such an approach where a planning project such as a groundwater monitoring program, involves only feasibility or planning studies to identify possible future actions which an agency, board, or commission may approve, adopt, or fund. It is the action that results from the adoption and implementation of the program (e.g., new well development, construction of pipelines to connect between wells and water treatment facilities, or the development and/or the expansion of spreading grounds) that would require the environmental evaluation of future actions in a subsequent EIR or Mitigated Negative Declaration.

Therefore, Project Category 4 was evaluated as a planning/programming function only; consisting of the research, planning, report preparation, and site design in support of the adoption, approval or funding of projects identified in the groundwater monitoring program.

4.0.2 Scope of the Environmental Evaluation

In accordance with Section 15126 of the CEQA Guidelines, the *Environmental Impact Evaluation* analyzes the potential direct and indirect impacts as well as the potential for implementation of the Strategic Plan and its related projects to contribute to cumulative environmental effects. The baseline physical environmental conditions upon which the analysis of each environmental topic is based, are those that existed at the time of the publication of the Notice of Preparation (see Appendix A) which was September 2018 (CEQA Guidelines Section 15125(a)).

The Strategic Plan is the Six Basins Watermaster's planning document that sets forth the management strategies and implementation actions that would result in the construction and operation of new facilities/infrastructure or improvements to existing facilities/infrastructure.

The following environmental issues were evaluated in the Program EIR in accordance with CEQA Guidelines Appendix G (as amended in 2018):

- 4.1 Aesthetics
- 4.2 Agricultural/Forestry Resources
- 4.3 Air Quality/Greenhouse Gas/Global Climate Change
- 4.4 Biological Resources
- 4.5 Cultural Resources/Tribal Cultural Resources
- 4.6 Environmental Justice
- 4.7 Geology/Soils/Paleontological Resources/Mineral Resources
- 4.8 Hazards/Hazardous Materials/Wildfire
- 4.9 Hydrology/Water Quality
- 4.10 Land Use/Planning
- 4.11 Noise/Vibration

- 4.12 Population/Housing
- 4.13 Public Services/Recreation
- 4.14 Transportation
- 4.15 Utilities/Service Systems/Energy

4.0.3 Approach to the Environmental Evaluation

Each section of Chapter 4 includes a discussion of the environmental setting, including the regulatory framework, the potential environmental impacts (direct, indirect, and cumulative impacts) that may occur with construction and/or long-term operation of projects. Each section is outlined as follows:

Environmental Setting. Describes the existing physical environmental conditions in the Six Basins project area, as well as the Regulatory Framework under which projects are constructed and operated including federal, state, regional, and local regulations and policies.

Impact Analysis. Evaluates the environmental impacts that may occur with implementation of the proposed projects as outlined in the Strategic Plan. This section begins with the identification of the Thresholds of Significance as outlined in CEQA Guidelines Appendix G. Changes to the existing physical environment that would result with project implementation are evaluated for projects that fall into each of the three Project Categories listed above. Direct, indirect and cumulative impacts are evaluated in this section.

Determination of the Level of Significance Before Mitigation Measures are Implemented. This section provides a conclusion as to the significance of an impact prior to implementation of mitigation measures. Significance criteria used to evaluate impacts are from CEQA Guidelines Appendix G (as amended in 2018) and are categorized as follows:

Significant and Unavoidable: mitigation measures have been identified but impacts would remain significant;

Potentially Significant: mitigation measures have been identified, however, impacts may still be potentially significant at the programmatic level (indicating that additional analysis would be required at such time as the location and/or design elements are known);

Less than Significant with Mitigation: the impact is potentially significant but can be mitigated to a less-than-significant level;

Less than Significant: the impact was found to be less than significant, and no mitigation is required under CEQA but may be recommended; or

No Impact. The project would not have an impact for a particular resource.

Cumulative Impacts. This section provides an evaluation of the project's contribution to an impact associated with growth projections in the region. See Section below on the *Approach to the Cumulative Impact Analysis*.

Mitigation Measures. Mitigation measures are those measures that could avoid, minimize, or reduce an environmental impact. This section starts with the identification of standard conditions of approval or regulatory requirements such as the preparation of Stormwater Pollution Prevention Plans or Water Quality Management Plans that are required by agencies. If residual impacts occur after implementation of conditions of approval, mitigation measures have been identified.

Level of Significance After Mitigation Measures are Implemented. Conditions and mitigation measures for significant project and cumulative impacts must be feasible. This section provides a discussion of the level of impact significance remaining after mitigation measures are implemented.

References. This section provides a list of documents, websites, or personal communication used to evaluate impacts.

4.0.4 Approach to the Cumulative Impact Analysis

CEQA Guidelines Section 15130 states that an EIR must discuss cumulative impacts when the project's incremental effects are cumulatively considerable. A cumulative impact is defined as one that is created as a result of a combination of the proposed project's impacts in conjunction with impacts associated with other past, present or reasonably foreseeable projects. CEQA Guidelines Section 15130(b) outlines the elements necessary to adequately address the significance of cumulative impacts and describes the two methods for the evaluation of these impacts. These are either: (1) a list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projection contained in an adopted General Plan or related planning document which is designed to evaluate regional or area-wide conditions.

Because the Strategic Plan includes a number of projects located within a geographic area at sites in the cities of Claremont, La Verne, Pomona and Upland, the cumulative analysis took the form of a discussion of projections contained in an adopted regional planning document. The planning document used for this analysis was the Southern California Association of Governments *2016-2040 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS) Demographics and Growth Forecast*. The growth forecast provides assumptions regarding population growth and related housing and employment growth that would occur within the cities located within the service areas of the Six Basins Watermaster Parties. SCAG's population, housing and employment projections are described in Section 4.13, *Population and Housing*.

4.0.5 Approach to CEQA Plus Analysis

As discussed in Chapter 1, *Introduction*, the Strategic Plan identifies a number of projects including rehabilitation of groundwater production wells and water treatment facilities that could qualify for funding under the Clean Water State Revolving Fund (CWSRF) Program administered by the State Water Resources Control Board (SWRCB) and partially funded by the US Environmental Protection Agency (USEPA). Projects that qualify to participate in the CWSRF Program are deemed projects under CEQA but because of the federal nexus with the USEPA, must also meet federal environmental laws and regulations.

SWRCB's State Environmental Review Process (SERP) utilizes the environmental documents developed by a lead agency under CEQA as well as documents prepared for compliance with specified federal environmental laws and regulations (also referred to as federal cross-cutters) for its National Environmental Policy Act (NEPA) like process which is referred to as CEQA Plus. The CEQA-Plus process complies with the required elements outlined in 40 CFR Section 35.3140(b) *Environmental Review Requirements, NEPA-like State Environmental Review Process*, and refers to the documents prepared for CEQA as well as the supplemental information provided for compliance with the applicable federal cross cutters authorities.

Program EIR Sections that address the NEPA Plus requirements for environmental review are identified here:

Federal Act/Program	Program EIR Section
Endangered Species Act	Section 4.4, <i>Biological Resources</i>
Section 106 of the National Historic Preservation Act	Section 4.5, <i>Cultural Resources/Tribal Cultural Resources</i>
Clean Air Act	Section 4.3, <i>Air Quality/Greenhouse Gasses/Global Climate Change</i>
Environmental Justice, Executive Order No. 12898	Section 4.6, <i>Environmental Justice</i>
Floodplain Management, Executive Order 11988	Section 4.9, <i>Hydrology/Water Quality</i>
Migratory Bird Treaty Act	Section 4.4, <i>Biological Resources</i>
Protection of Wetlands – Executive Order 11990	Section 4.4, <i>Biological Resources</i>

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4.1 Aesthetics

4.1.1 Introduction

This section describes the environmental and regulatory setting for aesthetics and scenic resources, and evaluates the potential significant impacts associated with implementation of the Six Basin Watermaster’s Strategic Plan and its related projects.

4.1.2 Environmental Setting

Regional Setting

The Six Basins project area is located on a sloping alluvial plain emanating from the San Gabriel Mountains. The most significant visual resources or scenic views in the Six Basins project area are views of the San Gabriel Mountains. The north-south orientation of the major roads in the area including Monte Vista/Padua Avenue, Indian Hill Blvd, Towne Avenue and Garey Avenue provide public views of the mountains along their route. East-west oriented major roadways including Baseline Road, Foothill Blvd and the 210 Freeway also provide public views of the mountains although these views can be interrupted by buildings and trees.

The overlying land uses are largely urban/suburban and there are no forest lands designated within any of the jurisdictions that control land use within the Six Basins project area.

Strategic Plan projects are proposed to be implemented within the cities of Claremont, La Verne, Pomona and Upland. These cities are relatively built out with a variety of urban uses including residential, commercial, institutional and industrial. Figure 3-4 in Chapter 3, *Project Description*, provides an aerial photograph of the Six Basins project area in relation to these cities.

Scenic Resources in the Project Area

Caltrans

The California Department of Transportation (Caltrans) defines a scenic highway as any freeway, highway, road, or other public right-of-way, that traverses an area of exceptional scenic quality. Suitability for designation as a State scenic highway is based on vividness (distinct, diverse and a contrast of visual elements), intactness (a natural landscape free from visual intrusions such as buildings, equipment, grading) and unity (how a project is sensitive and visually harmonious with the natural landscape), as described in Caltrans 2008 Guidelines for Official Designation of Scenic Highways.

There are no officially designated State Scenic Highways within the Six Basins project area, however, because the 210 Freeway is relatively close to the San Gabriel Mountains and

foothills, it is eligible to be listed as a State Scenic Highway Corridor; but has not been officially designated by Caltrans.

City of Claremont

There are no State Scenic Highways in the City of Claremont. The corporate boundary of the City extends into the foothills of the San Gabriel Mountains. The City's 2,000-acre Claremont Hills Wilderness Park is located in the foothills adjacent to the southern edge of the Angeles National Forest that provides open space free from urban intrusion. A portion of the southeast and west sides of the park are adjacent to the Thompson Creek Dam and site of the proposed Thompson Creek Spreading Grounds (TCSG) project.

According to the Claremont general plan *Open Space, Parkland, Conservation, and Air Quality Element*, the City considers views of the San Gabriel Mountains and its foothills to be the predominant scenic vistas in the city. However, because the City is relatively built out with residential and non-residential development, including mature trees, views of the mountains and foothills are somewhat limited under existing conditions. In addition to trees planted on private property and in park/open space areas of the City, there are street trees located in parkways and medians along major corridors. Combined, these trees make up the City's "community forest" that can interrupt long-range views of the mountains and foothills.

La Verne

There are no State Scenic Highways in the City of La Verne. Similar to the City of Claremont, the City of La Verne's corporate boundary extends into the foothills of the San Gabriel Mountains. However, unlike Claremont, the foothills are largely developed with residential subdivisions, golf courses and the Live Oak Reservoir. In this area between La Verne and Claremont, there is an area of unincorporated Los Angeles County (northeast La Verne) that is sparsely developed with residences but contains undeveloped land as well.

The City is in the process of updating its general plan. The general plan update *Conservation and Natural Resources Background Report, Visual Resources and Community Image Section*, states that many of the scenic resources viewed from vantage points in the city are found in the natural areas within the unincorporated areas of Los Angeles County, while within La Verne visual resources include natural parks and trails, creek corridors, as well as other visual elements within the City including trees, landscaping, and structures.

Pomona

According to the City's General Plan, none of the four freeways that traverse the City of Pomona are considered eligible for designation as a State Scenic Highway within the city limits. Although the City contains no officially designated State Scenic Highways, several streets within Pomona are identified as scenic due to the presence of landscaped medians and parkways.

The General Plan program EIR further describes the City as being situated in the Pomona Valley surrounded by the San Jose Hills to the northwest, the Puente Hills to the southwest, and the Chino Hills to the south. When compared to the City's relatively low-scale urban development, these surrounding slopes and the more distant San Gabriel Mountains to the north provide scenic resources. Within the northern portion of the City, views of the Ganesha Hills, which function as a park, are available. Views from the Ganesha Hills looking south include Pomona with the Chino Hills in the distance. Looking northwest, the San Jose Hills in the background can be seen from much of the city, especially in the western and central portions. Views of the Puente Hills and Chino Hills can be seen in the background from all over Pomona, especially in the central and southern parts of the City. Pomona's visual environment therefore includes distinctive topographic features such as hillsides, mountains, valleys, canyons, and other significant natural landforms, which play an important role in the scenic and visual qualities of the City.

In addition to these long-range views of large-scale natural features in the distance, local residents are also affected by their more immediate visual surroundings. Local aesthetics, typically found on a neighborhood level, comprise the City's urban visual character. Such local aesthetics may be affected by Strategic Plan projects that would add new production wells and expand water treatment facilities at locations within the City.

Upland

The City of Upland is located on the upper alluvial fan of San Antonio Creek. The topography of the City is relatively flat to gently sloping to the south. The unincorporated San Bernardino County community of San Antonio Heights extends into the San Gabriel Mountain foothills above Upland. Scenic resources in the City of Upland are of the mountains. The City has designated Euclid Avenue as a Scenic Corridor. Euclid Avenue is located approximately two miles east of the San Antonio Spreading Grounds (SASG) which represents the approximate eastern boundary of the Six Basins project area and would not be adversely affected by the development of any of the Strategic Plan projects. No further discussion of scenic corridors in the City of Upland is warranted.

However, improvements in the SASG to develop the new recharge facilities may have an impact on the views from vantage points within the cities of Claremont and Upland. In addition, although the Strategic Plan does not include specific projects within the City of Upland, new production wells and interconnects may be proposed in the future (Project Category 3).

County of Los Angeles

There are unincorporated pockets of Los Angeles County in a portion of the San Gabriel Mountains foothills between the cities of La Verne and Claremont (i.e., Northeast La Verne, West and North Claremont) that make up a portion of the scenic resource that is the foothills. Although much of this area is undeveloped, there are existing residential subdivisions.

There are also two small unincorporated areas on the north and south sides of Foothill Blvd surrounded by the City of Pomona, however, these are located in urban areas not adjacent to the foothills which are considered a scenic resource.

There are no Strategic Plan projects proposed in the area of Los Angeles County that lay within the Six Basins project area.

County of San Bernardino

The unincorporated San Bernardino County community of San Antonio Heights is located within the Six Basins project area and the western portion of the community is located adjacent to the SASG where new recharge facilities are proposed to be developed. As described above in the Upland discussion, some of these neighborhoods abut the SASG adjacent to the existing mining pits. The northwesterly neighborhood is located proximate to the existing cascading basins below the San Antonio Dam.

Light and Glare in the Project Area

Sources of light within the Six Basins project area are typical of an urban/suburban area where residential and non-residential land uses have been developed. These sources include building lighting, street lighting, parking lot lighting, and industrial and commercial signage. In addition, lights from vehicles along local streets and freeways also contribute to the existing light conditions in the project area. Glare created in the project area is from reflective building materials such as windows, stainless steel or aluminum siding, vehicle windshields in parking lots and along the local roadways, and rooftop solar panels, depending on the position of the panels in relation to the declination of the sun.

Regulatory Framework

State

There are no State designated Scenic Highways or Corridors in or near the project area, therefore, Caltrans requirements do not apply to the Strategic Plan and related projects.

Local

The Six Basins project area encompasses multiple jurisdictions including unincorporated areas of Los Angeles County and San Bernardino County and four incorporated cities. Each of these counties and cities has its own general plan and municipal code that identify goals and policies regarding preservation of scenic resources. Where appropriate, these considered in the evaluation of each Strategic Plan project below under Impact 4.1-3.

4.1.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact to Aesthetics and Scenic/Visual resources if it would result in any of the following:

1. Have a substantial adverse effect on a scenic vista?
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
3. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Impact Evaluation

Impact 4.1-1

Have a substantial adverse effect on a scenic vista? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

Increase Groundwater Production and Treatment Capacity at Reservoir 5 Treatment Facility

This site is approximately 7 acres located in the City of Pomona in an area designated as an Urban Neighborhood, an area developed with a mix of uses. The area includes a mix of commercial, industrial and residential uses. Adjacent to the northwest of the site is a single-family neighborhood and a Salvation Army site with a day care facility. Figure 4.1-1,

Reservoir 5 Site, shows the project area for Reservoir 5. Improvements made by Golden State Water Company (GSWC) at this site will not be constructed any higher than what is currently occupying the site. Therefore, there would likely be no substantial adverse change to an existing scenic vista associated with improvements at Reservoir 5. To ensure that improvements would result in a less than significant impact on a scenic vista, GSWC staff would consult with the City of Pomona through its Development Review process that would include review of plans including construction drawings, site plans, landscape plans etc., typically required of a development application. This requirement is further defined in Section 4.1.5, *Mitigation Measures*, below. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Construct Durward 2 Well and a Wellhead Treatment Facility

This site is approximately ¼ acre located in the City of Pomona, on the west side of Fairplex Drive adjacent to the NE corner of a business park, south of the Metrorail tracks, and west of the Auto Club Raceway (NHRA). The raceway is located within the larger Pomona Fairplex site. Figure 4.1-2, *Durward 2 Site*, shows the project area.

The existing well has been abandoned. GSWC is proposing to use this site as a pipeline connection point, bringing water from the Old Baldy well site (see description below) in a pipeline and blend with water from other wells in the area. The existing pipe will be used as a storage tank. Blended water will then pass into the imported water pipeline. Improvements at this site (including construction and operation), would be either underground or at ground level typical of well site.

To ensure that improvements would result in a less than significant impact on a scenic vista, GSWC staff would consult with the City of Pomona through its Development Review process that would include review of plans including construction drawings, site plans, landscape plans etc., typically required of a development application. This requirement is further defined in Section 4.1.5, Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions, taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Increase Groundwater Production and Treatment Capacity at Lincoln/Mills Treatment Facility

The Lincoln/Mills treatment facility is an air-stripping facility owned by the City of La Verne. Figure 4.1-3, *Lincoln/Mills Site*, shows the project area for the facility consisting of a pump house, reservoir and air stripping towers (approximately 20 feet in height). The towers are behind and below mature trees located along the south side of the site. The site is approximately 0.6 acre located at 2525 N. White Street within an existing residential neighborhood. Adjacent to the site to the north is a small park. The site is surrounded by mature trees. Improvements at this site include expanding the existing air-stripping facility or constructing a granular activated carbon (GAC) facility to remove trichloroethylene TCE.

The project also includes the construction of a new interconnect (underground pipeline) to connect other wells to the treatment facility or to supply product water to other agencies, if necessary. Because the site contains existing facilities and future facilities would not be any more intensive, there would be no substantial adverse effect on an existing scenic vista associated with improvements at the Lincoln/Mills site.

To ensure that improvements would result in a less than significant impact on a scenic vista, the City of La Verne, through its own Development Review process. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Rehabilitate Old Baldy Well and Construct Wellhead Treatment Facility

The Old Baldy well site is located at 5th and C Streets in the City of La Verne and is owned by the City. The City has not produced groundwater from the Old Baldy well since 2002 due to high nitrate and perchlorate concentrations. Figure 4.1-4, *Old Baldy Well Site*, shows existing conditions at the well site.

Note that the aerial photo is older than the site photos which were taken in late 2018. The aerial photo shows existing conditions within the neighborhood. Because there was no production activity at the project site over the past several years, the City used the site for storage. Since then, material has been removed and the site photos best represent existing conditions. The proposed project is to rehabilitate the Old Baldy well and construct new treatment facilities to reduce nitrate and perchlorate concentrations in the groundwater. Once rehabilitated the well could be connected to the Lincoln/Mills treatment facility via underground pipeline. The Old Baldy well site is surrounded by mature vegetation that screens the building and related aboveground infrastructure. Adding a treatment facility such as what is located at the Lincoln/Mills site would also be obscured by the mature vegetation.

To ensure that improvements would result in a less than significant impact on a scenic vista, the City of La Verne, through its Development Review process would evaluate the proposed improvements as set forth in mitigation measure AES-1 that requires a project applicant to design a facility/site in coordination with local jurisdictions, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Rehabilitate Del Monte 4 and Add Arsenic Treatment

The Del Monte treatment facility is a GAC facility owned by GSWC and located at College Avenue and 1st Street in the City of Claremont. GSWC has not produced groundwater from the Del Monte 4 well since 2005 due to high arsenic concentrations. In its current configuration, Del Monte 4 is designed to treat the water for volatile organic compounds such as TCE known to occur in the Pomona Basin. Figure 4.1-5, *Del Monte 4 Site*, shows existing conditions at the larger GSWC pump and treat facility. As shown in the aerial photograph,

the Del Monte site is located in an urban area adjacent to a park complex that includes baseball fields and a dog park. The approximately 3-acre site is surrounded by mature vegetation, predominantly eucalyptus trees, that obscure views of the site. The proposed new treatment facility would not be any taller than existing tanks and buildings on site. Because of these factors, there would likely be no substantial adverse effect on an existing scenic vista associated with improvements at the Del Monte 4 well site.

To ensure that improvements would result in a less than significant impact on a scenic vista, GSWC staff would consult with the City of Claremont through its Development Review process that would include review of plans including construction drawings, site plans, landscape plans etc., typically required of a development application. This requirement is further defined in Section 4.1.5, *Mitigation Measures*, below. Mitigation measure AES-1 requires a project applicant to design a facility/site in accordance with local development standards, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

This category of projects represents improvements that would be undertaken in the SASG and the Thompson Creek Spreading Grounds (TCSG) to enhance stormwater recharge and supplemental water recharge; including the potential to receive treated water from the Pomona WTP at the SASG through a new interconnect (see Project Category 3 for this project). This category also includes expanding capacity at the existing Pedley Spreading Grounds (PSG) site for stormwater recharge from the surrounding urban area, and to develop an area for the recharge of stormwater and supplemental water at the Los Angeles County Fairplex. Both projects are part of the Watermaster Parties' intent to comply with Los Angeles County's MS4 Permit for stormwater recharge from urban areas. The cities overlying the Six Basins project area are all co-permittees on the MS4 Permit.

Enhance Stormwater and Supplemental Water Recharge at the San Antonio Spreading Grounds

The recharge water includes stormwater, imported water, and potentially treated (recycled) water from the Pomona WRP. Figure 2-8, in Chapter 2, *Existing Conditions*, shows the existing recharge facilities within the larger SASG. This figure shows that under existing conditions the SASG is developed with aggregate mine pits, electricity transmission towers/lines, access roads, catch basins and associated water conveyance infrastructure in addition to the natural vegetation in the undisturbed areas. Views of the mountains from locations in the San Antonio Heights neighborhoods on the east side of the SASG, which is adjacent to the project area, are of the mountains that are interrupted from some vantage points by the San Antonio Dam and Southern California Edison (SCE) Transmission towers. The existing recharge basins are near or below the grade of the adjacent neighborhood but

are visible in some views of the area. On the Los Angeles County side of the SASG looking east, views of the mountains and the SASG area are obscured by berms and natural topography; the east side of Mt. Baldy Road is higher than the road and the neighborhoods west of Mt Baldy Road. Thus, views of the future recharge basin may not be adversely affected from a public vantage point.

To maximize recharge operations in the SASG, the Strategic Plan identified an additional recharge facility. The proposed new recharge facility would consist of an approximately 50-acre basin excavated to a depth of up to 200 feet. The exact site is unknown at this time but would be developed within the upper reach of the SASG, below the San Antonio Dam and the existing basins on the Los Angeles County side of the SASG within the City of Claremont. Figure 4.1-6, *San Antonio Creek Wash Area*, shows the proposed area where the new recharge facility would be located in relation to existing basins. Note: the area is approximately 90 acres and the approximately 50-acre basin would be developed within this larger area. The photos embedded in the figure show water recharging on both the Los Angeles County and San Bernardino County sides of the SASG during winter 2019.

The excavated material from the new basin would be crushed on-site then conveyed across the SASG to the existing Holliday Rock conveyor system located on the east side of the San Antonio Channel. It is estimated that the resulting recharge basin can be completed within three to five years, at which time the crusher and conveyor system would be removed and the basin will become operational. Initially, excavation activities and crushing would occur at ground level and may be visible from some residences. However, as the excavation deepens these activities would no longer be visible as the equipment and portable crusher are operated below the ground surface. The conveyor system that would be used to move the crushed material from the basin to the existing Holliday Rock aggregate mine site located east of the San Antonio Creek Channel would be a typical system consisting of a rubberized belt on a series of rollers within a frame that may range in size from 2-4 feet in width and between 2-4 feet above ground surface.

Once operational as a recharge basin, this facility would be similar in design to the existing basins (at or below grade) and there would be no vertical structures associated with the development and operation of the new recharge basin. Because the SASG slopes to the south, the new basin would likely represent a similar situation, that is, they would be near or below the grade of the adjacent neighborhood. Therefore, although the new basin may be within the view of a scenic resource (San Gabriel Mountains) from some vantage points, it would not interrupt that view. Because of these factors, there would be no substantial adverse effect on an existing scenic vista associated with development and operation of the new basin in the SASG.

Enhance Stormwater and Supplemental Recharge at the Thompson Creek Spreading Grounds
Under existing conditions, PVPA uses two small pits (Coyote Pits) to percolate water. Combined, the Coyote Pits are less than 1 acre in size. In order to provide additional recharge capacity, the Thompson Creek project calls for the expansion of the spreading grounds by

approximately 25 acres to a depth of approximately 10 feet. Figure 4.1-7, *Thompson Creek Spreading Grounds Site*, shows the location of the proposed basins. The existing Coyote Pits are located in the northeast corner of the proposed spreading grounds area. The proposed location of the new recharge basins is generally south of the Thompson Creek Dam and north of the Thompson Creek Channel. Existing views from East Pomello Drive, adjacent to the south of the project site, are of the San Gabriel Mountains in the background and in the foreground, natural vegetation and a line of SCE powerline towers and poles. Because East Pomello Drive is on a downward slope from the site, the area to be developed with recharge basins is not visible. Therefore, there would likely be no views of the future infrastructure at Thompson Creek facilities from the south.

Along Mills Road, looking west, views of the proposed project site are visible, however, the proposed recharge basins do not include vertical structures that would obscure views of the mountains. North of the dam at the terminus of Mills Road is an entrance to the Claremont Hills Wilderness Park (CHWP). The park abuts the PVPA Thompson Creek property on the north and west but there are no trails leading from the park to the site. Views of the site are visible from some vantage points along trails, however, under existing conditions, these views are of the dam and related infrastructure (e.g. concrete walls and channels). Therefore, although the new basins would be within the view of some trail users in the CHWP they would not interrupt that view. Because of these factors, there would be no substantial adverse effect to an existing scenic vista associated with development and operation of new basins at the Thompson Creek site.

Enhance Stormwater Recharge at the Pedley Spreading Grounds

The PSG site is located in the City of Claremont and owned by the City of Pomona. The approximately 20-acre site is located adjacent to an elementary school and single-family neighborhood on the east, and single-family neighborhoods on the north and south. To the west is a more rural residential area and the Rancho Santa Ana Botanical Gardens. Figure 4.1-8, *Pedley Spreading Grounds*, shows existing conditions at the project site and in the immediate vicinity. The site includes recharge basins, two reservoirs, a pump house, treatment facility and unpaved roads around the site.

The proposed project is to enhance recharge at the PSG to include stormwater and dry-weather runoff from the surrounding urbanized areas to assist with the requirements of the County of Los Angeles' MS4 Permit, intended to reduce the amount of pollutants that enter the storm drain system. The amount of stormwater and dry-weather runoff available for diversion into the PSG has not yet been characterized. Additionally, the recharge capacity at the PSG is not precisely known and so the facilities and operating schemes to accomplish recharge enhancement have not yet be defined. However, for the purposes of this analysis, it was assumed that stormwater and dry weather runoff would be collected in the existing underground storm drain system and conveyed to the PSG site through new pipeline interconnects between the storm drain system and the recharge basins. Increasing the size and depth of the recharge basins would be done at and below grade and the new conveyance (pipeline) would be underground. Therefore, improvements at the PSG site would not result

in adverse impacts to visual resources including views of the San Gabriel foothills and mountains. Likewise, construction activities would also not adversely impact visual resources because such activities would be short term and no permanent structures would remain. Because of these factors, there would be no substantial adverse effect to an existing scenic vista associated with development and operation of new basins at the PSG site.

Recharge Stormwater and Supplemental Water at the LA County Fairplex

The proposed project is to utilize up to 10 acres at the LA County Fairplex to construct facilities to recharge stormwater and dry-weather runoff, and supplemental water into the Pomona Basin. Figure 4.1-9, *Los Angeles County Fairplex Site*, shows the larger Fairplex site with the approximate location of the former horse racetrack being converted to soccer fields.

The proposed project could also help the City of Pomona to comply with the MS4 permit requirements as a regional stormwater diversion and recharge project. Three potential sources of water are considered for recharge at the Fairplex: 1) Stormwater and Dry Weather Runoff; 2) Recycled Water; and 3) Imported Water.

Four new soccer fields are proposed, overlaying the underground infiltration gallery designed to retain stormwater onsite, for infiltration and/or release into the Thompson Creek channel. Recharge water would be fed into the basins through underground pipelines. Therefore, visual resources including views of the San Gabriel foothills and mountains would not be adversely affected by this project.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: 1) rehabilitating Pomona's P-20 wellhead treatment facility, 2) constructing new production wells; and 3) construction of new underground pipelines to interconnect some sites.

Rehabilitating Pomona's P-20 Wellhead and Treatment Facility

The P-20 well is owned by the City of Pomona and is the only well located in the LCHB. The City has not produced groundwater from the P-20 well since 2000 due to high nitrate concentrations. Figure 4.1-10, *P-20 Well Site*, shows existing conditions at the well site and surrounding area. The project site is surrounded by single-family neighborhoods on the north, west and south and, on the east by Claremont High School and related playing fields and courts. As shown in the photos embedded in the figure, the site is surrounded by mature trees that obscure the site from view from the adjacent homes. These trees may also interrupt views of the mountains from public vantage points around the site.

The proposed project is to rehabilitate the well to return it to production capacity in the Lower Claremont basin by constructing a new ion exchange or biological treatment facility to remove the nitrates. This will give the City of Pomona additional production capacity during periods when surplus water is available for use by Watermaster Parties. In addition, a new interconnect between the P-20 site and the TVMWD Miramar WTP may be developed

to provide treated water to the P-20 site to blend with the raw groundwater as an additional means of treating the groundwater.

To ensure that improvements would result in a less than significant impact on a scenic vista, Pomona staff would consult with the City of Claremont through its Development Review process that would include review of plans including construction drawings, site plans, landscape plans etc., typically required of a development application. This requirement is further defined in Section 4.1.5, *Mitigation Measures*, below. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local development standards, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Construct New Production and Monitoring Wells

The Strategic Plan calls for the construction of up to 12 new production wells in the UCHB, and up to three new monitoring wells in the Pomona Basin within the area of historical high groundwater. However, the number of new wells and their locations are unknown at this time. Therefore, some assumptions have been made regarding location and size in order to assess a typical well site in a residential neighborhood. The infrastructure associated with a well site is shown in Figures 4.1-1 through 4.1-6 and Figure 4.1-10. Assuming that new well sites would likely be developed within existing urban areas including residential neighborhoods, the following are the assumptions used to evaluate potential impacts to scenic resources:

- The well site would be at least $\frac{1}{4}$ acre in size. The aboveground pump and related gauges, etc. would be located in a small scale “pump house”.
- The well site will be surrounded by a wall or fencing with an access gate and landscaped with a combination of groundcover, shrubbery and trees in order for the site to blend into a neighborhood.
- Some related infrastructure such as treatment facilities may be constructed as shown in Figure 4.1-3, *Lincoln/ Mills Site*, Figure 4.1-4, *Old Baldy Well Site*, and Figure 4.1-5 *Del Monte Well Site*.
- The type of landscaping and perimeter enclosure (e.g., walls or fences) shall be identified in coordination with the respective city development codes (see mitigation measure AES-1 in Section 4.1.5 below).

Examples of new production wells come from TVMWD which is in the process of design/build of two new well sites in the City of Claremont. New groundwater wells and related pipelines to interconnect to off-site water treatment plants would be developed underground. Aboveground pumps and related equipment would be housed within a small concrete masonry unit block building that will provide security and sound attenuation. Both well sites include perimeter fencing and access gate and landscaping. Sites would be designed to blend in with the surrounding urban area in which they are placed. To ensure that improvements would result in a less than significant impact on a scenic vista, the

Watermaster Party proposing a new well would consult with city staff of the relevant city to coordinate the development of the site from an aesthetic perspective. This requirement is further defined in Section 4.1.5, *Mitigation Measures*, below. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Construct New Interconnects

New pipeline interconnects would all be developed underground. This would require construction and excavation to place and connect the pipeline. As described in Section 3.6.1, *Construction Activities*, in Chapter 3, *Project Description*, up to 85,000 linear feet (approximately 16 miles) of new pipeline may be installed between wells and treatment plants. Approximate locations are shown in Figure 3-5 and Figure 3-6 in Chapter 3. New interconnections would be constructed for temporary surplus projects such as that described above for the P-20 well site (approximately 1,500 to 3,000 feet); the supplemental water recharge project to convey recycled water from the Pomona Water Reclamation Plant to the SASG (approximately 68,000 feet); and the conjunctive water management project to develop two new wells and related treatment facilities in the Pomona Basin with related pipelines to connect the new wells to existing City of Pomona lines (approximately 10,000 to 14,000 feet).

New interconnects between wells and treatment facilities would all be underground. Therefore, this set of projects would not result in an adverse impact on scenic vistas.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to future environmental review including the potential impacts to Aesthetics -Scenic Vistas. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.1-2

Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway? (Threshold 2)

Substantiation

Determination: No Impact in all Project Categories.

A review of Caltrans List of Officially Designated and Eligible Scenic Highways showed that there no designated Scenic Highways within the Six Basins project area. The 210 Freeway is listed as being eligible, however, to date, it has not been officially designated. Therefore, there would be no impact to scenic resources as viewed from a State Scenic Highway.

Impact 4.1-3

In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects consist of upgrades to existing well sites and treatment facilities and would not require the development of any new sites. Potential impacts associated with project development is discussed in Impact 4.1-1 above. To ensure that improvements would result in a less than significant impact on a scenic vista, a Watermaster Party proposing such upgrades to existing sites would consult with the appropriate city staff through a city's Development Review process that would include review of plans including construction drawings, site plans, landscape plans etc., typically required of a development application. This requirement is further defined in Section 4.1.5, *Mitigation Measures*, below. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions to reduce potential visual effects, to the extent feasible taking into consideration the needs of the project. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects consist of expanding stormwater and supplemental water recharge basins in the TCSG, and at the existing PSG, and a new recharge facility at the SASG and the Los Angeles County Fairplex site. There are no structures such as water towers, tanks or light poles that would adversely impact the surrounding developed area in which they are located, and no lighting is proposed. In the short term, during construction, grading and excavation to create the new recharge basins would remove existing vegetation. This could result in a change in views of the sites from locations where public views of the project sites area available. This

would apply generally to the new recharge basins in the SASG and TCSG. Although, both sites are already developed with water conservation and flood control facilities, they are located in areas that are heavily vegetated. Removal of vegetation and replacement with recharge basins may result in an adverse impact on visual character. Therefore, prior to approval of the final design of the SASG and TCSG recharge basins, the Watermaster Party undertaking the project shall design the facilities (mitigation measure AES-1) to include landscaping around the basins where views may be affected.

The PSG site is in an area with perimeter vegetation that obscures the site from public view. While the proposed facilities at the Fairplex project would be developed underground. Therefore, these two projects would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Project Category 3: Temporary Surplus

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects consist of rehabilitating the existing Pomona's P-20 Wellhead and Treatment Facility in Claremont; constructing new production wells and a treatment facility in the Pomona Basin along with three new monitoring wells in the area of historical high groundwater; constructing new production wells in the Upper Claremont Heights basin; and constructing new interconnects between wells, and one between the existing Pomona Water Treatment Plant and the San Antonio Spreading Grounds.

The proposed P-20 well project is to rehabilitate the well to return it to production capacity in the LCHB by constructing a new ion exchange or biological treatment facility to remove the nitrate. This will give the City of Pomona additional production capacity during periods when surplus water is available. Impacts associated with the rehabilitation of the P-20 well would be similar to those identified under Project Category 1, *Pump and Treat in the Pomona Basin*. Mitigation measure AES-1 requires a project applicant to design a facility/site in coordination with local jurisdictions to reduce potential visual effects, to the extent feasible taking into consideration the needs of the project. With implementation of AES-1, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Other projects that would be initiated by Watermaster Parties are the construction of new production and monitoring wells. These new wells would be developed in various locations throughout the project area and would be subject to mitigation measure AES-1. Therefore, with implementation of Mitigation measure AES-1, this impact would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project

Categories 1 and 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be developed but are not a part of the current list of Strategic Plan projects, would be subject to future environmental review including the potential to degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan* to substantially degrade the existing visual character or quality of public views.

Impact 4.1-4

Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Threshold 4)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects consist of upgrades to existing well sites and treatment facilities and would not require the development of any new sites. The sites are located within an urban area developed with residential, commercial, or industrial uses. Implementation of projects within this category may result in new exterior nighttime lighting for operational and security purposes within the existing site. The increase in lighting may result in lighting spilling over onto adjacent sites. Therefore, increased lighting within an existing site represent a potentially significant lighting impact. In addition, during construction, lighting may be required intermittently if work crews must work after dark to complete a task.

As individual projects are proposed, the Watermaster Party proposing the project would meet with development services or planning staff of the respective city or county to ascertain site development requirements including height and location of light poles, types of building materials (non-reflective), and landscaping (i.e. trees for screening the site if applicable). Measures have been identified to address the potential for light and glare to adversely affect adjacent properties in Section 4.1.5, *Mitigation Measures*. These are mitigation measures AES-2 through AES-4 that would be implemented to the extent feasible taking into consideration the needs of the project. Compliance with these measures would ensure that impacts associated with light and glare would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact.

These projects consist of expanding stormwater and supplemental water recharge basins in the TCSG and PSG, and new facilities in the SASG and at the Los Angeles County Fairplex site. There are no structures such as water towers, tanks or light poles that would adversely impact the surrounding developed area in which they are located, and no lighting is proposed. Any glare that may be reflected off water in the basins would be minimal because the basins are not intended to be filled with water year-round, only during storm events or when supplemental water is being spread. During construction, lighting may be required intermittently if work crews must work after dark to complete a task. However, this is highly unlikely and therefore would constitute an incidental, short-term impact that would not be significant. Therefore, impacts associated with Stormwater and Supplemental Recharge projects in the Six Basins project area would be less than significant and no mitigation is required.

Project Category 3: Temporary Surplus

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects consist of rehabilitating the existing Pomona’s P-20 Wellhead and Treatment Facility in Claremont, constructing new production wells and a treatment facility in the Pomona Basin, along with three new monitoring wells in the area of historical high groundwater; production wells in the Upper Claremont Heights basin; and constructing new interconnects between wells and water treatment plants, and one between the existing Pomona Water Treatment Plant and the San Antonio Spreading Grounds.

Rehabilitation of the P-20 well site would require similar construction activities as Pump and Treat projects (Project Category 1). Therefore, the Watermater Party (City of Pomona) would discuss the project with the City of Claremont to ascertain site development requirements including height and location of light poles, types of building materials (non-reflective), and landscaping (i.e. trees for screening the site if applicable). Measures identified in Section 4.1.5, *Mitigation Measures* to address the potential for light and glare to adversely affect adjacent properties include mitigation measures AES-2 through AES-4. Compliance with these measures would ensure that impacts associated with light and glare would be less than significant.

Development of new production wells would require new construction of wells, pumps, interconnects and pumphouse for example. Development of new monitoring wells would require new construction of wells, pumps and pumphouse. The result would be similar to well sites that already exist in the project area such as the Old Baldy site (Figure 4.1-3) and the Lincoln/Mills site (Figure 4.1-4). Therefore, as individual projects are proposed, the Watermater Party proposing the new well project would meet with development services or planning staff of the respective city to ascertain site development requirements including height and location of light poles, types of building materials (non-reflective), and landscaping (i.e. trees for screening the site if applicable). Measures have been identified to address the potential for light and glare to adversely affect adjacent properties in Section

4.1.5, *Mitigation Measures*. These are mitigation measures AES-2 through AES-4 that would be implemented to the extent feasible taking into consideration the needs of the project. Compliance with these measures would ensure that impacts associated with light and glare would be less than significant.

New interconnects between wells and water treatment plants, and between the existing Pomona WRP and the new SASG would not create new light and glare as these facilities would be underground.

During construction, lighting may be required intermittently if work crews must work after dark to complete a task. However, this is highly unlikely and therefore would constitute an incidental, short term impact that would not be significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be developed but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential for a project to create a new source of substantial light or glare. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan* regarding the creation of new light and glare.

4.1.4 Cumulative Impacts

Scenic Vistas and Scenic Quality

With regard to the overall visual and scenic character of the project area, cumulative development may result in more alterations of the existing visual quality of the project area and adversely affect scenic quality. The Six Basins project area is largely urbanized with residential, commercial and industrial land uses. Although future growth in the project area has slowed due in part to the limited amount of vacant land left to develop, there are still areas, particularly along the foothills of the San Gabriel Mountains where development may still occur. This would likely be additional single-family neighborhoods similar to those that have been developed in the foothills already.

With the exception of the proposed TCSG and SASG improvements, there are no Strategic Plan projects located in areas considered to be scenic, or that would adversely affect (obscure views) of the scenic San Gabriel Mountains and foothills. Project Category 1 projects would not result in substantial degradation of existing scenic vistas because these all consist of improvements at existing well and/or water treatment facilities, and where

applicable, proposed improvements may be subject to the implementation of mitigation measure AES-1 if they would result in significant impacts to views, scenic vistas or the character of an existing area. Likewise, the rehabilitation of the P-20 well site and development of new production wells would be subject to the same measure. Therefore, with implementation of mitigation measure AES-1, implementation of the Strategic Plan and related projects would not contribute to the severity of a cumulative impact on Aesthetics.

Thompson Creek Spreading Grounds

As discussed under Impact 4.-1-1, the area of the TCSG where the earthen basins would be developed is obscured from views looking from the south, and partially obscured from the west and east by topography. The spreading grounds would be visible from vantage points along the upper stretch of Mills Road and along trails within the Claremont Hills Wilderness Park. Views of the site are visible from some vantage points along trails, however, under existing conditions, these views are of the dam and related infrastructure (e.g. concrete walls and channels). Adding earthen basins generally between the dam and the channel would remove vegetation, however, there is no significant infrastructure to be developed that would further urbanize the site. Where applicable, proposed improvements may be subject to the implementation of mitigation measure AES-1 if they would result in significant impacts to the character of an existing area. Therefore, improvements in the Thompson Creek Wash would not significantly contribute cumulatively to impacts to scenic vistas or scenic quality.

San Antonio Creek Spreading Grounds

As discussed under Impact 4.1-1, the SASG south of the dam is not a pristine area. The total area of the SASG is approximately 1.4 square miles or 980 acres. The area is disturbed in a number of places by a variety of land uses. There are currently two areas below the San Antonio Dam where spreading occurs (see Figure 4.1-6). In addition, the SASG area is developed with a series of aggregate mine pits along the east side of the wash, several access roads, the concrete lined San Antonio Channel, SCE towers, and a number of unpaved access roads. The new recharge facility would be developed at grade and the neighborhoods and public streets that are located adjacent to the SASG are located above the grade of the wash. Therefore, although the new recharge facility will be visible within the scenic vista that is the San Gabriel Mountains and foothills, it would not obscure views. Where applicable, proposed improvements may be subject to the implementation of mitigation measure AES-1 if they would result in significant impacts to the character of an existing area. Therefore, the SASG improvements would not significantly contribute cumulatively to impacts to scenic vistas or scenic quality.

Light and Glare

A number of the Strategic Plan projects consist of improvements to existing facilities or the development of new production wells. Under existing conditions, these facilities are behind walls and mature landscaping. Development of new wells and related facilities would be

treated in a similar manner. Lighting associated with these projects are limited to security lighting. New construction would be painted a neutral color to eliminate the possibility of creating new sources of glare. Regarding spreading grounds projects, there is no lighting associated with these projects, and glare that may be reflected off water in the basins would be minimal because the basins are not intended to be filled with water year round, only during storm events or when supplemental water is being spread. Therefore, the proposed Strategic Plan and related project would not significantly contribute to the creation of light and glare.

4.1.5 Mitigation Measures

Article 5 of the California Government Code entitled *Regulation of Local Agencies by Counties and Cities*, sets forth the requirements for compliance with applicable county and city building and zoning ordinances. Watermaster Parties that will be responsible for the construction, operation and maintenance of new projects under the Strategic Plans are specifically exempt from such ordinances under Section 53091(d) and (e) which specify that “(d) building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency, and (e) zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities ...” However, Watermaster Parties with existing facilities have worked with local jurisdictions to mitigate potential impacts on the surrounding neighborhoods through compliance with standards and requirements set forth by State agencies and regional agencies (e.g. SCAQMD and RWQCB), for impacts related to air quality, noise, and control of stormwater. Regarding Aesthetics and Light and Glare, at existing facilities, Watermaster Parties have utilized landscaping, fencing and other techniques to minimize the look of their facilities in neighborhoods. Mitigation measures are intended to allow Watermaster Parties the flexibility to operate facilities in a safe and efficient manner while still being “good neighbors”.

Facilities and Landscaping

AES-1 Proposed facilities, including walls, gates, treatment facilities, etc., shall be designed in accordance with local design standards in order to be complementary to the local area. Landscaping shall be installed and maintained in conformance with local landscaping design guidelines as appropriate to screen views of new facilities from surrounding areas to the extent feasible taking into consideration the needs of the project and except where such compliance is not required by California law.

Light and Glare

AES-2 To avoid any light intrusion to surrounding land uses, on project sites where permanent exterior lighting is proposed, lights shall be shielded and directed downward and toward the interior of a site. The maximum light allowed beyond

the property boundary adjacent to sensitive light receptors shall be as stipulated in local design guidelines or development code and except where such compliance is not required by California law.

- AES-3 Development of Strategic Plan projects shall comply with existing and future lighting ordinances, to the extent feasible to taking into consideration the needs of the project.
- AES-4 Any new structures that may require large facades shall not be constructed using highly reflective building materials.

4.1.6 Level of Significance After Implementation

Less than Significant. Implementation of mitigation measures AES-1 and AES-4 will ensure that proposed projects design and development are coordinated with city staff on the location of upgrades to existing facilities and development of new facilities (wells, treatment facilities, spreading grounds).

4.1.7 References

Sources used in the preparation of this section are as follows:

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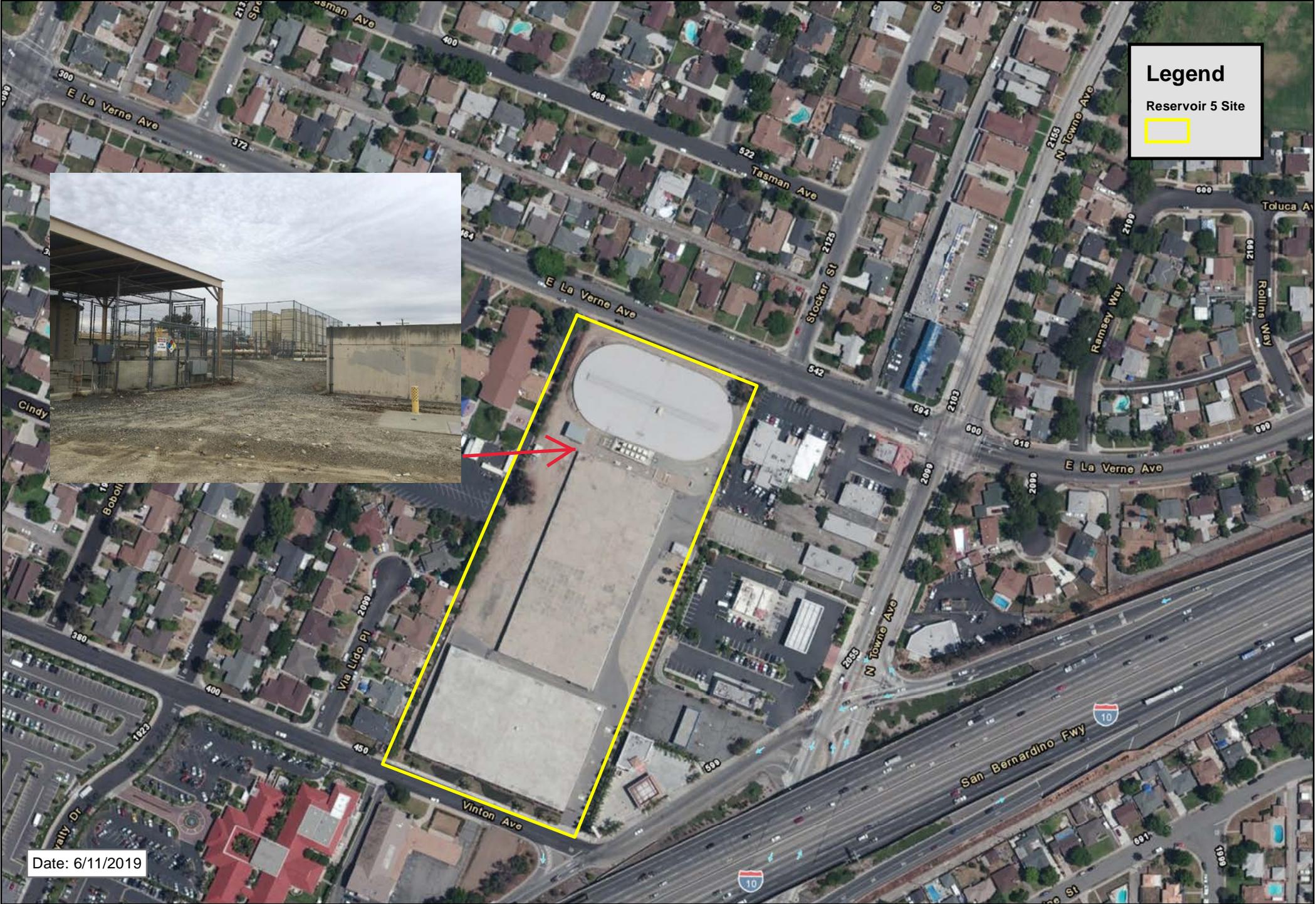
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WEI, 2017, *Strategic Plan for the Six Basins*.

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Legend
 Reservoir 5 Site


Date: 6/11/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 222 feet

Figure 4.1-1
Reservoir 5 Site

6 Basins
Strategic Plan - Program EIR



Legend
 Durward 2 Site

Date: 6/11/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 89 feet

Figure 4.1-2
Durward 2 Site

6 Basins
Strategic Plan - Program EIR



Legend

Lincoln/Mills Site



Date: 6/11/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 89 feet

Figure 4.1-3
Lincoln/Mills Site

6 Basins
Strategic Plan - Program EIR



Legend

Old Baldy Site

Date: 6/12/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 67 feet

Figure 4.1-4
Old Baldy Site

6 Basins
Strategic Plan - Program EIR



Legend
 Del Monte 4 Site


Date: 6/12/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 146 feet

Figure 4.1.5
Del Monte 4 Site

6 Basins
Strategic Plan - Program EIR



Legend

Thompson Creek Spreading Ground Sites

- East Site
- West Site

Date: 6/11/2019

Imagery Date: 8/6/2017

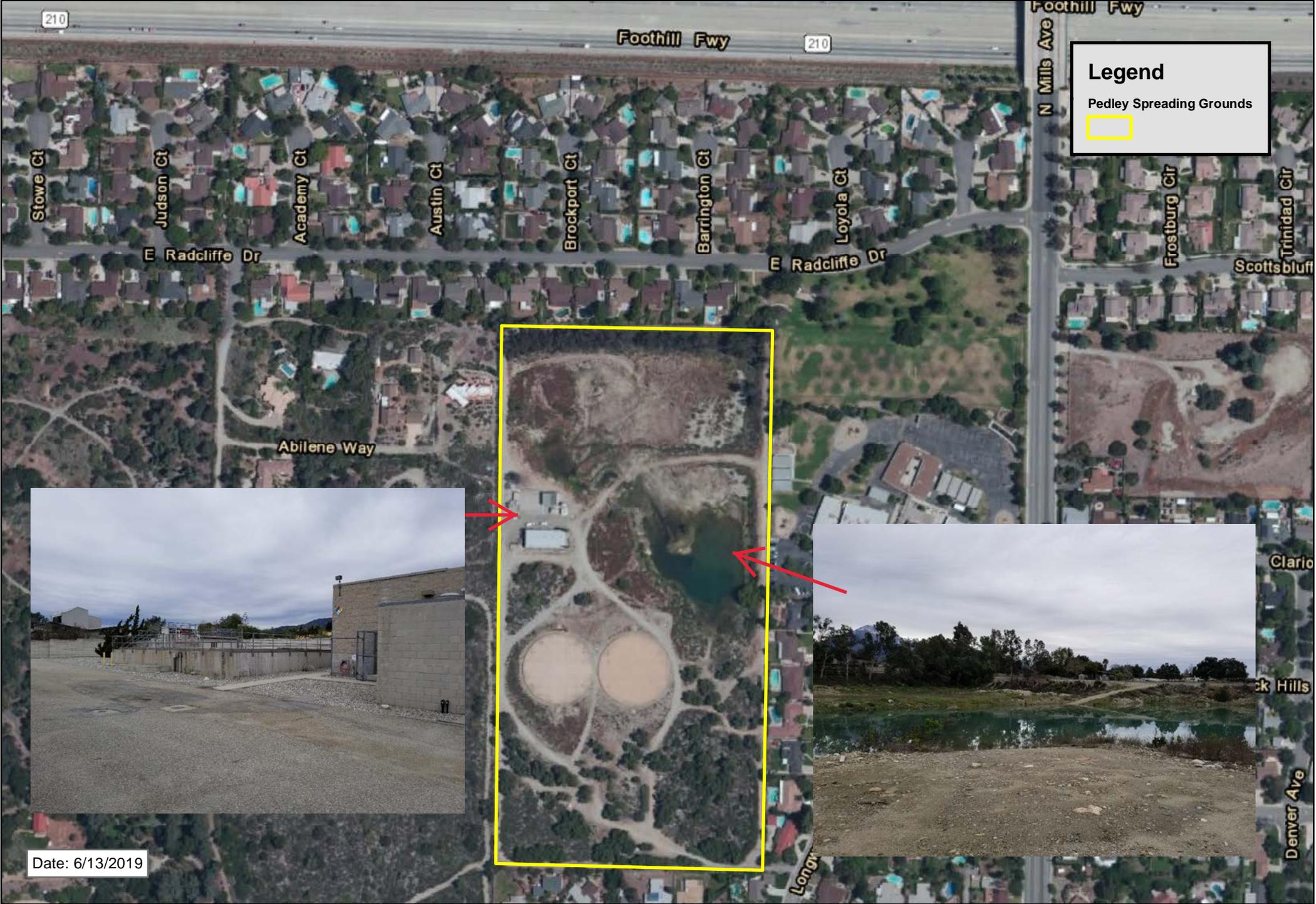
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 584 feet

Figure 4.1-7
Thompson Creek Spreading Grounds

6 Basins
Strategic Plan - Program EIR



Date: 6/13/2019

Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 292 feet

Figure 4.1-8
 Pedley Spreading Grounds

6 Basins
 Strategic Plan - Program EIR



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 584 feet

Figure 4.1-9
 Los Angeles County Fairplex

6 Basins
 Strategic Plan - Program EIR



Date: 6/13/2019



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,



1 inch = 122 feet

Figure 4.1-10
P-20 Well Site

6 Basins
Strategic Plan - Program EIR

4.2 Agriculture and Forestry Resources

Therefore, the Six Basins project area falls under the authority of both the Los Angeles RWQCB and the Santa Ana River RWQCB.

4.2.1 Introduction

This section describes the environmental setting for agricultural land and forestry resources, as well as potential impacts associated with implementation of the proposed Project.

4.2.2 Environmental Setting

Existing Conditions

The following describes agricultural land classifications under the State’s Farmland Mapping and Monitoring (FMMP) and Williamson Act Programs:

Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC), administers the FMMP. The FMMP monitors the conversion of the State’s farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The FMMP maintains an inventory of State agricultural land and updates its “Important Farmland Series Maps” every two years. Based on the date of the publication of the NOP for the Strategic Plan Program EIR, the latest year identified was 2016. Important farmlands are divided into the following five categories based on their suitability for agriculture:

Prime Farmland. Prime Farmland is land with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date (2016).

Farmland of Statewide Importance. Farmland of Statewide Importance is similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date (2016).

Unique Farmland. Unique Farmland consists of lesser quality soils used for the production of the State’s leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Unique Farmland has even lesser quality soils and produces the state’s leading agricultural crops. This land is usually irrigated, but also includes non-irrigated orchards and vineyards. Land

in this category must have been cropped at some time during the four years prior to the mapping date (2016).

Farmland of Local Importance. Farmland of Local Importance includes areas of soil that meet all the characteristics of Prime, Statewide or Unique and which are not irrigated. Farmlands not covered by above categories but are of high economic importance to the community. These farmlands include dryland grains of wheat, barley, oats, and dryland pasture. This land that is important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Grazing Land is land on which the existing vegetation is suited to the grazing of livestock.

Urban and Built-up Lands. Urban and Built-up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, and institutional facilities; as well as cemeteries, airports, golf courses sanitary landfills, sewage treatment, and water control structures.

Other Lands. This land does not meet the criteria of any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.

A review of the State's Farmland Mapping and Monitoring concluded that there is no Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance in the project area. In the San Antonio Wash, the area immediately below the San Antonio dam located within the San Bernardino County, is classified as Grazing Land. The rest of the wash area in the City of Upland is classified as Other Land. (ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/sbd16_so.pdf)

The Los Angeles County Important Farmland Map, shows the entire Six Basins area is classified as Other Lands. (<ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/los16.pdf>)

This section discusses the potential impacts on Agriculture and Forestry Resources that may be associated with the implementation of the Strategic Plan, including the expansion of existing spreading grounds and the development of new spreading grounds; the development of new monitoring or extraction wells; and the construction of new inter-connections between water supply agencies.

4.2.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact to Agriculture and Forestry resources if it would result in any of the following:

1. Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
2. Conflict with existing zoning for agricultural use or a Williamson Act contract?
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
4. Result in the loss of forest land or conversion of forest land to non-forest use?
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Impact Evaluation

Because the results of the evaluation of potential impacts to farmland and/or forest land were that there would be no project related impacts to either resource, this section was not separated by Project Category.

Impact 4.2-1

Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (Threshold 1); or Conflict with existing zoning for agricultural use or a Williamson Act contract? (Threshold 2)

Substantiation

Determination: No Impact for all Project Categories.

A search of the California Department of Conservation, Farmland Mapping and Monitoring Program website <https://www.conservation.ca.gov/dlrp/fmmp> showed that there is no Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance in the project area. In the San Antonio Wash, the area immediately below the San Antonio dam located within the San Bernardino County, is classified as Grazing Land. The rest of the wash area in the City of Upland is classified as Other Land. In addition, the

Los Angeles County map <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/los16.pdf>, showed that the entire Six Basins area within Los Angeles County is classified as Other Lands. Therefore, implementation of the Strategic Plan would not result in the conversion of farmland.

Regarding the zoning for agricultural use or impacts on sites under Williamson Act contracts, a review of city zoning maps for the cities of Claremont, La Verne, Pomona and Upland revealed that there are no project sites identified in the Strategic Plan that are zoned for agricultural uses or under Williamson Act contract. Therefore, implementation of the Strategic Plan and related projects would not result in any conflict with zoning for agricultural use or impact any sites under contract.

Impact 4.2-2

Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (Threshold 3); or Result in the loss of forest land or conversion of forest land to non-forest use? (Threshold 4)

Substantiation

Determination: No Impact for all Project Categories.

The Six Basins project area is located on an alluvial fan emanating from the San Gabriel Mountains. The overlying land uses are largely urban/suburban and there are no forest lands designated within any of the jurisdictions that control land use within the Six Basins project area. Therefore, implementation of the Strategic Plan and related projects would not result in the loss of forest land or conversion of forest land to non-forest use.

Impact 4.2-3

Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (Threshold 5)

Determination: No Impact.

Substantiation

Determination: No Impact for all Project Categories.

As discussed under Impacts 4.2-1 and 4.2-2, implementation of the Strategic Plan would not result in impacts on farmland or forest land as there are no properties with this designation within the Six Basins project area. There are a few remnant groves located within the Canyon Basin area, however, none of the projects identified in the Strategic Plan and related projects would adversely affect these properties. Therefore, there would be no impact.

4.2.4 Cumulative Impacts

Because implementation of the Strategic Plan and related projects would not result in impacts to Agriculture or Forestry Resources, the proposed project would not contribute to any cumulative impacts.

4.2.5 Mitigation Measures

No impacts to agriculture or forestry resources would result with implementation of the Strategic Plan for the Six Basins. Therefore, no mitigation measures have been identified.

4.2.6 Level of Significance After Implementation

No adverse impacts would occur.

4.2.7 References

Sources used in the preparation of this section are as follows:

California Department of Conservation, Farmland Mapping and Monitoring Program
website <https://www.conservation.ca.gov/dlrp/fmmp>.

Los Angeles County: (<ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/los16.pdf>)

San Bernardino County: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/sbd16_so.pdf

City of Claremont, *Zoning Map*, 2014

<https://www.ci.claremont.ca.us/home/showdocument?id=1526>

City of La Verne, *Zoning Map*, 2016

<https://www.ci.la-verne.ca.us/index.php/documents/community-development/214-zoning-map-certified-2016/file>

City of Pomona, *Zoning Map*, 2018, [https://pomona-](https://pomona-utilities.maps.arcgis.com/apps/webappviewer/index.html?id=13bf54e995f74891bdf5b3bddf90522a)

[utilities.maps.arcgis.com/apps/webappviewer/index.html?id=13bf54e995f74891bdf5b3bddf90522a](https://pomona-utilities.maps.arcgis.com/apps/webappviewer/index.html?id=13bf54e995f74891bdf5b3bddf90522a)

City of Upland, *Zoning Map*, 2015,

<https://www.ci.upland.ca.us/uploads/files/Zoning%20Map%20081616.pdf>

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4.3 Air Quality / Greenhouse Gas Emissions / Global Climate Change

4.3.1 Introduction

This section describes the environmental setting for the South Coast Air Basin (Air Basin) and the South Coast Air Quality Management District's (SCAQMD) ongoing monitoring of air quality in the Air Basin. The environmental setting section also describes existing conditions and regional programs and policies to reduce Greenhouse Gas Emissions and the Strategic Plan projects' contribution to Global Climate Change.

The State Water Resources Control Board (SWRCB) uses the CEQA review process and compliance with federal environmental laws and regulations to satisfy the environmental requirements of the Clean Water State Revolving Fund (CWSRF) Program Operating Agreement between the EPA and SWRCB. The CWSRF Program is partially funded by a capitalization grant from EPA. The issuance of funds from the CWSRF Program is equivalent to a federal action, and thus, compliance with federal environmental laws and regulations is required for projects being funded under the CWSRF Program.

Because some Strategic Plan projects may require review by SWRCB in the regulatory compliance procedures known as CEQA-Plus, the Air Quality Impact Analysis included the evaluation of the Strategic Plan and related projects included consistency/compliance with the federal Clean Air Act (CAA). CAA directs the US Environmental Protection Agency (EPA) to set ambient air quality standards, which are airborne pollutant levels that are sufficient to protect the public health and welfare. Then, each state must develop a State Implementation Plan (SIP), describing how it will attain, maintain and enforce the air quality standards. In California, developing the SIP and implementing its provisions for controlling direct and indirect emissions is done in consultation with the California Air Resources Board (CARB) and air quality management districts including the SCAQMD. Compliance/consistency with relevant air quality standards and implementation plans is evaluated herein, based on the Air Quality Impact Analysis included in Program EIR Appendix B1. The Greenhouse Gas Analysis is included in Appendix B2.

4.3.2 Environmental Setting

Regional Setting

Climate

The Six Basins project area is located in the Air Basin, a 6,745-square mile area that includes portions of Los Angeles, Riverside, and San Bernardino counties, and all of Orange County within the jurisdiction of SCAQMD. The Air Basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, respectively.

The regional climate has a substantial influence on air quality in the Air Basin. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures in the Air Basin vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the Air Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the Air Basin have recorded maximum temperatures above 100°F.

Although the climate can be characterized as semi-arid, the air near the land surface is quite moist on many days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Air Basin climate. Humidity restricts visibility in the Air Basin, and the conversion of sulfur dioxide to sulfates is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the region's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in the City of Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the Air Basin with frequency being higher near the coast.

The distinctive climate of the project area and the larger Air Basin is determined by its terrain and geographical location. The Air Basin is located on a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

Regional Air Quality

The US Environmental Protection Agency (EPA) has established national ambient air quality standards (NAAQS) for the most common air pollutants, including carbon monoxide, lead, ozone, particulate matter, nitrogen dioxide, and sulfur dioxide which are known as criteria pollutants. In addition, CARB has established its own standards for these criteria pollutants. Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria

pollutants, their typical sources, and health effects are identified in Table 4.3-1, *State and National Criteria Air Pollutants Standards, Effects and Sources*. Table 4.3-1 lists the criteria pollutants and the NAASQ and California Ambient Air Quality Standards (CAAQS).

In addition, SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Lead (Pb) air monitoring sites throughout the air district. The Six Basins project area is located within the Source Receptor Areas (SRA) 10 and 32. Within SRA 10, SCAQMD Pomona/Walnut Valley station is a long-term air quality monitoring site for O₃, CO, and NO₂. Within SRA 32, the SCAQMD Northwest San Bernardino Valley station monitors O₃, CO, NO₂, and PM₁₀. Relative to the project area, the nearest long-term air quality monitoring site for PM_{2.5} is SCAQMD East San Gabriel Valley 1 (SRA 9) monitoring station. Table 4.3-2, *Project Area Air Quality Monitoring Summary 2017-2019*, lists the pollutants monitored by SCAQMD, and the most recent three (3) years of data available from monitoring stations. Data for O₃, CO, NO₂, PM₁₀, and PM_{2.5} for 2015 through 2017 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO₂ was omitted as attainment is regularly met in the Air Basin and few monitoring stations measure SO₂ concentrations.

Finally, the determination of whether a region's air quality is healthful or unhealthy is determined by comparing contaminant levels in ambient air samples to the State and federal standards presented in Table 4.3-1. Table 4.3-3, *Attainment Status of Criteria Pollutants in the Air Basin*, shows State and federal designations for attainment. Attainment status for a pollutant means that an Air District meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted. A SIP outlines the measures that the State will take to improve air quality. Once nonattainment areas meet the standards and additional re-designation requirements, the EPA will designate the area as a maintenance area.

Table 4.3-1 State and National Criteria Air Pollutants Standards, Effects and Sources

Pollutant	Average Timing	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	--	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NOx) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Average	0.030 ppm	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	0.75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	--	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Average	--	0.03 ppm		
Respirable Particulate Matter (PM10)	24 hours	50 µg/m3	150 µg/m3	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Average	20 µg/m3	--		
Fine Particulate Matter (PM2.5)	24 hours	--	35 µg/m3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
	Annual Average	12 µg/m3	15 µg/m3		
Lead	Monthly Average	1.5 µg/m3	--	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	--	1.5 µg/m3		
Hydrogen Sulfide	1 hour	0.03 ppm	No Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Geothermal Power Plants, Petroleum Production and refining.
Sulfates	24 hours	25 µg/m3	No Standard	Breathing difficulties, aggravates asthma, reduced visibility.	Produced by the reaction in the air of SO2.
Visible Reducing Particles	8 hours	Extinction of 0.23/km; visibility of 10 miles or more	No Standard	Reduces visibility, reduced airport safety, lower real estate value, discourages tourism.	See major sources under PM2.5.

Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-2.

Table 4.3-2 Project Area Air Quality Monitoring Summary 2017-2019

Pollutant	Standard ¹	Year ²		
		2017	2018	2019
O ₃				
Maximum Federal 1-Hour Concentration (ppm)		0.147	0.112	0.096
Maximum Federal 8-Hour Concentration (ppm)		0.114	0.081	0.083
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	18	7	1
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	35	10	12
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	2.0	2.1	1.7
Maximum Federal 8-Hour Concentration	> 20 ppm	1.6	1.8	1.3
NO ₂				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.081	0.068	0.064
Annual Federal Standard Design Value		0.021	0.019	0.018
PM ₁₀				
Maximum Federal 24-Hour Concentration (µg/m ³)	> 150 µg/m ³	106	73	125
Annual Federal Arithmetic Mean (µg/m ³)		31.5	32.3	28.1
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m ³	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m ³	26	14	7
PM _{2.5}				
Maximum Federal 24-Hour Concentration (µg/m ³)	> 35 µg/m ³	44.80	47.90	41.30
Annual Federal Arithmetic Mean (µg/m ³)	> 12 µg/m ³	14.43	14.31	12.70
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m ³	7	5	5

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-4.*

Notes:

1. ppm = Parts Per Million; µg/m³ = Microgram per Cubic Meter
2. Data for O₃, CO, NO₂, PM₁₀, and PM_{2.5} was obtained from SCAQMD Air Quality Data Tables.

Local Setting

The Six Basins project area is located in the Eastern San Gabriel Valley (cities of Claremont, La Verne, and Pomona, and small Los Angeles County unincorporated areas) and the Western San Bernardino Valley (City of Upland and the San Bernardino County unincorporated community of San Antonio Heights). The project area is bounded on the north by the San Gabriel Mountains that affect wind and rain patterns.

The Six Basins project area is located within SRA 10 and SRA 32. Within SRA 10, the SCAQMD Pomona/Walnut Valley station is a long-term air quality monitoring site for O3, CO, and NO2. Within SRA 32, the SCAQMD Northwest San Bernardino Valley station monitors O3, CO, NO2, and PM10.

Relative to the project area, the nearest long-term air quality monitoring site for PM2.5 is SCAQMD East San Gabriel Valley 1 (SRA 9) monitoring station. Table 4.3-2 above lists the pollutants monitored by SCAQMD, and the most recent three (3) years of data available from monitoring stations. The table identifies the number of days ambient air quality standards were exceeded for the project area, which is considered to be representative of the local air quality.

Table 4.3-3 Attainment Status of Criteria Pollutants in the Air Basin

Criteria Pollutant	State Designation ¹	Federal Designation ¹
Ozone – 1-hour standard	Nonattainment	-- ²
Ozone – 8-hour standard	Nonattainment	Nonattainment
Particulate Matter (PM10)	Nonattainment	Attainment
Particulate Matter (PM2.5)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO2)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO2)	Unclassifiable/Attainment	Unclassifiable/Attainment
Lead (Pb) ³	Attainment	Unclassifiable/Attainment

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-3.*

Notes:

1. See Air Quality Impact Analysis Appendix 2.1 for a detailed map of State/National Designations within the Air Basin.
2. The national 1-hour O3 standard was revoked effective June 15, 2005.
3. The federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

Greenhouse Gas Emissions/Global Climate Change

Global Climate Change (GCC) refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO2 (carbon dioxide), N2O (nitrous oxide), CH4 (methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.

These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth’s atmosphere, but prevent radioactive heat from escaping, thus

warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as greenhouse gases (GHG) that are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

The evaluation of GHG is two-fold. One addresses the health effects associated with the emissions of such gases and the second is their contribution to global climate change. GHG trap heat in the atmosphere, creating a greenhouse gas effect that results in global warming and climate change. However, for the purposes of the analysis of the Strategic Plan projects, the *Greenhouse Gas Analysis* prepared for the Strategic Plan projects focused on the evaluation of emissions of CO₂, CH₄, and NO₂ because these gases are the primary contributors to GCC from typical development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate them.

Greenhouse Gases and Health Effects

Table 4.3-4, *Greenhouse Gases and Related Health Effects*, lists the characteristics of these gases, their sources, and the potential health effects. The potential health effects related directly to the emissions of CO₂, CH₄, and N₂O as they relate to development projects such as the proposed Strategic Plan projects are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in the earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas. Potential impacts of global warming are presented in Table 4-3-5, *Emissions Scenarios*.

Table 4.3-4 Greenhouse Gases and Related Health Effects

Greenhouse Gas	Description	Sources	Health Effects
Water	<p>Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.</p> <p>As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to ‘hold’ more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a “positive feedback loop.”</p>	<p>The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.</p>	<p>There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.</p>

Table 4.3-4 Greenhouse Gases and Related Health Effects (continued)

Greenhouse Gas	Description	Sources	Health Effects
Water (continued)	The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up).		
Carbon Dioxide (CO ₂)	CO ₂ is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO ₂ concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO ₂ in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.	CO ₂ is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO ₂ is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.	Outdoor levels of CO ₂ are not high enough to result in negative health effects. According to NIOSH high concentrations of CO ₂ can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO ₂ in the earth's atmosphere are estimated to be 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period.

Table 4.3-4 Greenhouse Gases and Related Health Effects (continued)

Greenhouse Gas	Description	Sources	Health Effects
Methane (CH ₄)	CH ₄ is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO ₂ and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH ₄ has natural and anthropogenic sources and is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH ₄ .	CH ₄ is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH ₄ can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
Nitrous Oxide (N ₂ O)	N ₂ O, also known as laughing gas, is a colorless GHG. Concentrations of N ₂ O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N ₂ O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles.	N ₂ O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage)

Table 4.3-4 Greenhouse Gases and Related Health Effects (continued)

Greenhouse Gas	Description	Sources	Health Effects
Nitrous Oxide (N ₂ O) (continued)		It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N ₂ O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.	
Chloro-fluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH ₄ or ethane (C ₂ H ₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

Table 4.3-4 Greenhouse Gases and Related Health Effects (continued)

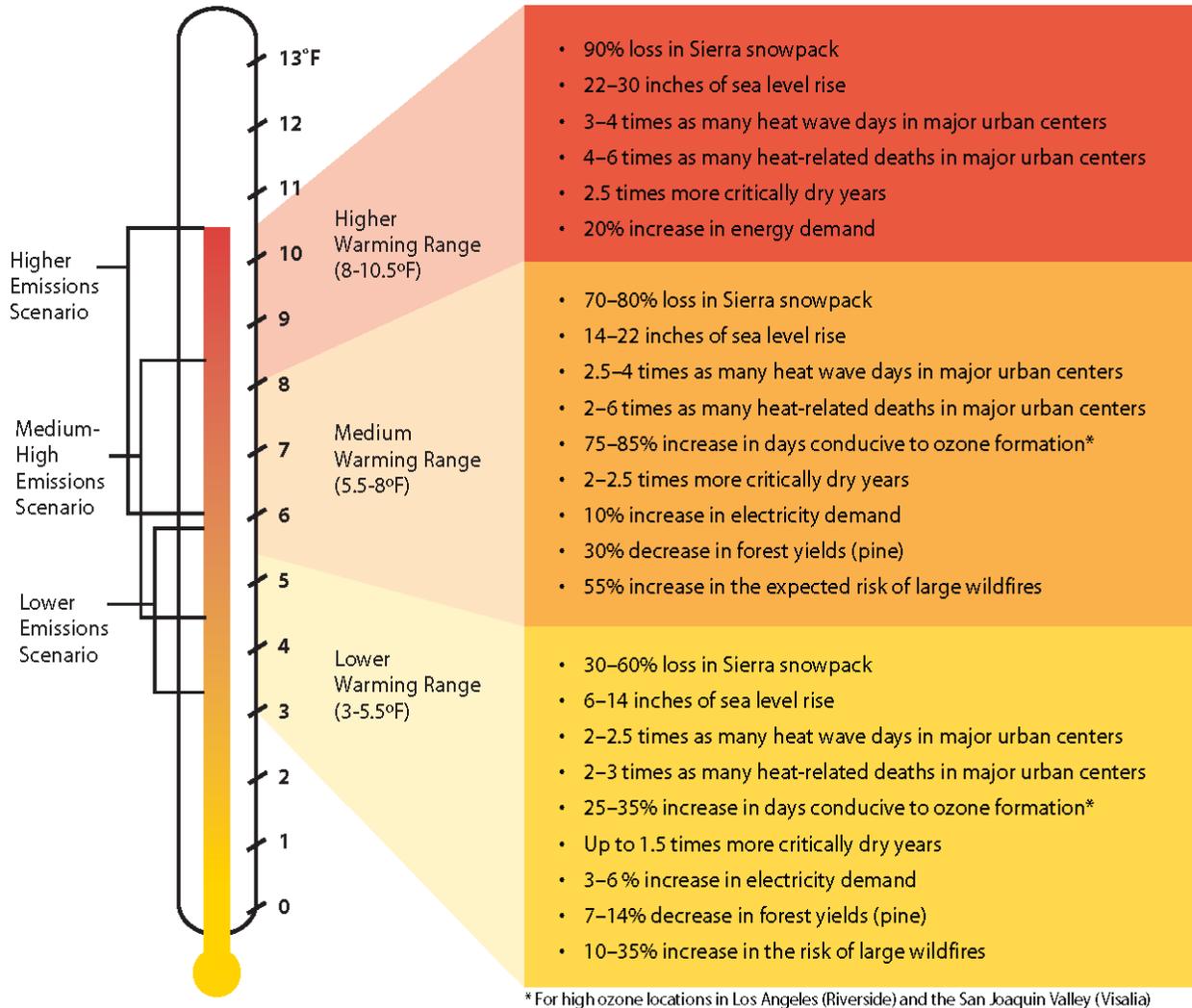
Greenhouse Gas	Description	Sources	Health Effects
Hydrofluoro-carbons (HFCs)	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
Perfluoro-carbons (PFCs)	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF ₄) and hexafluoroethane (C ₂ F ₆). The EPA estimates that concentrations of CF ₄ in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
Sulfur Hexafluoride (SF ₆)	SF ₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Table 4.3-4 Greenhouse Gases and Related Health Effects (continued)

Greenhouse Gas	Description	Sources	Health Effects
Nitrogen Trifluoride (NF3)	NF3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF3 has a 100-year GWP of 17,200 (20).	NF3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-1.*

Table 4-3-5 Emissions Scenarios



Source: *Urban Crossroads, Six Basins, Greenhouse Gas Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Exhibit 2-A.*

Global Warming Potential

Greenhouse gases have varying global warming potential (GWP) values. GWP of a greenhouse gas indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1. Carbon dioxide equivalent (CO₂e) is a term used for describing the difference greenhouse gases in a common unit. CO₂e signifies the amount of CO₂ that would have the equivalent GWP.

Table 4.3-6, *Global Warming Potential and Atmospheric Lifetime of Select GHGs*, lists atmospheric lifetime and GWP of selected greenhouse gases. Table 4.3-6 shows that GWP

for the Second Assessment Report (SAR), the Intergovernmental Panel on Climate Change (IPCC)’s scientific and socio-economic assessment on climate change, range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride and GWP for the IPCC’s Fifth Assessment Report (AR5) range from 1 for CO2 to 23,500 for SF6.

Table 4.3-6 Global Warming Potential and Atmospheric Lifetime of Select GHGs¹

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)	
		2 nd Assessment Report (SAR)	5 th Assessment Report (AR5)
CO2	2	1	1
CH4	12.4	21	28
N2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF6	3,200	23,900	23,500

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-2.*

Notes *Data is taken from Table 2.14 of the IPCC Fourth Assessment Report, 2007.*

As per Appendix 8.A. of IPCC’s 5th Assessment Report (AR5), no single lifetime can be given.

Greenhouse Gas Emissions Inventories

Global Warming Potential

Worldwide anthropogenic (human) GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2017. For Year 2017, the sum of these emissions totaled approximately 29,216,501 Gigagrams of CO₂e. The GHG emissions in more recent years may differ from the inventories presented in Table 4.3-7, *Top GHG Producer Countries and the European Union*; however, the data is representative of currently available inventory data.

Table 4.3-7 Top GHG Producer Countries and the European Union

Emitting Countries	GHG Emissions (Gg CO₂e)
China	11,911,710
United States	6,456,718
European Union (28-member countries)	4,323,163
India	3,079,810
Russian Federation	2,155,470
Japan	1,289,630
Total	29,216,501

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-3.*

The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2016 data, the UNFCCC data for the most recent year were used. The most recent GHG emissions for China were taken in 2012, while the most recent GHG emissions for India were taken in 2010.

California

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the US emissions inventory total. CARB compiles GHG inventories for the State of California. Based on the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 million metric tons of CO₂e per year (MMTCO₂e/yr).

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. In fact, large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if

temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

The State of California relies on a complicated network of man-made reservoirs and aqueducts to capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Regulatory Setting

Air Quality

Federal Regulations

EPA is responsible for setting and enforcing the NAAQS for O₃, CO, NO_x, SO₂, PM₁₀, and lead. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside State waters (Outer Continental Shelf). EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet CARB's stricter emission requirements.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance and mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of Strategic Plan projects include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O₃, NO₂, SO₂, PM₁₀, CO, PM_{2.5}, and lead. The NAAQS were amended in July 1997 to include an additional standard for O₃ and to adopt a NAAQS for PM_{2.5}. NAAQS within the Air Basin are shown in Table 4.3-1.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_x. NO_x is a collective term that includes all forms of nitrogen oxides (NO, NO₂, NO₃) which are emitted as byproducts of the combustion process.

State Regulations

California Air Resources Board

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (CCAA), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The CCAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the Air Basin because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS.

Title 24 Energy Efficiency Standards and California Green Building Standards

CCR Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. CALGreen recognizes that many jurisdictions

have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65 percent diversion requirement.

CALGreen also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020.

The 2019 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that nonresidential buildings (such as the Strategic Plan projects) would use approximately 30 percent less energy due to lighting upgrade requirements. Because projects identified in the Strategic Plan would be constructed after January 1, 2019, the 2019 CALGreen standards are applicable. However, because the proposed projects are not typical nonresidential projects (e.g., employment centers where employees and visitors would arrive and park), many of the CALGreen standards such as bicycle parking, clean air vehicle designated parking and EV charging stations.

Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8)

Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).

Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).

Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELo), whichever is more stringent (5.304.1).

Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 square feet. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).

Regional Rules

SCAQMD regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Currently, the NAAQS and CAAQS are exceeded in most parts of the Air Basin. In response, SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the State and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. SCAQMD has prepared AQMPs that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in the growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROG, NO_x, CO and PM₁₀. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

Greenhouse Gases/Global Climate Change

Federal

Federal requirements regarding GHG and climate change are primarily focused on transportation projects, new vehicle fuel efficiency standards, and new source review of large GHG generators such as factories and power plant. The proposed Strategic Plan projects do not fall into any of these categories. Therefore, no further discussion of federal regulations is required.

State

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the

landmark Assembly Bill (AB 32) California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. The following is a summary of State legislation regarding GHG and climate change.

Executive Orders S-3-05

Executive Order S-3-05 was signed in 2005 and included the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill (AB) 32

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. CARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

CARB approved the 1990 GHG emissions level of 427 MMTCO₂e in December 2007. Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” (BAU) scenario were estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations. At that level, a 28.4 percent reduction was required to achieve the 427 MMTCO₂e 1990 inventory. In October 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 MMTCO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared

by CARB for 2000 through 2012. The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 MMTCO₂e (AB 32 2020 target)
- 2000: 463 MMTCO₂e (an average 8 percent reduction needed to achieve 1990 base)
- 2010: 450 MMTCO₂e (an average 5 percent reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4- percent and the latest reduction from 2020 BAU is 21.7 percent. The revised target for 2020: 545 MMTCO₂e BAU.

CARB Scoping Plan

CARB's *Climate Change Scoping Plan* (Scoping Plan) prepared in 2008, includes measures designed to reduce statewide emissions to 1990 levels by 2020 to comply with AB 32. The Scoping Plan focuses on transportation and electricity sectors (e.g., vehicles and power plants) and was updated in 2014 and again in 2017.

2014 Scoping Plan Update

The 2014 update was based on CARB's *Supplemental Functional Equivalent Document* (Supplemental FED) prepared in 2011, that included an updated 2020 BAU emissions inventory projection based on current economic forecasts that were influenced by the economic downturn, and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. CARB staff derived the updated emissions by projecting emissions growth by sector, from the State's average emissions from the period 2006-2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, CARB factored into the 2020 BAU inventory emissions reductions associated with 33 percent Renewable Portfolio Standards (RPS) for electricity generation. The updated BAU estimate of 507 MMTCO₂e by 2020 requires a reduction of 80 MMTCO₂e, or a 16 percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 MMTCO₂e) by 2020.

In order to provide a BAU reduction that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. CARB's 2020 BAU projection for GHG emissions in California was originally estimated to be 596 MMTCO₂e. The updated BAU projection in the Supplemental FED is 545 MMTCO₂e. Considering the updated BAU estimate of 545 MMTCO₂e by 2020, CARB estimates a 21.7 percent reduction below the estimated statewide

BAU levels is necessary to return to 1990 emission levels (i.e., 427 MMTCO₂e) by 2020, instead of the approximate 28.4 percent BAU reduction previously reported under the 2008 Scoping Plan.

2017 Scoping Plan Update

CARB's 2017 Scoping Plan Update identifies the State's post-2020 reduction strategy. The Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32). Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes.

The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO₂e for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework are focused on reducing emissions from motor vehicles, increasing energy efficiency in habitable buildings, and Cap and Trade strategies for major source energy users (e.g., electricity generation, petroleum refining and cement production). The major elements are:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- LCFS, with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the RPS to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of zero-emission vehicles (ZEV) trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH₄ and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.

- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also identifies local governments as essential partners in achieving the State’s long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO₂e (MTCO₂e) or less per capita by 2030 and 2 MTCO₂e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds — with the Scoping Plan and the State’s long-term GHG goals — and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a climate action plan or other plan to reduce GHG emissions is appropriate.

Other State initiatives include the following:

SB 375, Sustainable Communities and Climate Protection Act of 2008, focuses on regional transportation planning and creating incentives for the implementation of strategies to reduce vehicle trips through the alignment of planning for transportation and housing. This Act does not directly affect the Six Basins Strategic Plan projects as there are no residential, commercial or industrial projects that would generate vehicle trips.

AB 1493, Pavley Regulations and Fuel Efficiency Standards, requires CARB to develop and adopt regulations that reduce GHG emissions from passenger vehicle and light duty trucks.

SB 350, Clean Energy and Pollution Reduction Act of 2015, focuses on increasing the amount of electricity procured from renewable energy sources, doubling the energy efficiency in existing buildings by 2030, and reorganizing the Independent Systems Operator (ISO) to develop more regional electricity transmission markets and improve accessibility to these markets.

Executive Order B-55-18 and SB 100. *SB 100 and Executive Order B-55-18* were signed by Governor Brown in September 2018. These executive orders require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources; and establish a carbon neutrality goal for the State by 2045; and set a goal to maintain net negative emissions thereafter.

Executive Order S-3-05, was signed in 2005 and included the following reduction targets for GHG emissions:

By 2010, reduce GHG emissions to 2000 levels.

By 2020, reduce GHG emissions to 1990 levels.

By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard. This executive order was signed in 2007 and mandates that a statewide goal shall be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020.

Executive Order S-13-08 - Pursuant to the requirements in this executive order, the 2009 California Climate Adaptation Strategy was adopted, which is the “. . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15 – signed in 2015 establishes a California GHG reduction target of 40 percent below 1990 levels by 2030. The executive order aligns California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs CARB to update the Scoping Plan to express the 2030 target in terms of MMTCO_{2e}. Executive Order B-30-15 also requires the state’s climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions.

It is incumbent on State agencies (e.g., CARB) to comply with the intent of most of the legislation and executive orders listed above, or local jurisdictions through their respective climate action plans. Watermaster Parties proposing projects in the Six Basins project area are not directly generating electricity or purchasing wholesale electricity to supply to customers (retail); nor are they, for the most part, engaged in land use decisions that require compliance (e.g., new residential, commercial, or industrial projects). Therefore, executive orders do not apply directly to the implementation of the Six Basins Strategic Plan or its related projects.

California Regulations and Building Codes

State regulations and building codes that would apply to the Six Basins Strategic Plan projects include the following:

Title 24 Energy Efficiency Standards and California Green Building Standards.

California Code of Regulations Title 24 Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. CalGreen Building Standards are identified above in the Air Quality Section.

Model Water Efficient Landscape Ordinance.

The ordinance was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting the portion of landscapes that can be planted with high water use plants; and
- Reporting requirements for local agencies.

Watermaster Parties proposing projects within the project area would be subject to the requirements of a local jurisdiction's Landscape Ordinance for efficient irrigation systems at individual project sites.

Regional

South Coast Air Quality Management District

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Air Basin. The Working Group developed several different options that are contained in SCAQMD's *Draft Guidance Document – Interim CEQA GHG Significance Threshold* (Guidance Document), that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008; and the SCAQMD Board has not approved the thresholds. However, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by a lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.

- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project’s construction emissions are averaged over 30 years and are added to the project’s operational emissions. If a project’s emissions are below one of the following screening thresholds, then the project is less than significant:
 - Residential and Commercial land use: 3,000 MTCO_{2e} per year
 - Industrial land use: 10,000 MTCO_{2e} per year
 - Based on land use type: residential: 3,500 MTCO_{2e} per year; commercial: 1,400 MTCO_{2e} per year; or mixed use: 3,000 MTCO_{2e} per year
- Tier 4 has the following options:
 - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO_{2e}/SP/year for projects and 6.6 MTCO_{2e}/SP/year for plans;
 - Option 3: 2035 target: 3.0 MTCO_{2e}/SP/year for projects and 4.1 MTCO_{2e}/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

SCAQMD’s interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order’s objective would contribute to worldwide efforts to cap carbon dioxide concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if any of the Strategic Plan projects would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if a Strategic Plan project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.

- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

4.3.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan projects may have a significant impact on Air Quality and contribute to an increase in Greenhouse Gas Emissions; or conflict with a program, plan, ordinance or policy addressing the same if it would result in any of the following:

Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

1. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
2. Expose sensitive receptors to substantial pollutant concentrations?
3. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?
4. Conflict with or obstruct implementation of the applicable air quality plan?

SCAQMD has also developed regional significance thresholds for other regulated pollutants, as shown in Table 4.3-8, *Maximum Daily Regional Emissions Thresholds*. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the Air Basin that generate daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

In addition, SCAQMD has also developed local significance thresholds to be considered when a project is located adjacent or near sensitive receptors, such as residences, hospitals, schools. These are shown in Table 4.3-9, *Maximum Daily Localized Emissions Thresholds*.

Table 4.3-8 Maximum Daily Regional Emissions Thresholds

Pollutant	Construction	Operations
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-1.*

Greenhouse Gas Emissions and Global Climate Change

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Table 4.3-9 Maximum Daily Localized Emissions Thresholds

Pollutant	Construction	Operations
NOx	103 lbs/day	N/A
CO	612 lbs/day	N/A
PM10	4 lbs/day	N/A
PM2.5	3 lbs/day	N/A

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, July 2019, Table 3-6.*

Notes:

1. LSTs presented in this table are based on the SCAQMD Final Localized Significance Threshold Methodology, 2008.

Impact Evaluation

Air Quality

Impact 4.3.1

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Threshold 1)

Note: Because the Strategic Plan is a long-range plan (20 years), it is unknown when projects would be developed during this period. Therefore, to provide a worst-case analysis of air emissions, the Strategic Plan's *Air Quality Impact Analysis* (Appendix B1) assumed a one-year construction period that would include the development of the following:

- the construction of a treatment facility with related infrastructure (Project Category 1);
- up to 8,500 linear feet of pipeline construction (Project Category 3); and
- the construction of the San Antonio Spreading Grounds would occur. Construction of the spreading grounds includes the disturbance approximately 50 acres to a depth of up to 200 feet, and the removal of approximately 2.5 million tons (approximately 1.79 million cubic yards) of aggregate material that would be conveyed across the SASG to the existing Holliday Rock aggregate mine site east of the San Antonio Creek channel (Project Category 2).

For purposes of analysis of air emissions, construction of these projects is expected to commence in August 2021 and will last through September 2022 (approximately 13 months). Construction duration utilized in the analysis represents a “worst-case” analysis should construction occur any time after the respective dates since emission factors for construction decrease as the analysis year increases.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

California Emissions Estimator Model

SCAQMD recommends using the California Emissions Estimator Model (CalEEMod) to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. The latest version of the model is v2016.3.2. This model was used to evaluate the potential impacts associated with the construction and operation of proposed Strategic Plan projects.

Construction Emissions

Construction Emissions Assumptions

Construction activities associated with Strategic Plan projects will result in emissions of VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. This Program EIR provides a general characterization of impacts and quantifies emissions based on a worst-case scenario. Although the Strategic Plan assumed construction of projects would occur over a 20-year period, for the purposes of evaluating a worst-case scenario for air emissions, the authors of the Air Quality Impact Analysis evaluated a 13-month construction period where the construction of a water treatment facility with related infrastructure, up to 8,500 linear feet of pipeline construction, and the construction of the new recharge basin at the San Antonio Spreading Grounds (SASG) would occur. To create the new basin construction would include the disturbance of approximately 50 acres and the removal of up to 2.5 million tons of aggregate material per year for five years for a total of 20 million tons. The material would be excavated and crushed on site using a portable crusher, then conveyed across the SASG to the existing Holliday Rock mine pits for processing. No on-road hauling of this material is proposed.

At such time as individual projects are proposed, specific construction related criteria pollutant emissions would be quantified in future air quality analyses to determine actual emissions on a project-by-project basis. In addition, if a project is estimated to exceed the construction emissions significance thresholds established by SCAQMD (after mitigation), the preparation of a subsequent EIR may be required.

Additionally, due to the variables that must be considered when examining construction impacts (e.g., development rate, disturbance area per day, specific construction equipment and operating hours, etc.), it would be speculative to state conclusively that construction activity associated with the project would cause a significant air quality impact. Notwithstanding, implementation of the project has a potential to result in a significant and unavoidable impact with respect to construction activity associated with future projects should multiple construction projects overlap. All feasible mitigation measures shall be applied to minimize construction-related significant air quality impacts, including one or more of the measures listed below in Section 4.3.4, *Mitigation Measures*, based on project-specific air quality modeling. The mitigation measure(s) to be applied shall be roughly proportional and have a nexus with the project-specific impact identified, consistent with Section 15126.4 of the State CEQA Guidelines.

Table 4.3-10, *Construction Equipment Assumptions*, lists typical equipment, number of pieces of equipment, and hours of operation per day to construct the facilities listed above.

Table 4.3-10 Construction Equipment Assumptions

Equipment	Amount	Hours Per Day
Bore/Drill Rigs	1	6
Cranes	1	6
Crushing/Proc. Equipment	1	6
Excavators	2	6
Generator Sets	1	6
Graders	1	6
Off-Highway Trucks	1	4
Pavers	2	6
Paving Equipment	1	6
Rollers	1	6
Rubber Tired Dozers	1	6
Tractors/Loaders/Backhoes	2	6
Welders	1	6

Source: Based on information provided by Watermaster Parties.

Grading Activities

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The project is anticipated to include soil import and export within the project site boundaries as a part of construction of the new recharge basin at the SASG. Per the Project Description (Chapter 3), 2.5 million tons (1.79 cubic yards) of export was evaluated. However, as excavated material would be removed from the site on a conveyor system and would not be transported on surface streets, no hauling trips were modeled.

Construction Worker Vehicle Trips

Construction emissions for construction worker vehicles traveling to and from a project site, as well as vendor trips (construction materials delivered to a project site) were estimated based on information from the CalEEMod defaults.

Regional Construction Emissions Summary

SCAQMD Rules that are currently applicable during construction activity for a project include Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). As such, credit for Rule 403 and, to a lesser extent, Rule 1113 were taken in the air quality modeling.

Impacts without Mitigation

The estimated maximum daily construction emissions without mitigation are summarized on Table 4.3-11, *Overall Construction Emissions Summary (Without Mitigation)*. Under the assumed scenario - construction of a treatment facility with related infrastructure, up to 8,500 linear feet of pipeline construction, and the construction of the new recharge basin at the SASG over a 13-month period - emissions resulting from construction activities would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

Impacts with Mitigation Incorporated

As discussed above, the model assumed that all construction activity would be in compliance with SCAQMD Rules 403 and 1113. Therefore, mitigation is built into the Table 4.3-11 and the results are based on this assumption. Although additional mitigation is not required to reduce estimated maximum daily construction regional emissions, mitigation measures would be required to decrease localized emissions (see results of Local Significance Construction Activity below). Implementation of these localized emissions mitigation measures would further reduce already less-than-significant regional emissions as shown in Table 4.3-12, *Overall Construction Emissions Summary (With Mitigation)*.

Table 4.3-11 Overall Construction Emissions Without Mitigation

Year	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
<i>Summer</i>						
2021	4.32	42.41	34.48	0.08	4.85	2.95
2022	3.80	36.11	33.62	0.08	4.53	2.65
<i>Winter</i>						
2021	4.34	42.41	34.39	0.08	4.85	2.95
2022	3.82	36.11	33.53	0.08	4.53	2.65
Maximum Daily Emissions	4.34	42.41	34.48	0.08	4.85	2.95
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-4.*

Notes:

1. The mitigated CalEEMod regional construction-source emissions are presented in Appendix 3.2 of the Air Quality Report included in Appendix B of the Program EIR.

Table 4.3-12 Overall Construction Emissions Summary (with Mitigation)

Year	Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM10	PM2.5
<i>Summer</i>						
2021	2.96	35.61	41.89	0.08	4.55	2.73
2022	2.76	33.70	41.65	0.08	4.41	2.60
<i>Winter</i>						
2021	2.98	35.62	41.80	0.08	4.55	2.73
2022	2.78	33.71	41.56	0.08	4.41	2.60
Maximum Daily Emissions	2.98	35.62	41.89	0.08	4.55	2.73
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-4.*

Notes:

1. The mitigated CalEEMod regional construction-source emissions are presented in Appendix 3.2 of the Air Quality Report included in Appendix B of the Program EIR.

Operational Emissions

Long-term air quality impacts occur from mobile source emission generated from project-related traffic and from stationary source emissions generated from natural gas. The proposed Strategic Plan projects primarily involve construction activity. For on-going operations, mobile emissions would be generated by the motor vehicles traveling to and from project sites during frequent inspections (daily or weekly) and periodic maintenance.

These trips are not anticipated to be lengthy and would not result in any substantive new long-term emissions sources.

Stationary area source emissions are typically generated by the consumption of natural gas for space and water heating devices and the use of consumer products. As the proposed Strategic Plan projects involve rehabilitation of existing or construction of new production wells, operation of production wells and water treatment plants, recharging with stormwater or supplemental water in spreading grounds, and construction/operation of interconnects between wells and treatment plants, or between the Pomona WRP and the SASG, heating and consumer products would not be used.

Stationary energy emissions would result from energy consumption associated with the proposed wells (production and monitoring) and treatment facilities. All pumps and generators associated with these projects would be electrically powered and would not directly generate air emissions. However, the Air Quality Impact Analysis assumed that well sites would include the use of an emergency diesel generator, allowing the pump station to run on backup power in case of emergency. If a backup generator would be installed, the lead agency would be required to obtain the applicable permits from SCAQMD for construction and operation of such equipment.

SCAQMD is responsible for issuing permits for the operation of stationary sources in order to reduce air pollution, and to attain and maintain the national and California ambient air quality standards in the Air Basin. Proposed Strategic Plan projects would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment. Backup generators, if used, would be used only in emergency situations and for routine testing and maintenance purposes and would not contribute a substantial amount of emissions capable of exceeding SCAQMD thresholds. As the operations of proposed Strategic Plan projects would not exceed SCAQMD thresholds, their operation would not violate an air quality standard or contribute to an existing violation. Therefore, project operations would not result in a cumulatively considerable net increase of any criteria pollutant and impacts would be less than significant.

Localized Significance Thresholds

Background on Localized Significance Thresholds (LST) Development

The Air Quality Impact Analysis made use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). SCAQMD established that impacts to air quality are significant if there is a potential to contribute or cause localized

exceedances of the federal and/or State ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

SCAQMD established LSTs in response to the Governing Board’s Environmental Justice Initiative I-4. The purpose of SCAQMD’s Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities.

Further, SCAQMD defines Environmental Justice as

“...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution.”

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest residence or sensitive receptor. SCAQMD encourages lead agencies to use LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the LST Methodology.

Applicability of LSTs for the Proposed Strategic Plan Projects

LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. In order to determine the appropriate methodology for determining localized impacts that could occur as a result of project-related construction, the following process was undertaken:

- Identify the maximum daily on-site emissions that will occur during construction activity:
 - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
 - The SCAQMD’s *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and *CalEEMod User’s Guide Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD’s screening look-up tables are utilized to determine if a project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.

- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

Sensitive Receptors

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from project activities. The Air Quality Impact Analysis analyzed localized construction and operational emissions impacts at the nearest sensitive receptors based on the following assumptions:

Emissions Considered. SCAQMD's LST Methodology clearly states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

Maximum Daily Disturbed Acreage. Based on information provided in Chapter 3, *Project Description*, the average disturbance of the site on a daily basis is assumed to be 1 acre. In CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot. TAG is a function of the maximum acreage disturbed per day times the number of days of the subphase of construction. Therefore, the TAG field in CalEEMod has been revised to 365 acres (1 acres per day x 365 days).

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These "sensitive receptors" include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Places where sensitive receptors may be housed or where they gather are also referred to as sensitive receptors. These include residences, schools, hospitals, and other places where people are located for extended periods.

SCAQMD recommends that the nearest sensitive receptor be considered when determining a project’s potential to cause an individual or cumulatively significant impact. The nearest residential receptor could potentially be located immediately adjacent to construction activities. Examples of sites that are located near sensitive receptors are identified in Section 4.1, *Aesthetics*. Figures included in this section show the relationship between a project site and adjacent land uses. Figures 4.1-1, 4.1-3, 4.1-4 and 4.1-8 show existing well sites that will undergo rehabilitation and that are located adjacent to single family residences. Figure 4.1-10 shows the PSG site that is located adjacent to single family residences and near an elementary school. Other projects not yet identified by the Watermaster Parties may also be located in or near residential neighborhoods. Therefore, it is noted that the LST Methodology explicitly states that “*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.*” Consistent with SCAQMD’s LST Methodology, a 25-meter receptor distance was utilized in the Air Quality analysis and provides for a conservative i.e., “health protective” standard of care.

Localized Thresholds for Construction Activity

The SCAQMD’s screening look-up tables were used to determine project impacts. It should be noted that since the look-up tables identify thresholds at only 1 acre, 2 acres, and 5 acres, linear regression was utilized, consistent with SCAQMD guidance, in order to interpolate the threshold values for the other disturbed acreage and distances not identified in the look-up tables. As previously stated, the assumption was made that the proposed construction activities could actively disturb approximately 1 acre per day. Table 4.3-13, *Maximum Daily Localized Construction Emissions Thresholds*, shows the construction localized thresholds for criteria pollutants.

Table 4.3-13 Maximum Daily Localized Construction Emissions Thresholds

Pollutant	Construction Localized Thresholds
NO _x	103 lbs/day
CO	612 lbs/day
PM ₁₀	4 lbs/day
PM _{2.5}	3 lbs/day

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-4.*

Impacts Without Mitigation

Table 4.3-14, *Localized Significance Summary of Construction (Without Mitigation)*, identifies the localized impacts at the nearest receptor locations in the vicinity of a typical Strategic Plan project. Without mitigation, localized construction emissions would exceed the applicable SCAQMD LSTs for emissions of PM10. However, as shown in Table 4.3-15, *Localized Significance Summary of Construction (With Mitigation)*, after implementation of

mitigation measures (AQ-1 and AQ-2), construction-source emissions would not exceed the applicable SCAQMD LSTs thresholds and would be less-than-significant.

Table 4.3-14 Localized Significance Summary of Construction (Without Mitigation)

On-Site Construction Emissions	Emissions (lbs/day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	40.20	32.48	4.08	2.76
SCAQMD Localized Threshold	103	612	4	3
Threshold Exceeded?	No	No	Yes	No

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-7.*

Notes:

1. CalEEMod localized construction source emissions are presented in Appendix 3.1 of the Air Quality Report included in Appendix B of the Program EIR.

Table 4.3-15 Localized Significance Summary of Construction (With Mitigation)

On-Site Construction Emissions	Emissions (lbs/day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	32.91	38.19	3.76	2.51
SCAQMD Localized Threshold	103	612	4	3
Threshold Exceeded?	No	No	No	No

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-8.*

Notes:

1. CalEEMod localized construction source emissions are presented in Appendix 3.2 of the Air Quality Report included in Appendix B of the Program EIR.

Mitigation measure AQ-1 requires compliance with SCAQMD Rule 403 regarding control of fugitive dust. See Section 4.3.4, *Mitigation Measures*.

Localized Significance – Long Term Operational Activity

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or solid waste transfer facilities). As previously discussed, proposed Strategic Plan projects would generate a nominal number of traffic trips in the context of on-going maintenance resulting in a negligible amount of new mobile source emissions.

Additionally, all well pumps associated with the project are assumed to be electrically powered and would not directly generate air emissions. However, some projects may include the use of an emergency diesel generators, allowing well pump to run on backup

power in case of emergency. If a backup generator is installed, the lead agency would be required to obtain the applicable permits from SCAQMD for operation of such equipment.

SCAQMD is responsible for issuing permits for the operation of stationary sources in order to reduce air pollution, and to attain and maintain the NAAQS and CAAQS in the Air Basin. Upon compliance with SCAQMD permitting procedures, localized emissions from any potential diesel generator would not result in substantial pollutant concentrations capable of exceeding operational LST thresholds. Therefore, the proposed Strategic Plan projects would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

CO Hot Spots Analysis

An adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the State one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the development of SCAQMD’s 1993 Handbook, the Air Basin was designated nonattainment under the California AAQS and National AAQS for CO.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the Air Basin is now designated as attainment, as previously noted in Table 4.3-3. To establish a more accurate record of baseline CO concentrations affecting the Air Basin, a CO “hot spot” analysis was conducted in 2003 for four busy intersections in the City of Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards, as shown on Table 4.3-16, *CO Model Results*.

Table 4.3-16 CO Model Results¹

Intersection Location	Carbon Monoxide Concentrations (ppm) ²		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire-Veteran	4.6	3.5	3.7
Sunset-Highland	4	4.5	3.5
La Cienega-Century	3.7	3.1	5.2
Long Beach-Imperial	3	3.1	8.4

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-8.*

Notes:

1. Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations.
2. Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

The proposed Strategic Plan projects would not generate large numbers of vehicle trips either during construction or operation. Therefore, projects would not result in potentially adverse CO concentrations or “hot spots”. Further detailed modeling of project-specific CO “hot spots” will be required as individual Strategic Plan projects come forward.

Project Conformity with Section 176(c) of the Federal Clean Air Act

Section 176(c) of the federal CAA states that a federal agency cannot issue a permit for, or support an activity within, a nonattainment or maintenance area unless the agency determines it will conform to the most recent EPA-approved SIP. Thus, a federal action must not:

- Cause or contribute to any new violation of a NAAQS;
- Increase the frequency or severity of any existing violation; or
- Delay the timely attainment of any standard, interim emission reduction, or other milestone.

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by the federal action would equal or exceed the General Conformity applicability rates specified in 40 C.F.R. section 93.153. Operation and maintenance emissions are considered exempt under 40 C.F.R. 93.153, therefore they are not included in the total direct and indirect effects of the federal action.

The six Basins project area is located within the cities of Claremont, Pomona, La Verne, and Upland, in addition to unincorporated County of Los Angeles neighborhoods and the San Antonio Heights community located in San Bernardino County adjacent to the City of Upland.

Table 4.3-17, *Federal Attainment Status for Criteria Pollutants*, summarizes the federal attainment status of the Air Basin and the general conformity applicability rates in tons per year. Table 4.3-17 shows that the Air Basin is currently in nonattainment for O₃ (precursors: VOC or nitrogen oxides [NO_x]) and PM_{2.5}; unclassifiable/attainment for CO, NO₂, SO₂, and Pb; and attainment for PM₁₀. Based on the present attainment designation for the Air Basin, a federal action would conform to the SIP if annual emissions are below 100 tons of CO, PM_{2.5}, PM₁₀, NO₂, or Pb, 10 tons of VOC, or 25 tons of lead.

As part of the environmental review of the federal action, a general conformity evaluation was completed pursuant to 40 C.F.R. 93.153 (see Program EIR Appendix B3). The general conformity regulations apply because the project is located in the South Coast Air Basin in an area designated as a nonattainment area for O₃; unclassifiable/attainment for CO, NO₂, SO₂, and Pb; and attainment for PM₁₀.

Table 4.3-18, *Comparison of Estimated Annual Construction Emissions to General Conformity Applicability Rates*, summarizes the annual construction air quality emissions and associated General Conformity Applicability Rates.

Table 4.3-17 Federal Attainment Status for Criteria Pollutants

Pollutant	Attainment Status	General Conformity Applicability Rates (tons/year)
O3	Nonattainment	10
CO	Unclassifiable/Attainment	100
NO2	Unclassifiable/Attainment	100
SO2	Unclassifiable/Attainment	100
PM10	Attainment	100
PM2.5	Nonattainment	100
Pb	Unclassifiable/Attainment	25

Source: *Urban Crossroads, Six Basins Strategic Plan Air Quality and Greenhouse Gas Analysis for NEPA, March 2021, Table 1.*

Table 4.3-18 Comparison of Estimated Annual Construction Emissions to General Conformity Applicability Rates

Pollutant	General Conformity Applicability Rates (tons/year)	Estimated Construction Emissions (tons/year)
O ₃ (VOC)	10	0.32
CO	100	4.86
NO ₂	100	3.95
SO ₂	100	0.01
PM ₁₀	100	0.56
PM _{2.5}	100	0.31
Pb	25	0.00

Source: *Urban Crossroads, Six Basins Strategic Plan Air Quality and Greenhouse Gas Analysis for NEPA, March 2021, Table 2.*

For all pollutants, the emissions associated with construction of the federal action would be less than the applicability rates. Therefore, a general conformity determination is not required. Little to no quantifiable and foreseeable lead emissions would be generated by the construction of the proposed Strategic Plan projects and would not have a significant impact on air quality.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken in the San Antonio Creek wash (SASG) and Thompson Creek wash (TCSG) to develop new groundwater recharge basins to enhance stormwater recharge and supplemental water recharge; develop new stormwater recharge opportunities at the Pedley Spreading Grounds (PSG); and to create an underground infiltration gallery to recharge stormwater and supplemental water at the LA County Fairplex. This category of projects also includes identifying opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The two MS4 projects that have been identified in the Strategic Plan and evaluated in this Program EIR are at the PSG site and the LA County Fairplex site.

This category of projects was evaluated in the Air Quality Impact Analysis and federal CAA Conformity Analysis using the new recharge basin at the SASG to represent the Project Category 2 project that would be constructed within the 13-month period representing the worst-case scenario for the analysis of Air Quality impacts. Therefore, see analysis of construction and operational impacts under Project Category 1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consist of (1) rehabilitation of the P-20 well head (similar to Project Category 1 projects); (2) development of up to 12 new production wells and a new treatment facility interconnected to the new wells; (3) development of up to three new monitoring wells to monitor groundwater elevation; and (4) construction of interconnections (underground pipelines) between new production wells and the new treatment facility, between the Pomona WRP and the new SASG site, and between the P-20 well site and TVMWD's Miramar WTP. Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Air Quality. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.3.2

Expose sensitive receptors to substantial pollutant concentrations? (Threshold 2)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Sensitive receptors were considered in the evaluation of proposed Strategic Plan projects under Impact 4.3.1. The proposed projects were evaluated using SCAQMD's LSTs. The analysis concluded that emissions of criteria pollutants during construction would exceed the LST for fugitive dust (PM10). Therefore, mitigation measure AQ-1 was identified that requires construction contractors to comply with SCAQMD Rule 403 adhering to applicable measures contained in Table 1 of that rule. The table is provided in its entirety in Section 4.3.4, *Mitigation Measures*, below. Construction contractors at each site will be responsible for compliance. There were no significant impacts associated with the long-term operation of any of the Strategic Plan projects.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no projects in this category that would result in a physical change in the environment.

Impact 4.3.3

Result in other emissions (such as those leading to odors adversely affecting a substantial number of people? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

The potential for proposed Strategic Plan projects to generate objectionable odors was also considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

Proposed Strategic Plan projects would not include land uses typically associated with the emission of objectionable odors. Potential odor sources associated with proposed projects may result from construction equipment exhaust during construction activities. The temporary storage of typical solid waste (refuse) may also cause odors, however, during construction, contractors would be responsible for maintaining a clean orderly site as set forth in site-specific Stormwater Pollution Prevention Plans (SWPPP). The requirement to prepare a SWPP for each construction site is discussed in Section 4.9, *Hydrology and Water Quality*. Standard construction requirements would minimize odor impacts from construction. These are outlined in mitigation measure AQ-1 that is specific to construction activities.

The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the lead agency's solid waste regulations. Projects would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed project construction and operations would be less than significant and no mitigation is required.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no projects in this category that would result in a physical change in the environment.

Impact 4.3.4

Conflict with or obstruct implementation of the applicable air quality plan? (Threshold 4)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

The Air Basin is characterized by relatively poor air quality. SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Air Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as State and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, State and federal air quality standards are exceeded in most parts of the Air Basin. In response, SCAQMD has adopted a series of AQMPs to meet the State and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including SCAG's 2016 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements. Project consistency with SCAG's RTP/SCS is discussed in Section 4.10, *Land Use and Planning*.

The Project's consistency with the AQMP was determined using the 2016 AQMP. Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section

12.3 of the SCAQMD's 1993 CEQA Air Quality Handbook. These indicators are discussed below:

Consistency Criterion No. 1: The proposed Strategic Plan projects would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 are related to the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded. The project would not exceed the applicable LST thresholds or regional significance thresholds for construction activity after implementation of applicable mitigation measures. Therefore, the Project would not conflict with the AQMP according to this criterion.

Consistency Criterion No. 2: The proposed Strategic Plan projects would not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the Air Basin are provided to SCAG, which develops regional growth forecasts, that are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the adopted general plans for the cities of Claremont, La Verne, Pomona, Upland and the counties of Los Angeles and San Bernardino is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Regardless of the site's land use designation, development of a project site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. This assumption allows the analysis of a worst-case scenario for the construction of Strategic Plan projects. On the basis of the preceding discussion, proposed Strategic Plan projects were determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The construction and operation of proposed Strategic Plan projects would not result in or cause NAAQS or CAAQS violations. The Watermaster Parties are not proposing land uses that would result in the generation of excessive criteria pollutants either during construction or operation. The proposed Strategic Plan projects are therefore considered to be consistent with the AQMP.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no projects in this category that would result in a physical change in the environment.

Greenhouse Gas Emissions and Global Climate Change

Impact 4.3.5

Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Threshold 5)

CalEEMod was also used to evaluate GHG emissions from direct and indirect sources; and quantify applicable GHG reductions achieved from mitigation measures. Output from the model runs for construction activity are provided in Appendix 3.1 of the GHG Report included in Appendix B2 of the Program EIR.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Life Cycle Analysis

A full life-cycle analysis (LCA) for construction and operational activity was not included in the GHG Impact Analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus was not prepared.

In addition, SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate. Also, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

For all pollutants, the emissions associated with construction of the federal action would be less than the applicability rates. Therefore, a general conformity determination is not required. Little to no quantifiable and foreseeable lead emissions would be generated by the construction of the Strategic Plan projects. The proposed project would have no significant impacts on.

Construction Emissions

Project construction activities would generate carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emissions. The annual GHG emissions associated with the construction of the proposed Strategic Plan projects are summarized in Table 4.3-19, *Project GHG Emissions*. As shown in Table 4.3-19, construction would generate a total of approximately 1,222.28 MTCO_{2e}/yr.

Table 4.3-19 Project GHG Emissions

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total
Annual construction-related	1,214.79	0.30	0.00	1,222.28
Total CO_{2e} (All Sources)	1,222.28			

Source: Urban Crossroads, Six Basins, Greenhouse Gas Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-1.

Project Conformity with Section 176(c) of the Federal Clean Air Act

As described in the Environmental Setting Section above, GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Currently, there are no federal standards for GHG emissions, and no federal regulations have been set at this time.

As shown in Table 4.3-19, the project would result in approximately 1,222.28 MTCO_{2e}/yr from construction activities. As such, the project would not exceed the SCAQMD’s recommended numeric threshold of 3,000 MTCO_{2e}/yr if it were applied. Thus, project-related emissions would not have a significant direct or indirect impact on GHG and climate change and no mitigation or further analysis is required.

Operational Emissions

In terms of operational GHG emissions, the proposed Strategic Plan projects do not include any substantive new stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable GHG emissions during operations of the projects. There are no buildings, other than small buildings to house the well pumps and related monitoring equipment and electrical room. Therefore, there would be no permanent source or stationary source emissions. While it is anticipated that projects would require intermittent maintenance to be efficient, such maintenance would be minimal requiring a

negligible amount of traffic trips on an annual basis. Therefore, there is no significant operational impacts related to the generation of GHGs.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

See discussion under Project Category 1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

See discussion under Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no projects in this category that would result in a physical change in the environment.

Impact 4.3.6

Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Threshold 6)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

As discussed above in Impact 4.3-5, the proposed Strategic Plan projects generally consist of construction activity and do not include trip-generating land uses (residential, commercial, industrial) or facilities that would generate any substantive amount of on-going GHG emissions. As presented in Table 4.3-19, short-term GHG emissions associated with the 13-month construction schedule for the three projects selected to represent a worst-case scenario, are below the 3,000 MTCO₂e/year screening threshold. Therefore, the proposed projects would not generate a significant amount of GHG emissions. The proposed Strategic Plan projects would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts are less than significant in this regard.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

See discussion under Project Category 1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

See discussion under Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no projects in this category that would result in a physical change in the environment.

4.3.4 Cumulative Impacts

SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*. In this report SCAQMD clearly states that:

“...the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”

The project area is located within the South Coast Air Basin which is a non-attainment basin for a number of criteria pollutants as shown the table below.

Criteria Pollutant	State Designation¹	Federal Designation¹
Ozone – 1-hour standard	Nonattainment	--2
Ozone – 8-hour standard	Nonattainment	Nonattainment
Particulate Matter (PM10)	Nonattainment	Attainment
Particulate Matter (PM2.5)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassifiable/Attainment

Criteria Pollutant	State Designation ¹	Federal Designation ¹
Nitrogen Dioxide (NO ₂)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO ₂)	Unclassifiable/Attainment	Unclassifiable/Attainment
Lead (Pb) ³	Attainment	Unclassifiable/Attainment

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-3.*

Therefore, the Air Quality Impact Analysis assumed that individual projects that do not generate construction or operational emissions that exceed SCAQMD’s recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Air Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The project-specific evaluation of emissions presented in Impact 4.3-1 demonstrated that, after implementation of applicable mitigation measures, construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

In conducting the evaluation of emissions related to construction, the Air Quality Impact Analysis utilized the CALEEMod that assumed compliance with SCAQMD Rules 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). Therefore, mitigation was built into the analysis of construction impacts based on these rules. Although additional mitigation is not required to reduce estimated maximum daily construction regional emissions, mitigation measures would be required to decrease localized emissions (see results of Local Significance Construction Activity under Impact 4.3-1). Implementation of these localized emissions mitigation measures would further reduce already less-than-significant regional emissions. Mitigation measures are listed in Section 4.3.4, *Mitigation Measures*, below.

Operational Impacts

The project-specific evaluation of emissions presented in the preceding analysis demonstrates that, project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, operations-source emissions would be considered less than significant on a project-specific and cumulative basis.

4.3.5 Mitigation Measures

- AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:
- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
 - The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
 - The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.
- AQ-2 Regarding emissions of NO_x and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.
- AQ-3 SCAQMD Rule 403-Table 1 lists a number of Best Available Control Technologies (BACT) that may apply to the construction of Strategic Plan projects. On a project-by-project basis, SCAQMD Rule 403 Table 1 shall be reviewed and appropriate measures incorporated into a project specific monitoring program.

4.3.6 Level of Significance After Implementation

Implementation of all applicable mitigation measures identified on a project-by-project basis, would ensure that impacts associated with air emissions during construction and operation would be less than significant. Specifically, regarding construction impacts, Rule 403 Table 1 is included at the end of this section to show the breadth of requirements that fall under this Rule. Compliance with applicable requirements would minimize air emissions to less than significant levels. Specifically, regarding Rule 1113 *Architectural Coatings*, this is anticipated to be a relatively minor issue because the number and size of buildings on any of the project sites that would require architectural coating would be minimal, consisting of a small building to house wells, pumps and related monitoring equipment, small treatment plants that would consist of towers up to 20 feet in height, and in some cases, fencing, if proposed.

4.3.7 References

Urban Crossroads, July 2019. *Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland.*

Urban Crossroads, July 2019. *Six Basins, Greenhouse Gas Analysis, Cities of Claremont, La Verne, Pomona, and Upland.*

Wildemuth Environmental Incorporated (WEI), 2017, *Strategic Plan for the Six Basins.*

**Rule 403 Table 1 Best Available Control Measures
(Applicable to All Construction Activity Sources)**

Source Category		Control Measure	Guidance
Cut and fill	05-1	Pre-water soils prior to cut and fill activities; and	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration
	05-2	Stabilize soil during and after cut and fill activities.	✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1	Stabilize wind erodible surfaces to reduce dust; and	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
	06-2	Stabilize surface soil where support equipment and vehicles will operate; and	
	06-3	Stabilize loose soil and demolition debris; and	
	06-4	Comply with AQMD Rule 1403.	
Disturbed soil	07-1	Stabilize disturbed soil throughout the construction site; and	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
	07-2	Stabilize disturbed soil between structures	
Earth-moving activities	08-1	Pre-apply water to depth of proposed cuts; and	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
	08-2	Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and	
	08-3	Stabilize soils once earth-moving activities are complete.	

**Rule 403 Table 1 Best Available Control Measures
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114	<ul style="list-style-type: none"> ✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	<ul style="list-style-type: none"> ✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and	<ul style="list-style-type: none"> ✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

**Rule 403 Table 1 Best Available Control Measures
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<ul style="list-style-type: none"> ✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<ul style="list-style-type: none"> ✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<ul style="list-style-type: none"> ✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes	<ul style="list-style-type: none"> ✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	<ul style="list-style-type: none"> ✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment

**Rule 403 Table 1 Best Available Control Measures
(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

4.4 Biological Resources

4.4.1 Introduction

This section describes the environmental and regulatory setting for *Biological Resources*, and evaluates the potential significant impacts associated with implementation of the Strategic Plan projects on sensitive species and their habitats and identifies mitigation measures to address potentially significant impacts. A Biological Resources Assessment/Jurisdictional Determination were completed for future projects in the San Antonio and Thompson Creek spreading grounds project areas. The report is included in Appendix C.

4.4.2 Environmental Setting

Regional Setting

The Six Basins area occurs within the larger San Gabriel Valley region of Southern California. Projects identified in the Strategic Plan will be developed within the cities of Claremont, La Verne, Upland, and Pomona. The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains underlying these cities, the unincorporated community of San Antonio Heights in San Bernardino County, and a few small unincorporated areas within the eastern San Gabriel Valley of Los Angeles County. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel groundwater basin to the west, and the Chino groundwater basin to the east. The boundary of the Six Basins project area is shown in Figure 2-1, in Chapter 2.

Local Setting

The Six Basins project area is largely developed with urban uses as shown in Figure ES-1, in Chapter ES, *Summary*. Figures 4.1-1 through 4.1-10 in Section 4.1, *Aesthetics*, show existing conditions for project sites identified in the Strategic Plan. Projects identified in Project Category 1, two projects in Project Category 2, and one project in Project Category 3, are all located in developed urban areas as shown in Figures 4.1-1 through 4.1-5 and Figures 4.1-8 and 4.1-10. As shown in these figures, these sites are all disturbed with existing facilities and most are paved.

There are two Strategic Plan projects that are proposed in undeveloped areas near the foothills where San Antonio Creek and Thompson Creek emanate from the San Gabriel Mountains. These sites are shown in Figures 4.1-7 and 4.1-8. These areas have existing water recharge facilities, and the proposed projects are to expand (Thompson Creek) or develop additional (San Antonio Creek) recharge basins.

Other projects generally identified in Project Category 3 including the development of new production wells and the construction of interconnects (underground pipelines) between

new well and existing treatment plants, or between the Pomona Water Reclamation Plant and the San Gorgonio Spreading Grounds (SASG) have not been planned yet so site locations are currently unknown.

Thompson Creek Existing Conditions

After the Pomona Valley Protective Association (PVPA) was formed in 1910, the Thompson Creek Spreading Grounds (TCSG) project area was purchased to enhance recharge of the Six Basins by capturing surface-water runoff generated in the Thompson Creek watershed; an approximately 3.7 square mile area. In 1931, the Los Angeles County Flood Control District (LACFCD) obtained easements in the TCSG for the construction of the Thompson Creek Dam and its associated facilities for flood-control purposes. The flow of runoff generated from the Thompson Creek watershed has been interrupted by the dam, diversion structure, and the concrete-lined channels.

In addition to Figure 4.1-7, Figure 2.6 in Chapter 2, *Existing Conditions*, show that PVPA uses two small pits (East Pit and West Pit) to percolate water. Combined, these pits are less than one acre in size with the remaining area between the Thompson Creek dam and related diversion channels left in an undeveloped state.

Runoff generated from the Thompson Creek watershed enters the PVPA property through a diversion structure upstream of the Thompson Creek Dam. At the diversion structure, stormwater can be diverted to the reservoir behind the dam and/or PVPA's conveyance ditch that subsequently discharges to the two small recharge pits in the TCSG through a tunnel with a capacity of approximately 75 cfs. Water that accumulates behind the Thompson Creek Dam does not contribute to the recharge of the Six Basins because the dam is partly grouted to bedrock and the reservoir is not maintained for recharge.

PVPA has requested that LACFCD divert as much stormwater as possible into the TCSG, but the diversion is constrained by LACFCD's operating rules that focus primarily on flood control operations.

Based on PVPA records, from 2000 to 2015 annual diversions to the TCSG ranged from 0 to 269 acre-ft/yr. Based on historical discharge measurements made by the LACFCD, Watermaster has estimated that the volume of stormwater captured at or discharged from Thompson Creek Dam, and therefore not diverted by the PVPA, ranged from a low of 3 acre-ft/yr to a maximum of about 1,634 acre-ft/yr.

San Antonio Creek Existing Conditions

PVPA is also the underlying landowner in the San Antonio Creek Wash. The total area of the SASG is approximately 1.4 square miles or 980 acres. In 1956, in response to flood events in 1937 and 1938, the US Army Corps of Engineers (USACE) completed construction of the San Antonio Dam, including facilities to convey water captured behind the dam to the SASG. By 1960, the San Antonio Channel below the dam was lined with concrete. Facilities developed within the SASG are used for flood control, monitoring of surface-water discharge, and

diversion of surface water for recharge. In addition to the two areas below the dam used for groundwater recharge by LACFCD and PVPA respectively, the SASG area is disturbed by a series of aggregate mine pits and related internal roads and a process plant; an electrical transmission line with towers and concrete footings, numerous unpaved roads, and a series of diversion gates, pipelines and some gabion structures to slow flood water for percolation.

The flow of runoff from the San Antonio Creek watershed across the alluvial plain (San Antonio Wash or SASG) has been interrupted by the dam, diversion structures, and the concrete lined San Antonio Creek Channel. Flows that exceed what can be diverted and used by the San Antonio Water Company (SAWCo) and the City of Pomona at the 60/40 splitter is captured behind the San Antonio Dam. Except under the most critical conditions, water impounded behind the dam is discharged in a controlled manner into PVPA's diversion works. The diversion works consist of six slide gates that divert water into the SASG, each with a capacity to divert up to 200 cfs. Two gates on the west side of the diversion works direct water into to the existing recharge basins on the Los Angeles County side of the SASG through a 72-inch diameter reinforced concrete pipeline. Four gates on the east side of the diversion works direct water into the existing recharge basins on the San Bernardino County side of the SASG through two 72-inch diameter reinforced concrete pipelines. Flow meters are installed in each 72-inch pipeline to record the diversions to the SASG. Discharge from the dam that exceeds PVPA's diversion capacity by-passes the diversion works and enters the concrete-lined San Antonio Creek Channel. Water discharged to the concrete-lined San Antonio Creek Channel has one more opportunity to be diverted to the SASG via the Lower San Bernardino Turnout. The turnout is a drop-inlet structure that diverts water to the San Bernardino County side of the SASG. When the gate is fully open, this turnout can divert water at a maximum rate of approximately 300 cfs.

Based on PVPA records, from 1961 to 2015 annual diversions to the SASG ranged from 0 to 33,370 acre-ft/yr. Based on historical discharge measurements made by USACE, the Watermaster has estimated that the volume of storm water discharged from San Antonio Dam that was not diverted by the PVPA ranged from a low of 4 acre-ft/yr to a maximum of about 44,900 acre-ft/yr. However, based on anecdotal information from the USACE, the discharge measurements at the dam are not accurate in low-flow conditions and may overestimate outflow from the dam under such conditions.

Regulatory Setting

Federal Jurisdiction

United States Army Corps of Engineers

Pursuant to Section 404 of the federal Clean Water Act (CWA), USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined by Section 33 of the Code of Federal Regulations (33 CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all other waters (e.g., lakes, rivers,

intermittent streams) that could affect interstate or foreign commerce, (4) all impoundments of waters mentioned above, (5) all tributaries to waters mentioned above, (6) the territorial seas, and (7) all wetlands adjacent to waters mentioned above. Waters of the United States do not include (1) waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the federal CWA, and (2) prior converted cropland. Waters of the United States typically are separated into two types: (1) wetlands and (2) “other waters” (non-wetlands) of the United States.

Wetlands are defined by 33 CFR 328.3(b) as:

...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions.

In 1987, USACE published the *1987 Wetland Manual* to guide its field personnel in determining jurisdictional wetland boundaries. This manual was amended in 2008 to the *USACE 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008 Arid West Supplement). Currently, the *1987 Wetland Manual* and the *2008 Arid West Supplement* provide the legally accepted methodology for identification and delineation of USACE-jurisdictional wetlands in southern California.

In the absence of wetlands, the limits of USACE jurisdiction in nontidal waters, including intermittent Relatively Permanent Water (RPW) streams, extend to the Ordinary High-Water Mark (OHWM), which is defined by 33 CFR 328.3(e) as:

... that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

On January 9, 2001, the U.S. Supreme Court ruled (in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*) (SWANCC) that USACE jurisdiction does not extend to previously regulated isolated waters, including but not limited to isolated ponds, reservoirs, and wetlands. Examples of isolated waters that are affected by this ruling include vernal pools, stock ponds, lakes (without outlets), playa lakes, and desert washes that are not tributary to navigable or interstate waters or to other jurisdictional waters.

In May 2007, USACE and EPA jointly published and authorized the use of the *2007 Jurisdictional Determination Form Instructional Guidebook*. The form and guidebook define how to determine if an area is USACE jurisdictional and if a significant nexus exists per the Rapanos decision (see below). A nexus must have more than insubstantial and speculative effects on the downstream Traditionally Navigable Waters (TNW) to be considered a significant nexus. The guidebook was updated by the *2008 Arid West Supplement*, and the *2010 Updated Datasheet for the Identification of the Ordinary High-Water Mark (OHWM) in*

the Arid West Region of the Western United States, and the 2011 Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region.

A joint guidance by EPA and USACE was issued on June 5, 2007, and revised on December 2, 2008, is consistent with the Supreme Court’s decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208 [2006]) (*Rapanos*), which addresses the jurisdiction over waters of the United States under the CWA (33 U.S.C. §1251 et seq.). A draft guidance was circulated in April 2011 to supercede both the 2003 SWANCC guidance and 2008 *Rapanos* decision; however, this guidance is not finalized and lacks the force of law.

USACE will continue to assert jurisdiction over TNWs, wetlands adjacent to TNW, non-navigable tributaries of TNW that are Relatively Permanent Waters (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months), and wetlands that directly abut such tributaries.

USACE generally will not assert jurisdiction over swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) or nontidal drainage ditches (including roadside ditches) that are (1) excavated wholly in and draining only uplands and (2) that do not carry a relatively permanent flow of water. USACE defines a drainage ditch as:

A linear excavation or depression constructed for the purpose of conveying surface runoff or groundwater from one area to another. An “upland drainage ditch” is a drainage ditch constructed entirely in uplands (i.e., not in waters of the United States) and is not a water of the United States, unless it becomes tidal or otherwise extends the ordinary high-water line of existing waters of the United States.

Furthermore, USACE generally does not consider “[a]rtificially irrigated areas which would revert to upland if the irrigation ceased” to be subject to their jurisdiction. Such irrigation ditches are linear excavations constructed for the purpose of conveying agricultural water from the adjacent fields. Therefore, such agricultural ditches are not considered to be subject to USACE jurisdiction.

USACE will use fact-specific analysis to determine whether waters have a significant nexus with: (1) TNW for nonnavigable tributaries that are not relatively permanent (non-RPW); (2) wetlands adjacent to nonnavigable tributaries that are not relatively permanent; and (3) wetlands adjacent to, but that do not directly abut, a relatively permanent nonnavigable tributary. According to USACE, “a significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters,” including consideration of hydrologic and ecologic factors. A primary component of this determina-

tion lies in establishing the connectivity or lack of connectivity of the subject drainages to a TNW.

State Jurisdiction

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the federal CWA as well as the California Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code, Division 7, §13000 et seq.). Waters of the State are defined by Porter-Cologne as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050(e)). Waters of the State broadly includes all waters within the State’s boundaries (public or private), including waters in both natural and artificial channels.

Regional Water Quality Control Board

Under Porter-Cologne, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) regulate the discharge of waste into waters of the State. Discharges of waste include “fill, any material resulting from human activity, or any other ‘discharge’ that may directly or indirectly impact ‘waters of the state.’” Porter-Cologne reserves the right for the State to regulate activities that could affect the quantity and/or quality of surface and/or groundwaters, including isolated wetlands, within the State. Wetlands were defined as waters of the State if they demonstrated both wetland hydrology and hydric soils. Waters of the State determined to be jurisdictional for these purposes require, if impacted, waste discharge requirements (WDRs).

When an activity results in fill or discharge directly below the OHWM of jurisdictional waters of the United States (federal jurisdiction), including wetlands, a CWA Section 401 Water Quality Certification is required. If a proposed project is not subject to CWA Section 401 certification but involves activities that may result in a discharge to waters of the State, the project may still be regulated under Porter-Cologne and may be subject to waste discharge requirements. In cases where waters apply to both CWA and Porter-Cologne, RWQCB may consolidate permitting requirements to one permit.

California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation” (California Code of Regulations, Title 14, Section 1.72). The jurisdiction of CDFW may include areas in or near intermittent streams, ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams that are indicated on USGS maps, watercourses that may contain subsurface flows, or within the flood plain of

a water body. CDFW’s definition of “lake” includes “natural lakes or man-made reservoirs.” CDFW limits of jurisdiction typically include the maximum extents of the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

In a CDFW guidance of stream processes and forms in dryland watersheds, streams are identified as having one or more channels that may all be active or receive water only during some high flow event. Subordinate features, such as low flow channels, active channels, banks associated with secondary channels, floodplains, and stream-associated vegetation, may occur within the bounds of a single, larger channel. The water course is defined by the topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. A watercourse is defined as a stream with boundaries defined by the maximal extent or expression on the landscape even though flow may otherwise be intermittent or ephemeral.

Artificial waterways such as ditches (including roadside ditches), canals, aqueducts, irrigation ditches, and other artificially created water conveyance systems also may be under the jurisdiction of CDFW. CDFW may claim jurisdiction over these features based on the presence of habitat characteristics suitable to support aquatic life, riparian vegetation, and/or stream-dependent terrestrial wildlife. As with natural waterways, the limit of CDFW jurisdiction of artificial waterways includes the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

CDFW does not have jurisdiction over wetlands but has jurisdiction to protect against a net loss of wetlands. CDFW supports the wetland criteria recognized by USFWS; one or more indicators of wetland conditions must exist for wetlands conditions to be considered present. The following is the USFWS accepted definition of a wetland:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the lands support hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

In the *A Clarification of the U.S. Fish and Wildlife Service’s Wetland Definition* from 1989, the USFWS definition was further clarified

...that in order for any area to be classified as wetland by the Service, the area must be periodically saturated or covered by shallow water, whether wetland vegetation and/or hydric soils are present or not; this hydrologic requirement is addressed in the first sentence of the definition.”

When considering whether an action would result in a net loss of wetlands, CDFW will extend jurisdiction to USFWS-defined wetland conditions where such conditions exist within the

riparian vegetation that is associated with a stream or lake and does not depend on whether those features meet the three-parameter USACE methodology of wetland determination. If impacts to wetlands under the jurisdiction of CDFW are unavoidable, a mitigation plan will be implemented in coordination with CDFW to support the CDFW policy of “no net loss” of wetland habitat (see mitigation measure BIO-4 in Section 4.4.4, *Mitigation Measures*).

Literature Review Results

Soils

Before conducting the field surveys in the TCSG and SASG project areas, soil maps for Los Angeles County were referenced online to determine the types of soil found within the TCSG and SASG project areas. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2020).

After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2020), it was determined that the Project site is located within the Los Angeles County, California Southeastern Part CA696. Based on the results of the database search, four (4) soils types were observed in the TCSG and SASG project areas.

San Antonio Creek

Soboba and Tujunga soils, 0 to 5 percent slopes (1266). This soil is excessively drained with a very high capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 400 to 2,350 feet above mean sea level (amsl).

Soboba stony loamy sand, 2 to 9 percent slopes (SpCsb). This soil is excessively drained with a high to very high capacity to transmit water. This soil consists of discontinuous human-transported material over alluvium derived from granite, typically ranges in elevation from 960 to 3,690 feet amsl

Urban land – Soboba complex, 0 to 5 percent slopes (1006). This soil is somewhat excessively drained with a high to very high capacity to transmit water. This soil consists of alluvium derived from granite sources, typically ranges in elevation from 310 to 2,080 feet amsl.

Thompson Creek

Urban land – Soboba complex, 0 to 5 percent slopes (1006). This soil is somewhat excessively drained with a high to very high capacity to transmit water. This soil consists of alluvium derived from granite sources, typically ranges in elevation from 310 to 2,080 feet amsl.

Padova-Walong complex, 30 to 85 percent slopes (1160). This soil is well drained with a very low to low capacity to transmit water. This soil consists of residuum weathered from gneiss, typically ranges in elevation from 600 to 2,930 feet amsl.

Dam. The TCSG project area directly abuts the Thompson Creek Dam. As such a small portion of the soil within the project area is classified as Dam. This soil type is used as a classification for man-made structures and not a description of the material used to construct the dam. The SASG project areas do not abut the San Antonio Creek Dam.

Sensitive Habitats Within the SASG and TCSG

Riversidian Alluvial Fan Sage Scrub

Riversidean alluvial fan sage scrub (RAFSS) is a Mediterranean shrubland type that occurs in washes and on gently sloping alluvial fans subject to scour during major storm events. Fluvial processes are needed to maintain the openness of the habitat and to deposit sand soils utilized by many of the wildlife species associated with RAFSS habitat. Alluvial plant species are made up predominantly of drought-deciduous soft-leaved shrubs. Scalebroom (*Lepidospartum squamatum*) generally is regarded as an indicator of RAFSS habitat. In addition to scalebroom, alluvial scrub plant species include white sage (*Salvia apiana*), redberry (*Rhamnus crocea*), California buckwheat, Spanish bayonet, California croton (*Croton californicus*), cholla (*Opuntia spp.*), tarragon (*Artemisia dracunculus*), yerba santa (*Eriodictyon spp.*), mule fat, and mountain-mahogany.

RAFSS habitat is classified by three major phases: pioneer, intermediate and mature. Pioneer RAFSS occur within an active streambed and up onto the first bench outside the active streambed. Pioneer RAFSS is routinely flooded during large storm events that help maintain the openness of the habitat which usually exhibits plant cover between 10 and 30 percent. Intermediate RAFSS occurs outside of the active streambed, usually on the secondary and tertiary benches above the streambed. Intermediate RAFSS habitat is not subjected to routine flooding but instead is scoured by flood waters during major storm events. Scouring maintains the openness of the habitat between 30 to 60 percent. Mature RAFSS habitat is not subject to routine or major storm events but is within the 100-year floodplain and can receive flood waters and scouring during extreme storm events which usually resets mature RAFSS to intermediate or pioneer RAFSS habitat phases. RAFSS habitat on fringes of a wash system or outside the 100-year floodplain are not exposed to scouring and continue to mature (senescence) into woodier vegetation normally associated with chaparral habitats. Both *Ceanothus crassisfolius* and *Ceanothus leucodermus*, chaparral species, were identified within the SASG and TCSG project study areas. Plant cover in mature RAFSS habitat usually exceeds 75 percent. The lack of open habitat in mature RAFSS precludes many of the sensitive species associated with pioneer and intermediate RAFSS habitats from occurring.

Special Status Species Background

Animals

Arroyo Toad

The arroyo toad is a small, stocky, warty toad that is about 2 to 3 inches (in) (5.1 to 7.6 centimeters (cm)) in length. They are found in low gradient, medium-to-large streams and rivers with intermittent and perennial flow in coastal and desert drainages in central and southern California, and Baja California, Mexico. Arroyo toads occupy aquatic, riparian, and upland habitats in the remaining suitable drainages within its range. Arroyo toads are breeding habitat specialists and require slow-moving streams that are composed of sandy soils with sandy streamside terraces. Suitable habitat for the arroyo toad is created and maintained by periodic flooding and scouring that modify stream channels, redistribute channel sediments, and alter pool location and form. These habitat requirements are largely dependent upon natural hydrological cycles and scouring events, as well as the presence of perennial or intermittent water sources. Due to several decades of surface mining operations in the SASG, combined with ongoing flood control activities in both the SASG and TCSG to protect downstream residential developments, habitat for arroyo toad has been severely impacted locally and no longer occurs within the project area.

Foothill Yellow-legged Frog

The foothill yellow-legged frog occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County, in most of northern California west of the Cascade crest, and along the western flank of the Sierra Nevada south to Kern County. Isolated populations are known from the mountains of Los Angeles County. Its elevation range extends from near sea level to 1,940 meters (6,370 feet) in the Sierra Nevada. The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. Tadpoles require water for at least three or four months while completing their aquatic development. Foothill yellow-legged frogs are found in or near rocky streams in a variety of habitats. These habitat requirements are largely dependent upon natural hydrological cycles and scouring events, as well as the presence of perennial or intermittent water sources. Due to several decades of surface mining operations in the SASG, combined with ongoing flood control activities in both the SASG and TCSG to protect downstream residential developments, habitat for foothill yellow-legged frog is no longer present in the project area.

Southern Mountain Yellow-legged Frog

The mountain yellow-legged frog is a moderate-sized (1.5 to 3.25 inches) ranid frog. Mountain yellow-legged frogs in the Sierra Nevada live in high mountain lakes, ponds, tarns, and streams--largely in areas that were glaciated as recently as 10,000 years ago. Alpine lakes used by mountain yellow-legged frogs usually have open shorelines, margins that are grassy or muddy and have a depth greater than 2.5 meters (greater than 8.2 feet). Adults are typically found sitting on rocks along the shoreline, usually where there is little or no

vegetation. Larvae are often distributed in the warm water shallow areas along the shoreline during the daytime. Mountain yellow-legged frogs also use stream habitats, especially in the northern part of their range. These habitat requirements are largely dependent upon natural hydrological cycles and scouring events, as well as the presence of perennial or intermittent water sources. Due to several decades of surface mining operations in the SASG, combined with ongoing flood control activities in both the SASG and TCSG to protect downstream residential developments, habitat for southern mountain yellow-legged frog is no longer present in the project area.

Coastal California gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*) (CAGN) is a small, non-migratory songbird (passerine) that occurs along the Pacific coastal regions of southern California and northern Baja California, Mexico, in or near coastal scrub vegetation communities. It is a federally threatened species with restricted habitat requirements, being an obligate resident of coastal sage scrub habitats that are dominated by California sage brush. This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland. According to J. Atwood and J. Bolsinger (1992), 99 percent of all California gnatcatcher observations are in areas with elevations below 950 feet. There are reported occurrences of California gnatcatcher up to 1,600 feet elevation (500 meters) (Davis and McKernan, 1998).

The range and distribution of California gnatcatcher is closely aligned with coastal scrub vegetation. This vegetation is typified by low (less than 1 meter (3 feet)), shrub and subshrub species that are often drought deciduous.

The SASG and TCSG project areas range in elevation from 1,600 to 2,000 feet above msl, which is outside the preferred elevational range of California gnatcatcher. Ninety-nine percent of all California gnatcatcher observations occur below 950 feet above msl. California gnatcatcher's preferred habitat is coastal sage scrub dominated by California sage brush. The project area (SASG and TCSG sites) does not support coastal sage scrub habitat. Instead, it supports a mix of various alluvial scrub habitats, dominated by three alliances: *Eriogonum fasciculatum* shrubland alliance (California buckwheat scrub), *Malosma laurina* shrubland alliance (Laurel sumac scrub) and *Artemisia californica* shrubland alliance (California sagebrush scrub). The dominant plant species is Laurel sumac with plant coverage exceeding 75 percent. The dominance of larger woody shrubs and tree species combined with the dense plant cover in this area provide very low-quality habitat for the California gnatcatcher. Additionally, the site is outside the species elevational ranges. The last CNDDB sighting of California gnatcatcher in the foothills of the San Gabriel Mountains north of the cities of Claremont and Upland occurred over a hundred years ago in 1918.

Given that the site's elevational range is above of the species preferred elevational range, the native alliances inhabiting this project area provide very low-quality, plus the lack of any observation of California gnatcatcher in this area of the San Gabriel Mountain since 1918 and the long-standing use of this area for flood control activities and groundwater charging, it is

highly unlikely that the area supports this species. The site is presumed to be unoccupied and focused surveys are not recommended.

Santa Ana sucker

Santa Ana sucker is a small, short-lived member of the sucker family of fishes (*Catostomidae*), named so primarily because of the downward orientation and anatomy of their mouth parts, which allow them to suck up algae, small invertebrates, and other organic matter with their fleshy, protrusible (extendable) lips. Santa Ana suckers are generally less than 6.3 inches (in) (16 centimeters (cm)) in length; however, they have been collected at lengths up to 8 in (20.3 cm). Santa Ana sucker are found in perennial streams and rivers in southern California, primarily the Los Angeles River, Santa Ana River, San Gabriel River, and the Santa Clara River. None of the streams or creeks in the project area provide sufficient flows of water to support Santa Ana sucker.

San Bernardino kangaroo rat

The federally listed as endangered San Bernardino kangaroo rat (SBKR) is one of three recognized subspecies of Merriam's kangaroo rat (*D. merriami*) in California. The Merriam's kangaroo rat is a small, burrowing rodent species that can be found within inland valleys and deserts of southwest United States of America and northern Mexico. The Dulzura kangaroo rat (*Dipodomys simulans*), the Pacific kangaroo rat (*Dipodomys agilis*) and the Stephens kangaroo rat (*Dipodomys stephensi*) occur in areas occupied by SBKR, but these other species have a wider habitat range. SBKR, however, has a restricted southern California distribution, confined to certain inland valley scrub communities and, more particularly, to scrub communities occurring along rivers, streams, and drainages within the San Bernardino, Menifee, and San Jacinto valleys. Most of these drainages have been historically altered due to a variety of reasons including, mining, off-road vehicle use, road and housing development, and flood control efforts. This increased use of river floodplain resources resulted in a reduction in both the amount and quality of habitat available for SBKR.

The 2002 critical habitat rule for SBKR defined four Primary Constituent Elements (PCEs) that are essential to the conservation of SBKR: (1) Soil series consisting predominantly of sand, loamy sand, sandy loam, or loam; (2) Alluvial sage scrub and associated vegetation, such as coastal sage scrub and chamise chaparral, with a moderately open canopy; (3) River, creek, stream, and wash channels; alluvial fans; floodplains; floodplain benches and terraces; and historic braided channels that are subject to dynamic geomorphological and hydrological processes typical of fluvial systems within the historical range of the SBKR; and (4) Upland areas proximal to floodplains with suitable habitat. Flood control activities in the San Gabriel Mountains has confined most stormwater flows to constructed flood control channels. Scouring of the adjacent bench habitat areas has been severely limited. Additionally, the movement and deposit of sandy soils associated with flood waters no longer occurs in the area. Without exposure to floodwaters, scouring no longer occurs and sands soils are no longer deposited. Most of the suitable habitat for SBKR has been removed from the San Gabriel foothills. Habitats within the foothills of the San Gabriel Mountains have become very rocky with little sandy soils. Without scouring, vegetation is maturing or

converting into woodier plant species with plant cover exceeding 75 percent. The project areas no longer support suitable SBKR habitat.

Burrowing Owls

The burrowing owl (BUOW) is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place. They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

The BUOW is not listed under the State or federal ESA but is considered both a State and federal Species of Special Concern (SSC). The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5). Habitats within the foothills of the San Gabriel Mountains have become very rocky with little sandy soils. Due to the rockiness of the habitat and lack of soils for burrowing by ground squirrels, there are no burrows available for BUOW within the project areas. Additionally, without scouring, vegetation is maturing or converting into woodier plant species with plant species densities exceeding 75 percent. The dense vegetation precludes the line-of-sight opportunities needed by BUOW for foraging and avoidance of predators. The project areas do provide suitable BUOW habitat.

Plants

Nevin's Barberry

Nevin's barberry (*Berberis nevinii*) is a California endangered plant species, which means that killing or possession of plants collected from the wild is prohibited under the California Endangered Species Act (CESA). Nevin's barberry is also listed as endangered under the federal ESA. Nevin's Barberry is an evergreen shrub, historically found at scattered locations in Los Angeles, San Bernardino, Riverside, and possibly San Diego counties. The species is widely available in the nursery trade, and cultivated Nevin's barberry plants have been introduced outside of the species' native range. The species is found in a variety of different topographical conditions ranging from nearly flat sandy washes, terraces, and canyon floors to ridges and mountain summits. Nevin's barberry is also associated with mesic habitats and plant communities such as alluvial scrub, chamise chaparral, coastal sage scrub, oak woodland, and riparian scrub or woodland. Data also suggests that Nevin's barberry may require long periods between fires for successful population growth. The CNDDDB has reported 21 natural occurrences of Nevin's barberry presumed to still exist in southern California, and a majority of these occurrences consist of less than five individual plants

Plummer's Mariposa-Lily

Plummer's mariposa-lily (*Calochortus plummerae*) is a species of mariposa lily that is endemic to southern California where it is found along the coast and inland hills. It is a member of the chaparral plant community. It produces thin, branching stems and a few long curling leaves. Atop the stem is a lily bloom with long, pointed sepals and petals which may be up to 4 centimeters long. The petals are pink, lavender, or white with a wide yellow band across the middle. They are hairy inside and sometimes fringed with hairs. The center contains large whitish or yellowish anthers. The fruit capsule is up to 8 centimeters long.

Plummer's mariposa lily is restricted to southern California and found at elevations of up to 5,580 feet and has pink flowers covered with yellow hairs. It is most often found in chaparral or coastal scrub ecosystems and sometimes found in grasslands, oak woodlands, or pine woodlands at the southern fringe of the Los Padres National Forest.

Thread-leaved Brodiaea

Thread-leaved brodiaea is a California endangered plant species, which means that killing or possession of plants collected from the wild is prohibited by CESA. This species is also listed as threatened under the federal ESA. Thread-leaved brodiaea is a member of the brodiaea family (*Themidaceae*) and is a perennial bulbiferous herb. It produces several linear leaves from an underground corm, and blue to red-purple flowers on a leafless stalk. This species typically grows in herbaceous plant communities such as grassland communities, alkali playa, and in vernal pools. In some locations, thread-leaved brodiaea grows in open areas associated with coastal sage scrub. The range of this species extends from the foothills of the San Gabriel Mountains at Glendora in Los Angeles County, east to Arrowhead Hot Springs in the western foothills of the San Bernardino Mountains in San Bernardino County, and south through eastern Orange and western Riverside counties to the City of San Diego. The CNDDDB has reported 103 natural occurrences of this species that are presumed to still exist.

Slender-horned Spineflower

Listed under CESA and the federal ESA, the endangered slender-horned spineflower (spineflower) is an annual plant in the *Polygonaceae* (buckwheat family). Plants have a distinctive basal rosette of leaves ranging from 3 to 8 centimeters (1.2 to 3.1 inches) in diameter. The leaves frequently become reddish at maturity. The flower stalks are branched and erect 3 to 10 centimeters (1.2 to 4 inches) tall and the flowers are white to pink in color. This spineflower is found in drought prone habitats where germination is likely related to rainfall. This spineflower is typically found in alluvial fan scrub on benches and terraces away from active channels in areas receiving little surface disturbance from flooding, but subject to sheet or overland flows. Within San Bernardino County, there are currently only eight (8) occurrences of this species known to be extant within three drainages; the upper Santa Ana River, Lytle Creek, and Cajon Canyon. In Los Angeles County there are only 11 recorded occurrences for this species. This spineflower typically blooms between April and June. Individual plants are difficult to detect because they are small and occur in relatively small, isolated patches across often extensive floodplain habitat. Additionally, plant densities may be low during drought conditions.

Jurisdictional Waters

Aerial imagery of the project sites (SASG and TCSG) was examined and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS *National Wetland Inventory* and the EPA *Water Program “My Waters”* data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the soil maps from the NRCS Web Soil Survey were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. No obvious signs of jurisdictional features occur within the SASG and TCSG project areas.

Local

City of Claremont

General Plan Open Space, Parkland, Conservation and Air Quality Element

The City of Claremont’s Open Space, Parkland, Conservation and Air Quality Element recognizes that native habitat within open space areas such as those identified in the TCSG and SASG project areas support functions associated with atmospheric and biological processes that keep our air and water clean, and that contribute to the survival and reproduction of plant and animal life. Open space allows the recharge of groundwater basins, benefiting the Claremont community with a clean source of water for everyday use. In addition, the Element recognizes that the retention and protection of groundwater resources in terms of volume and quality are essential to both Claremont and surrounding areas for drinking water, recreation, and community sustainability. The following goals and policies address the City’s commitment to maintaining open space resources while also protecting the TCSG and SASG groundwater recharge capability.

- Goal 5-1 Maintain unique and diverse open space resources throughout Claremont for purposes of resource and habitat protection.
- Policy 5-1.1 Strive to acquire or otherwise protect open space areas that provide key wildlife corridors and provide connectivity between habitat areas.
- Policy 5-1.2 Work with State and federal agencies to protect areas containing rare or endangered species of plants and animals.
- Goal 5-4 Protect groundwater resources.
- Policy 5-4.1 Protect, preserve, and enhance the San Antonio Spreading Grounds and Thompson Creek Spreading Grounds as important open space resources for recharging groundwater basins.

Policy 5-4.2 Encourage use of drainage improvements designed with native vegetation where possible, to retain or detain stormwater runoff, minimizing volume and pollutant concentrations.

Claremont Hills Wilderness Park (CHWP)

The Claremont Hills Wilderness Park (CHWP) is located adjacent to the Thompson Creek Dam and TCSG project area. The TCSG project area is not within the CHWP, therefore, goals and policies set forth in the CHWP Master Plan do not apply to this project and the project was not reviewed for consistency with the Master Plan.

Claremont Tree Policies and Guidelines Manual

The Claremont Tree Policies and Guidelines Manual contains the city's guidelines for the planting, pruning, removal, preservation, and protection of all City-owned trees. Several of the well sites identified in the Strategic Plan are adjacent to mature street trees that are located within City easements, parkways or rights-of-way. In addition, although unknown at this time, new well sites may be located adjacent to mature street trees. Therefore, when a project is proposed on a site where mature street trees require trimming or pruning, this activity may be subject to the policies and guidelines found in Claremont's manual.

The City's tree policy is considered herein because Strategic Plan projects such as new treatment facilities, may require trimming or removal of mature trees that may provide nesting opportunities for birds.

City of La Verne

General Plan Update Conservation and Natural Resources Background Report

General Plan Update Conservation and Natural Resources Background Report, Figure 5-1, *Land Cover Types*, shows that the majority of the City of La Verne located south of the 210 Freeway is characterized as Urban. Strategic Plan projects identified in the La Verne are located on existing well or treatment facility sites within this urban area. Therefore, general plan goals and policies related to Biological Resources, would not apply. The sites of future new production or monitoring well sites are unknown at this time and may be sited within areas where biological resources may be impacted. Therefore, the following general plan goals and policies may apply.

Goal 3 Preserve Our Diversified Plant and Animal Life.

Policy 4.1 Preserve mature trees wherever possible.

Implementation Measures:

- a. Prohibit removal of significant or heritage trees without permit.
- b. Require mature trees to be replaced at the four-to-one ratio.

Policy 4.2 Protect and preserve our native plant communities and habitat.

Implementation Measures:

- a. Determine resource management policy based upon the areas identified on MAP RM-6, *Resource Management Policy Map*.

Municipal Code

The City of La Verne Municipal Code Section 12.36.060 *Installation and maintenance of street trees*, states that street trees ... *shall be installed on private property, behind the parkway, in the number and at the locations acceptable to the public works department. Responsibility for maintaining each tree, including the trimming thereof, shall be the sole responsibility of the person who is required to install it and of each subsequent owner of the property on which the tree is planted.*

The City's municipal code section regarding street trees is considered herein because Strategic Plan projects such as new treatment facilities, may require trimming or removal of mature trees that may provide nesting opportunities for birds.

City of Pomona

General Plan Conservation Component

Strategic Plan projects identified in the City of Pomona are all located on sites developed with wells and/or treatment facilities. The development of new production or monitoring wells and the interconnections between wells and treatment facilities have not been planned at this time and no specific locations are known. However, the General Plan Conservation Component provides goals and policies that may apply to new Strategic Plan projects as follows:

- | | |
|---------------|---|
| Goal 7E.G2 | Protect special status species and their supporting habitats within Pomona, including species that are state or federally listed as endangered, threatened or rare. |
| Policy 7E.P10 | Preserve mature trees and vegetation, including wildflowers, along the City's scenic roadways. |
| Policy 7E.P11 | Prior to development of areas with drainage features such as ponds, detention basins, or wetlands, a site specific investigation shall be conducted to define the extent of drainage features, determine wetland permit requirements, and propose measures to mitigate any impacts on the resources. |
| Policy 7E.P12 | Conduct presence/absence biological surveys for sensitive plant and animal species in during the appropriate time of year and time of day in natural areas prior to any construction activities proposed adjacent to or within natural areas. If no special status species are detected during these surveys, then construction-related activities may proceed. If listed special status species are found within the construction zone, then avoid these species |

and their habitat or consult with U.S. Fish and Wildlife Service and/or California Department of Fish and Game prior to the commencement of construction.

- Policy 7E.P13 Conduct nesting bird surveys prior to any construction activities, including projects proposed to remove/disturb native and ornamental landscaping and other nesting habitat for native birds during bird breeding season from March 1 through August 31 (as early January 1 for some raptors). If no nesting birds are detected during these surveys, then construction-related activities may proceed. Active nests within and adjacent to the construction zone should be avoided and provided a minimum buffer as determined by a biological monitor (CDFW recommends a 300-foot nest avoidance buffer or 500 feet for all active raptor nests) or consult with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife prior to the commencement of construction.

Municipal Code

Municipal Code Section 46-467 requires that any person who intends to remove, trim, prune or cut any tree upon the streets or planting strips must obtain a permit from the Director of Community Services.

The City's municipal code section regarding street trees is considered herein because Strategic Plan projects such as new treatment facilities, may require trimming or removal of mature trees that may provide nesting opportunities for birds.

City of Upland

The City of Upland General Plan Open Space and Conservation Element states that *most of the City is fully developed with urban uses however it still contains a few open space areas that are largely dedicated to active mining, flood control, and groundwater recharge*. These areas provide habitat for a variety of plants and wildlife species.

Although there are no specific Strategic Plan projects identified within the City of Upland, future well sites and/or treatment facilities may be identified at a later date. Goals and policies germane to such future projects include the following:

- Goal OSC-1 Upland's natural resources such as open space, wildlife and vegetation, are protected and enjoyed as limited and valuable resources and integral parts of a sustainable environment.
- Policy OSC-1.1 Resource Preservation. Preserve open space and habitat areas by promoting conservation and preservation easements that protect habitat areas, habitat corridors, and sensitive biological resources.
- Policy OSC-1.2 Open Space Corridors. Focus on areas that are adjacent to larger open space areas and corridors as the first priority in siting preservation areas.

- Policy OSC-1.3 Joint Use. Work with property owners and regional agencies to allow safe, joint use of open space areas that are used for other purposes such as flood control, groundwater recharge, utility corridors, and mining for passive recreational activities such as trails or view spots.
- Policy OSC-2.1 Street Tree Canopy. Maintain the City’s tree-lined streets as an integral component of the City’s character by replacing parkway and median trees in conjunction with public and private projects.
- Policy OSC-2.6 Tree Preservation. Promote the preservation of Upland’s large mature trees that occupy both public and private property through the preparation of a Tree Preservation Ordinance. Include the identification and protection of landmark trees, meaning trees of historic or cultural significance.

Tree Preservation Ordinance

Upland municipal code section 12.26.050 pertains to the planting, removal, long term care, maintenance, selection of trees, protection and preservation of heritage trees and street trees within the city boundaries.

The City’s municipal code section regarding street trees is considered herein because Strategic Plan projects such as new treatment facilities, may require trimming or removal of mature trees that may provide nesting opportunities for birds.

Los Angeles County

Unincorporated Los Angeles County areas consists of a number of small “islands” within the cities of Pomona and Claremont. There are no Strategic Plan projects identified within these areas at this time and it is unlikely that future sites would be developed in the islands surrounded by the City of Pomona because these areas are urbanized thus would not likely include vacant sites that could be developed with new groundwater production or monitoring wells. Regarding County islands surrounded by the City of Claremont, these areas are generally located near the foothills overlying the Upper Claremont Heights Basin or the Canyon Basin. There are no Strategic Plan projects proposed in these areas and the Watermaster Parties do not envision future well or treatment facility development in these areas.

San Bernardino County

The unincorporated community of San Antonio Heights is located in the northeastern most segment of the Six Basins project area. the Watermaster Parties do not envision future well or treatment facility development in this area.

4.4.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact Biological Resources if it would result in any of the following:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact Evaluation

Impact 4.4-1

Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Threshold 1).

Substantiation

Project Category 1: Pump and Treat in the Pomona Basin

Determination: Less Than Significant Impact.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

Section 4.1, Aesthetics, includes a series of aerial photographs that show existing conditions at existing sites. These are as follows: Reservoir 5 Well and Treatment Facility (Figure 4.1-1), Durward 2 Well site (Figure 4.1-2), Lincoln/Mills Well site (Figure 4.1-3), Old Baldy Well site (Figure 4.1-4), and Del Monte 4 Well site (figure 4.1-5).

Reservoir 5

The Reservoir 5 Well Site and Treatment Facility is located on approximately 7 acres located in the City of Pomona in an area designated as an Urban Neighborhood, an area developed with a mix of uses. The area includes a mix of commercial, industrial and residential uses. Adjacent to the northwest of the site is a single-family neighborhood and a Salvation Army site with a day care facility. As shown in Figure 4.1-1, this site developed with a reservoir, pump house, and treatment facilities, is devoid of vegetation so no habitat that would be modified and is enclosed by perimeter fencing/walls. Therefore, proposed improvements at the Reservoir 5 site would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. No direct or indirect impact would occur at the Reservoir 5 site.

Durward 2

The Durward 2 site is approximately ¼ acre located in the City of Pomona, on the west side of Fairplex Drive adjacent to the NE corner of a business park, south of the Metrorail tracks, and west of the Auto Club Raceway (NHRA). The raceway is located within the larger Pomona Fairplex site.

Figure 4.1-2 shows the project area. The Durward 2 site is enclosed with perimeter fencing and is covered with gravel. Although the existing well has been abandoned, Golden State Water Company proposes to use this site as a pipeline connection point, bringing water from the Old Baldy well site (see description below) in a pipeline and blend with water from other wells in the area. The existing pipe will be used as a storage tank. Blended water will then pass into the imported water pipeline. Improvements at this site (including construction and operation), would be either underground or at ground level typical of a well site. Under existing conditions, there is no habitat that would be modified. Therefore, proposed improvements at the Durward 2 site would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. No direct or indirect impact would occur at the Durward 2 site.

Lincoln/Mills

The approximately 0.6-acre Lincoln/Mills treatment facility is an air-stripping facility owned by the City of La Verne. Figure 4.1-3 shows the facility which consists of a pump house,

reservoir and air stripping towers (approximately 20 feet in height). The towers are behind and below mature trees located along the south side of the site. The site is located within an existing residential neighborhood and adjacent to the site to the north is a small park. The site is paved and includes a pump house and treatment facilities; and is surrounded by mature trees. Improvements at this site include expanding the existing air-stripping facility or constructing a granular activated carbon (GAC) facility. The project also includes the construction of a new interconnect (underground pipeline) to connect other wells to the treatment facility or to supply product water to other agencies, if necessary.

Construction of a new treatment facility may require trimming the existing trees along the perimeter. Depending on the time of year, this activity may require a pre-construction nesting bird survey. Mitigation measure BIO-2 addresses this requirement for the Lincoln/Mills site and for other sites identified in the Strategic Plan, where nesting birds may be adversely affected by construction activities. Implementation of Mitigation measure BIO-2 would ensure that potential impacts on nesting birds would be less than significant.

Old Baldy

The Old Baldy well site is located at 5th and C Streets in the City of La Verne and is owned by the city. The city has not produced groundwater from the Old Baldy well since 2002 due to high nitrate and perchlorate concentrations. Figure 4.1-4 in Section 4.1-1, *Aesthetics*, shows existing conditions at the well site.

Note that the aerial photo is older than the site photos which were taken in late 2018. The aerial photo shows existing conditions within the neighborhood. Because there was no production activity at the project site over the past several years, the city used the site for storage. Since then, material has been removed and the site photos best represent existing conditions. The proposed project is to rehabilitate the Old Baldy well and construct new treatment facilities to reduce nitrate and perchlorate concentrations in the groundwater. Once rehabilitated the well could be connected to the Lincoln/Mills treatment facility via underground pipeline (evaluated under Project Category 3).

The Old Baldy well site is surrounded by mature vegetation that screens the building and related aboveground infrastructure. Adding a treatment facility such as what is located at the Lincoln/Mills site would also be obscured by the mature vegetation. Construction of a new treatment facility may require trimming the existing trees along the perimeter. Depending on the time of year, this activity may require a pre-construction nesting bird survey. Mitigation measure BIO-2 addresses this requirement for sites identified in the Strategic Plan where nesting birds may be adversely affected by construction activities, including the Old Baldy site. Implementation of Mitigation measure BIO-1 would ensure that potential impacts on nesting birds would be less than significant.

Del Monte 4

The Del Monte treatment facility is a GAC facility owned by GSWC and located at College Avenue and 1st Street in the City of Claremont. GSWC has not produced groundwater from the Del Monte 4 well since 2005 due to high arsenic concentrations. In its current

configuration, Del Monte 4 is designed to treat the water for volatile organic compounds such as TCE known to occur in the Pomona Basin. Figure 4.1-5, *Del Monte 4 Site*, shows existing conditions at the larger GSWC pump and treat facility. As shown in the aerial photograph, the Del Monte site is located in an urban area adjacent to a park complex that includes baseball fields and a dog park. The approximately 3-acre site is surrounded by mature vegetation, predominantly eucalyptus trees, and other trees and shrubs within the perimeter that may provide habitat for nesting birds.

Construction of a new treatment facility may require trimming the existing trees or shrubs. Depending on the time of year, this activity may require a pre-construction nesting bird survey. Mitigation measure BIO-1 addresses how a Watermaster Party or construction contractor would coordinate with the local agency prior to tree trimming or removal. Mitigation measure BIO-2 addresses the requirement for sites identified in the Strategic Plan where nesting birds may be adversely affected by construction activities, including the Del Monte 4 site. Implementation of Mitigation measures BIO-1 and BIO-2 would ensure that potential impacts on nesting birds would be less than significant.

In summary, mitigation measures BIO-1 and BIO-2 would apply to three of the five projects in Project Category 1 – Lincoln/Mills, Old Baldy, and Del Monte 4. Implementation of Mitigation measure BIO-2 would ensure that potential impacts on nesting birds would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken in the San Antonio and Thompson Creek spreading grounds (SASG and TCSG) to enhance stormwater recharge and supplemental water recharge; including the potential to receive treated water from the Pomona WTP at the new recharge basin at the SASG through a new interconnect (see Project Category 3 for this project). This category also includes expanding capacity at the existing Pedley Spreading Grounds (PSG) site for stormwater recharge from the surrounding urban area, and to develop an underground infiltration gallery for the recharge of stormwater and supplemental water at the LA County Fairplex. These last two projects are part of the Watermaster Parties' intent to comply with Los Angeles County's MS4 Permit for stormwater recharge from urban areas. The cities overlying the Six Basins project area are all co-permittees on the MS4 Permit.

The Biological Resources Assessment for the Six Basins Strategic Plan focused on two project study areas that would not be built in developed areas and that supported native habitat: SASG and TCSG project areas. The following analyses are based on the data gathered by this biological inventory at these two sites. Table 4.4-1, *Plant Species Observed at the SASG and TCSG Locations*. Additionally Figure 4.4-1, *San Antonio Creek Vegetation* and Figure 4.4-2, *Thompson Creek Vegetation*, show the vegetation communities present within each of the

study areas. Table 4.4-2, lists the plant and wildlife species found on the State's CNDDDB, and their likelihood to occur at either location.

Table 4.4-1 Plant Species Observed at the SASG and TCSG Locations

Scientific Name	Common Name
<i>San Antonio Creek Location</i>	
<i>Acmispon americanus</i>	American bird's foot trefoil
<i>Acmispon glaber</i>	Deerweed
<i>Adenostoma fasciculatum</i>	Chamise
<i>Alcea rosea</i>	Hollyhock
<i>Allophyllum divaricatum</i>	Purple false gilia
<i>Amaranthus albus</i>	
<i>Amaranthus watsonii</i>	Watson's amaranth
<i>Amsinckia menziesii</i>	Fiddleneck
<i>Antirrhinum multiflorum</i>	Sticky snapdragon
<i>Artemisia californica</i>	Coastal sage brush
<i>Artemisia douglasiana</i>	California mugwort
<i>Avena barbata</i>	Slim oat
<i>Baccharis salicifolia</i>	Mule fat
<i>Brickellia californica</i>	California brickellia
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus madritensis ssp. madritensis</i>	Foxtail chess
<i>Calyptridium monandrum</i>	Common pussypaws
<i>Calystegia macrostegia ssp. arida</i>	Southern california morning glory
<i>Camissoniopsis bistorta</i>	California sun cup
<i>Camissoniopsis ignota</i>	Jurupa hills sun cup
<i>Ceanothus crassifolius</i>	Hoary leaved ceanothus
<i>Ceanothus leucodermis</i>	Chaparral whitethorn
<i>Centaurea melitensis</i>	Tocalote
<i>Centaurea solstitialis</i>	Yellow starthistle
<i>Cirsium occidentale var. californicum</i>	California thistle
<i>Corethrogyne filaginifolia</i>	Common sandaster
<i>Croton californicus</i>	Desert croton
<i>Cryptantha intermedia</i>	Common cryptanth
<i>Cryptantha microstachys</i>	Tejon cryptantha
<i>Cryptantha muricata</i>	Prickly cryptantha
<i>Datura wrightii</i>	Jimsonweed
<i>Delphinium cardinale</i>	Scarlet larkspur
<i>Delphinium parryi</i>	San bernardino larkspur
<i>Dendromecon rigida</i>	Bush poppy
<i>Emmenanthe penduliflora</i>	Whispering bells
<i>Eriastrum sapphirinum</i>	Sapphire eriastrum
<i>Ericameria parishii</i>	Parish's rabbitbrush
<i>Ericameria pinifolia</i>	Pine bush

Table 4.4-1 Plant Species Observed at the SASG and TCSG Locations (continued)

Scientific Name	Common Name
<i>Erigeron canadensis</i>	Canada horseweed
<i>Eriodictyon trichocalyx</i> var. <i>trichocalyx</i>	Hairy yerba santa
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriogonum gracile</i>	Slender buckwheat
<i>Eriophyllum confertiflorum</i>	Yellow yarrow
<i>Erodium cicutarium</i>	Coastal heron's bill
<i>Erythranthe guttata</i>	Yellow monkey flower
<i>Festuca myuros</i>	Rattail sixweeks grass
<i>Frangula californica</i>	California coffeeberry
<i>Frangula californica</i>	California coffeeberry
<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	Narrow leaved bedstraw
<i>Gilia achilleifolia</i> ssp. <i>achilleifolia</i>	California gilia
<i>Hesperoyucca whipplei</i>	Chaparral yucca
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Hirschfeldia incana</i>	Mustard
<i>Keckiella cordifolia</i>	Heart leaved keckiella
<i>Lepidospartum squamatum</i>	Scalebroom
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle
<i>Lysimachia arvensis</i>	Scarlet pimpernel
<i>Malosma laurina</i>	Laurel sumac
<i>Marah macrocarpa</i>	Chilicothe
<i>Marrubium vulgare</i>	White horehound
<i>Melica imperfecta</i>	Coast range melic
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	California four o'clock
<i>Navarretia atractyloides</i>	Holly leaf navarretia
<i>Navarretia hamata</i>	Hooked navarretia
<i>Nicotiana glauca</i>	Tree tobacco
<i>Phacelia distans</i>	Common phacelia
<i>Phacelia ramosissima</i>	Branching phacelia
<i>Pseudognaphalium biolettii</i>	Two-color rabbit-tobacco
<i>Pseudognaphalium californicum</i>	Ladies' tobacco
<i>Pseudognaphalium stramineum</i>	Cottonbatting plant
<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas fir
<i>Quercus agrifolia</i>	Coast live oak
<i>Rhamnus crocea</i>	Redberry
<i>Ribes indecorum</i>	White flowering currant
<i>Ribes malvaceum</i> var. <i>viridifolium</i>	Chaparral currant
<i>Ricinus communis</i>	Castor bean
<i>Salvia apiana</i>	White sage
<i>Salvia mellifera</i>	Black sage
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Solanum americanum</i>	White nightshade
<i>Solanum douglasii</i>	Douglas' nightshade

Table 4.4-1 Plant Species Observed at the SASG and TCSG Locations (continued)

Scientific Name	Common Name
<i>Solanum nigrum</i>	Black nightshade
<i>Stipa coronata</i>	Crested needle grass
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Verbena lasiostachys</i>	Western Vervain
<i>Thompson Creek Location</i>	
<i>Acmispon glaber</i>	Deerweed
<i>Adenostoma fasciculatum</i>	Chamise
<i>Amaranthus albus</i>	
<i>Ambrosia acanthicarpa</i>	Annual burrweed
<i>Amsinckia menziesii</i>	Fiddleneck
<i>Antirrhinum multiflorum</i>	Sticky snapdragon
<i>Artemisia californica</i>	Coastal sage brush
<i>Avena barbata</i>	Slim oat
<i>Baccharis salicifolia</i>	Mule fat
<i>Brickellia californica</i>	California brickellia
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus madritensis ssp. madritensis</i>	Foxtail chess
<i>Calystegia macrostegia ssp. arida</i>	Southern california morning glory
<i>Camissoniopsis ignota</i>	Jurupa hills sun cup
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Ceanothus crassifolius</i>	Hoary leaved ceanothus
<i>Ceanothus cuneatus</i>	Buck brush
<i>Ceanothus leucodermis</i>	Chaparral whitethorn
<i>Centaurea melitensis</i>	Tocalote
<i>Centaurea solstitialis</i>	Yellow starthistle
<i>Cirsium occidentale var. californicum</i>	California thistle
<i>Cirsium vulgare</i>	Bullthistle
<i>Corethrogyne filaginifolia</i>	Common sandaster
<i>Croton californicus</i>	Desert croton
<i>Cryptantha intermedia</i>	Common cryptanth
<i>Cryptantha microstachys</i>	Tejon cryptantha
<i>Cryptantha muricata</i>	Prickly cryptantha
<i>Cylindropuntia californica var. parkeri</i>	Brownspined pricklypear
<i>Datura wrightii</i>	Jimsonweed
<i>Dysphania ambrosioides</i>	Mexican tea
<i>Ericameria parishii</i>	Parish's rabbitbrush
<i>Ericameria pinifolia</i>	Pine bush
<i>Eriodictyon trichocalyx var. trichocalyx</i>	Hairy yerba santa

Table 4.4-1 Plant Species Observed at the SASG and TCSG Locations (continued)

Scientific Name	Common Name
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriophyllum confertiflorum</i>	Yellow yarrow
<i>Erodium cicutarium</i>	Coastal heron's bill
<i>Erysimum capitatum</i>	Wallflower
<i>Erythranthe guttata</i>	Yellow monkey flower
<i>Festuca myuros</i>	Rattail sixweeks grass
<i>Festuca octoflora</i>	Sixweeks grass
<i>Funastrum cynanchoides</i> var. <i>hartwegii</i>	Climbing milkweed
<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	Narrow leaved bedstraw
<i>Gilia achilleifolia</i> ssp. <i>achilleifolia</i>	California gilia
<i>Hesperoyucca whipplei</i>	Chaparral yucca
<i>Heteromeles arbutifolia</i>	Toyon
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Hirschfeldia incana</i>	Mustard
<i>Keckiella cordifolia</i>	Heart leaved keckiella
<i>Lepidospartum squamatum</i>	Scalebroom
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle
<i>Lysimachia arvensis</i>	Scarlet pimpernel
<i>Malosma laurina</i>	Laurel sumac
<i>Marah macrocarpa</i>	Chilicothe
<i>Marrubium vulgare</i>	White horehound
<i>Navarretia hamata</i>	Hooked navarretia
<i>Nicotiana glauca</i>	Tree tobacco
<i>Phacelia distans</i>	Common phacelia
<i>Phacelia ramosissima</i>	Branching phacelia
<i>Polypogon monspeliensis</i>	Annual beard grass
<i>Pseudognaphalium biolettii</i>	Two-color rabbit-tobacco
<i>Pseudognaphalium californicum</i>	Ladies' tobacco
<i>Ribes indecorum</i>	White flowering currant
<i>Ribes malvaceum</i> var. <i>viridifolium</i>	Chaparral currant
<i>Ricinus communis</i>	Castor bean
<i>Salvia apiana</i>	White sage
<i>Salvia mellifera</i>	Black sage
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry
<i>Silybum marianum</i>	Milk thistle
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Solanum americanum</i>	White nightshade
<i>Solanum douglasii</i>	Douglas' nightshade

Table 4.4-2 – CNDDDB Potential to Occur at the SASG or TCSG Locations

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	None, None	G5T3, S3, CDFW-WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Anaxyrus californicus</i>	arroyo toad	Endangered, None	G2G3, S2S3, CDFW-SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Anniella stebbinsi</i>	southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Antrozous pallidus</i>	pallid bat	None, None	G5, S3, CDFW-SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Arctostaphylos glandulosa</i> ssp. <i>Gabrielensis</i>	San Gabriel manzanita	None, None	G5T3, S3, 1B.2	Chaparral. Rocky outcrops; can be dominant shrub where it occurs. 960-2015 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Arizona elegans occidentalis</i>	California glossy snake	None, None	G5T2, S2, CDFW-SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	None, None	G5T5, S3, CDFW-SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Athene cunicularia</i>	burrowing owl	None, None	G4, S3, CDFW-SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Batrachoseps gabrieli</i>	San Gabriel slender salamander	None, None	G2G3, S2S3, USFS-Sensitive	Known only from the San Gabriel Mtns. Found under rocks, wood, and fern fronds, and on soil at the base of talus slopes. Most active on the surface in winter and early spring.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Berberis nevinii</i>	Nevin's barberry	Endangered, Endangered	G1, S1, 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	Although appropriate habitat occurs in the area and there are no collected occurrences within 5 miles. Potential for this species to occur is low .
<i>Bombus crotchii</i>	Crotch bumble bee	None, Candidate Endangered	G3G4, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Buteo swainsoni</i>	Swainson's hawk	None, Threatened	G5, S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Callophrys mossii hidakupa</i>	San Gabriel Mountains elfin butterfly	None, None	G4T1T2, S1S2, USFS-Sensitive	San Gabriel and San Bernardino mountains at elevations of 3,000 to approximately 5,500 ft. Foodplant is <i>Sedum spathulifolium</i> . Type locality is southern mixed evergreen forest.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	None, None	G4T2T3, S2S3, 1B.2	Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. 210-1815 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Appropriate habitat occurs on the site and there are recently collected nearby (<0.5miles) occurrences. Potential for occurrence of this species is high .
<i>Calystegia felix</i>	lucky morning-glory	None, None	G1Q, S1, 1B.1	Meadows and seeps, riparian scrub. Sometimes alkaline, alluvial. 9-205 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
Canyon Live Oak Ravine Forest	Canyon Live Oak Ravine Forest	None, None	G3, S3.3		This habitat does not occur on site.
<i>Catostomus santaanae</i>	Santa Ana sucker	Threatened, None	G1, S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None, None	G3T2, S2, 1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Moderate , there are collections nearby from the 1930s and earlier and appropriate habitat occurs on site.

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Cladium californicum</i>	California saw-grass	None, None	G4, S2, 2B.2	Meadows and seeps, marshes and swamps (alkaline or freshwater). Freshwater or alkaline moist habitats. - 20-2135 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Cypseloides niger</i>	black swift	None, None	G4, S2, CDFW-SSC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Diplectrona californica</i>	California diplectronan caddisfly	None, None	G1G2, S1S2	Aquatic	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	Endangered, Candidate Endangered	G5T1, S1, CDFW-SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Dodecahema leptoceras</i>	slender-horned spineflower	Endangered, Endangered	G1, S1, 1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Sandy soils. 200-765 m.	The SASG and TCSG project sites have not received flood waters in several decades and no longer has suitable sandy soils deposited during flood events. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Dudleya multicaulis</i>	many-stemmed dudleya	None, None	G2, S2, 1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 1-910 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Eumops perotis californicus</i>	western mastiff bat	None, None	G5T4, S3S4, CDFW-SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Gila orcuttii</i>	arroyo chub	None, None	G2, S2, CDFW-SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	None, None	G4T1, S1, 1B.1, USFS-Sensitive	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1645 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Lasiurus cinereus</i>	hoary bat	None, None	G5, S4	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Lasiurus xanthinus</i>	western yellow bat	None, None	G5, S3, CDFW-SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None, Threatened	G3G4T1, S1, CDFW-FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	None, None	G5T3, S3, 4.3	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m.	Moderate , there is a collection from the 1990s in San Antonio Canyon above the dam in similar habitat.
<i>Lilium parryi</i>	lemon lily	None, None	G3, S3, 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows & seeps. 625-2930 m.	None , site is below elevational range of the species.
<i>Linanthus concinnus</i>	San Gabriel linanthus	None, None	G2, S2, 1B.2	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Dry rocky slopes, often in Jeffrey pine/canyon oak forest. 1310-2560 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	None, None	G5T3, S3, 1B.3	Broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland. Dry slopes and ridges in openings. 700-1800 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Muhlenbergia californica</i>	California muhly	None, None	G4, S4, 4.3	Coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps. Usually found near streams or seeps. 100-2000 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Muhlenbergia utilis</i>	aparejo grass	None, None	G4, S2S3, 2B.2	Meadows and seeps, marshes and swamps, chaparral, coastal scrub, cismontane woodland. Sometimes alkaline, sometimes serpentinite. 25-2325 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	None, None	G2, S2, 1B.2	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Nyctinomops macrotis</i>	big free-tailed bat	None, None	G5, S3, CDFW-SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Oreonana vestita</i>	woolly mountain-parsley	None, None	G3, S3, 1B.3	Subalpine coniferous forest, upper montane coniferous forest, lower montane coniferous forest. High ridges; on scree, talus, or gravel. 800-3370 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek broomrape	None, None	G4T2, S2, 1B.2, USFS-Sensitive	Chaparral, pinyon and juniper woodland. On slopes of loose decomposed granite; parasitic on various chaparral shrubs. 975-1985 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Ovis canadensis nelson</i>	desert bighorn sheep	None, None	G4T4, S3, CDFW-FP	Widely distributed from the White Mtns in Mono Co. to the Chocolate Mts in Imperial Co. Open, rocky, steep areas with available water and herbaceous forage.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Phrynosoma blainvillii</i>	coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Phrynosoma blainvillii</i>	coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Polioptila californica californica</i>	coastal California gnatcatcher	Threatened, None	G4G5T2Q, S2, CDFW-SSC	Obligate, permanent resident of coastal sage scrub below 1,600 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	The sites are above the species preferred elevational range, the onsite vegetation provides very low-quality habitat. There has been no observation of CAGN in this area of the San Gabriel Mountain since 1918. Occurrence potential for this species is low
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	None, None	G4, S2, 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Rana boylei</i>	foothill yellow-legged frog	None, Endangered	G3, S3, CDFW-SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Rana muscosa</i>	southern mountain yellow-legged frog	Endangered, Endangered	G1, S1, CDFW-WL	Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014. Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	None, None	G1, S1.1	Coastal scrub	A mature phase of this habitat occurs onsite which is no longer subject to flood events and has limited habitat value for RAFSS associated species.
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	None, None	G4, S2, 2B.2, USFS-Sensitive	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 3-2380 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
Southern California Arroyo Chub/Santa Ana Sucker Stream	Southern California Arroyo Chub/Santa Ana Sucker Stream	None, None	GNR, SNR		This habitat does not occur on site.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None, None	G4, S4	Riparian forest	This habitat does not occur on site.
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None, None	G4, S4	Riparian woodland	This habitat does not occur on site.
<i>Spea hammondi</i>	western spadefoot	None, None	G3, S3, CDFW-SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Table 2 – CNDDDB Potential to Occur at the SASG or TCSG Locations (continued)

Scientific Name	Common Name	Federal and State Listing	Other Status	Habitat	Occurrence Potential
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Symphyotrichum greatae</i>	Greata's aster	None, None	G2, S2, 1B.3	Chaparral, cismontane woodland, broadleafed upland forest, lower montane coniferous forest, riparian woodland. Mesic canyons. 335-2015 m.	Low , there is no appropriate habitat (mesic canyons) on site.
<i>Taricha torosa</i>	Coast Range newt	None, None	G4, S4, CDFW-SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow-moving streams.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Thamnophis hammondi</i>	two-striped gartersnake	None, None	G4, S3S4, CDFW-SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .
<i>Thysanocarpus rigidus</i>	rigid fringe pod	None, None	G1G2, S1, 1B.2, USFS-Sensitive	Pinyon and juniper woodland. Dry, rocky slopes and ridges of oak and pine woodland in arid mountain ranges. 425-2165 m.	There is no suitable habitat for this species on site. Occurrence potential for this species is low .

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.

S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.

S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.

S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.

S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.

1B = Plants rare, threatened, or endangered in California and elsewhere.

2A = Plants presumed extirpated in California, but common elsewhere.

2B = Plants rare, threatened, or endangered in California, but more common elsewhere.

3 = Plants about which more information is needed; a review list.

4 = Plants of limited distribution; a watch list.

Threat Ranks:

.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

San Antonio Creek Spreading Grounds Habitat and Sensitive Species

Under existing conditions, the SASG is developed with aggregate mine pits, electricity distribution towers/lines, access roads, catch basins and associated water conveyance infrastructure. Native vegetation occurs only in undisturbed areas of the SASG as shown in Figure 4.4-1.

The proposed new recharge basin would be developed in native vegetation on approximately 50 acres to a depth of approximately 200 feet, generally located in the upper reach of the SASG, below the San Antonio Dam and the existing LACFCD recharge basins along the west side of the SASG. Figure 4.1-6, in Section 4.1-1, *Aesthetics*, shows the proposed area where the new recharge basin would be located in relation to existing basins. Note: the 50-acre basin will be located within an approximately 195-acre project study area and that the site has not yet been selected. The photos embedded in the figure show water recharging on both the Los Angeles County and San Bernardino County sides of the SASG during winter 2019. Existing basins are located north and at a higher elevation than the proposed location of the new recharge basin.

The habitat within the larger 195-acre area consists of a mix of *Eriogonum fasciculatum* Shrubland Alliance (California buckwheat scrub), *Malosma laurina* Shrubland Alliance (Laurel sumac scrub), and *Artemisia californica* Shrubland Alliance (California sagebrush scrub). The California buckwheat scrub and Laurel sumac scrub are the two dominant plant communities. These two plant communities have been removed from the 100-year floodplain since the early 1900s due to flood control and water recharge activities associated and no longer receive flood waters and scouring during extreme storm events. Storm events scour out vegetation and reset alluvial plant communities to younger, more open plant communities. Due to the lack of flooding and scouring, habitats at the SASG have continued to mature (senesced) into woodier vegetation normally associated with chaparral habitats. Plant cover is dense, exceeding 75 percent, with many of the larger plant exceeding 10 feet in height. The lack of open habitat and taller vegetation preclude the presence of many of the sensitive species found within the alluvial scrub habitats in the foothills of the San Gabriel Mountains.

Sensitive Habitat

The CNDDDB mapped this area as supporting RAFSS habitat. As discussed above, RAFSS habitat occurs in washes and on gently sloping alluvial fans subject to scour during major storm events. Fluvial processes are needed to maintain the openness of the habitat and to deposit sand soils utilized by many of the wildlife species associated with RAFSS habitat. Alluvial plant species are made up predominantly of drought-deciduous soft-leaved shrubs. Scalebroom (*Lepidospartum squamatum*) generally is regarded as an indicator of RAFSS habitat. In addition to scalebroom, alluvial scrub plant species include white sage (*Salvia apiana*), redberry (*Rhamnus crocea*), California buckwheat, Spanish bayonet, California croton (*Croton californicus*), cholla (*Opuntia spp.*), tarragon (*Artemisia dracunculoides*), yerba santa (*Eriodictyon spp.*), mule fat, and mountain-mahogany. RAFSS habitat is classified by three major phases: pioneer, intermediate and mature. Pioneer RASS occur within active streambed and up onto the first bench outside the

active streambed. Pioneer RAFSS is routinely flooded during large storm events which help maintain the openness of the habitat which usually exhibits plant cover between 10 and 30 percent. Intermediate RAFSS occurs outside of the active streambed, usually on the secondary and tertiary benches or above the streambed. Intermediate RAFSS habitat is not subjected to routine flooding but is scoured by flood waters during major storm events. Scouring maintains the openness of the habitat between 30 to 50 percent. Mature RAFSS habitat is not normally subject to major storm events since it is usually found at the edges of the 100-year floodplain and only receives flood waters during extreme storm events which resets mature RAFSS to intermediate or pioneer RAFSS habitat phases. RAFSS habitat no longer exists within project areas' 100-year floodplain, as a result of flood control and water recharge activities such as occurs at the SASG, are not exposed to scouring and have continued to mature (type convert) over decades into woodier vegetative structure normally associated with chaparral habitats. Two species of ceanothus (*Ceanothus crassifolius* and *Ceanothus leucodermis*), chaparral species, were identified on the project sites. Plant cover in these mature alluvial habitats usually exceeds 75 percent. This lack of open habitat in mature RAFSS precludes many of the sensitive species associated with the less dense areas classified as pioneer and intermediate RAFSS habitats from occurring.

As noted above, the proposed new SASG recharge basin would be developed on approximately 50 acres within a larger approximately 195-acre project study area generally located in the upper reach of the wash, in undeveloped mature RAFSS habitat below the San Antonio Dam. The area is no longer subject to flood events needed to support open intermediate RAFSS habitat needed by most plant and wildlife species associated with RAFSS habitat.

Sensitive Plant Species

Nevin's barberry

The SASG project area contains suitable habitat for this species. Because this species was noted in the literature search, focused surveys were completed during the blooming period (March-June). A Jericho Systems botanist conducted surveys on foot with 100 percent visual coverage of the approximately 195-acre project study area. This species was not observed within the SASG project study area and is considered absent from the project study area.

Plummer's mariposa-lily

The SASG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (May-July). This species was not observed during the field visits and is considered absent from the project study area.

Thread-leaved Brodiaea

The SASG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (March-June). However, this species was not observed during the field visits and is considered absent from the project study area.

Slender-horned Spineflower

The SASG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (April-June). However, this species was not observed during the field visits and is considered absent from the project area.

Designated Critical Habitat

The SASG study area is not located within or adjacent any USFWS designated Critical Habitat. No further action is required.

Sensitive Wildlife Species

No State and/or federally listed threatened or endangered species or other sensitive species were observed within the SASG project study area during surveys. An analysis of the likelihood for the occurrence of all CNDDDB sensitive species documented in the *Mt. Baldy* and *Ontario 7.5'* quads is provided in Table 4.4-2, *CNDDDB Potential to Occur at the SASG or TCSG Locations*.

The Biological Resources Assessment prepared for the *Six Basins Watermaster Strategic Plan* took into account species range as well as documentation within the vicinity of the SASG project study area and included the habitat requirements for each species and the potential for their occurrence within the project study area, based on required habitat elements and range relative to the current site conditions. According to the CNDDDB, no sensitive habitat, including USFWS designated critical habitat, occurs within or adjacent to the SASG project study area.

Species observed or otherwise detected on or in the vicinity of the SASG project study area during the surveys included common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), house sparrow (*Passer domesticus*), house finch (*Haemorhous mexicanus*), and desert cottontail (*Sylvilagus audubonii*).

The SASG project study area is located within an undeveloped area of the City of Claremont and supports native habitat. Portions of the study area have been disturbed by humans and are surrounded by a mixture of residential development and disturbed undeveloped land. There is some habitat within the study area, as well as the immediate surrounding area, that is suitable for some sensitive species identified in Table 4.4-2.

Arroyo Toad

The habitat onsite consists of upland scrub habitat. This species requires sandy wash soil and annual water flows that are sustained long enough for the species to reproduce. The water flow within the SASG has been channelized into earthen rock lined channels or concrete lined channels. Therefore, no suitable habitat is present for this species and it is not likely to occur on site.

Foothill Yellow-legged Frog

This species is found in a number of different habitats. One of which does occur within the SASG project study area, sage scrub. However, this species also needs a permanent water source. Due to the existing San Antonio Dam and the ground water recharge facilities located above the project study area, this species is not likely to occur within the project study area as there is a lack of a source of permanent water.

Southern Mountain Yellow-legged Frog

Although this species does occur within the *Mt. Baldy* USGS quad, there is no suitable habitat for this species present within the SASG project study area. This species is typically found on the banks of mountain lakes and streams that do not dry out in the summer. Therefore, this species is not likely to occur within the project study area.

Coastal California gnatcatcher (CAGN)

California gnatcatcher is a federally threatened species with restricted habitat requirements, being an obligate resident of coastal sage scrub habitats that are dominated by California sage brush. This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland with 99 percent of all California gnatcatcher observations located in areas with elevations below 950 feet. There have been reported occurrences of California gnatcatcher up to 1,600 feet elevation (500 meters).

The project site ranges in elevation from 1,600 to 2,000 feet above msl. California gnatcatcher's preferred habitat is coastal sage scrub dominated by California sage brush. The project study area does not support coastal sage scrub habitat. Instead, it supports mature RAFFS habitat dominated by Laurel sumac and other large woody shrub species associated with chaparral habitat. The last CNDDDB sighting of California gnatcatcher in the area was over a hundred years ago in 1918.

Although no protocol surveys were conducted for this species, the lack of suitable habitat and the location outside the species elevational typical range, plus the lack of a Californian gnatcatcher observation in the area in over 100 years, provides evidence that the species can be presumed to be absent from the project study area and no further study for this species is recommended.

Santa Ana Sucker

This species has been documented within the *Mt. Baldy* USGS quad as recently as 2006. However, the SASG project study area is outside the watercourse where this species is found. Additionally, the project study area occurs within upland scrub habitat and does not contain the water that this species requires, and this species was not observed on site during the survey. Therefore, this species is considered absent from the project study area.

San Bernardino Kangaroo Rat

Suitable habitat for this species does not occur within the SASG project study area. The scrub habitat is dense and does not contain sandy soils for this species to burrow into. Additionally, the study area is west of the species typical range and is not within critical habitat for this species. Although no protocol trapping was conducted for this species, the

lack of suitable habitat and the location outside the typical range, exclude this species from occupying the site. Therefore, this species is considered absent from the project study area.

Burrowing Owl

The habitat in the SASG project study area is very rocky with little sandy soils. In addition, the vegetation is quite dense with little to no open space and no grassland or open fields. The dense vegetation precludes the line-of-sight opportunities needed by BUOW for foraging and avoidance of predators. The project study area contains host burrow species, such as California ground squirrel, however, this species was not observed during the site surveys and no burrows were identified. Therefore, BUOW is considered absent from the project study area and is not likely to occur. Finally, without scouring, vegetation is maturing or converting into woodier plant species with plant species densities exceeding 75 percent. The project areas do not provide suitable BUOW habitat.

Nesting Birds

The SASG project study area and immediate surrounding areas contain habitat suitable for nesting birds. Nesting bird surveys shall be conducted prior to any construction activities taking place, including clearing and grubbing, during the nesting season to avoid potentially taking of any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th to September 15th), and conducting worker awareness training. However, if all work cannot be conducted outside of the nesting season, a project-specific Nesting Bird Management Plan shall be prepared to verify absence of nesting birds or to determine a suitable buffer and monitoring protocols if an active nest is discovered. This Plan is identified in Section 4.4-4, Mitigation Measures, as mitigation measure BIO-2.

Also see Impact 4.4-4 for additional pre-construction survey requirements (mitigation measure BIO-3) at the SASG site.

Thompson Creek Spreading Grounds Habitat and Sensitive Species

Under existing conditions, PVPA uses two small pits (Coyote Pits) to percolate water. Combined, the Coyote Pits are less than 1 acre in size. In order to provide recharge capacity, the TCSG project calls for the expansion of the spreading grounds by approximately 25 acres to a depth of up to 20 feet. Figure 4.1-7 in Section 4.1-1, *Aesthetics*, shows the location of the proposed basins. The existing Coyote Pits are located in the northeast corner of the proposed spreading grounds area. The proposed location of the new recharge basins is generally south of the Thompson Creek Dam and north of the Thompson Creek Channel in mature RAFSS habitat.

The habitat at the TCSG project study area consists of alluvial habitat that has three alliances: *Eriogonum fasciculatum* Shrubland Alliance (California buckwheat scrub), *Malosma laurina* Shrubland Alliance (Laurel sumac scrub), and *Artemisia californica* Shrubland Alliance (California sagebrush scrub). In addition, several scalebroom (*Lepidospartum squamatum*)

plants as well as coast live oak trees (*Quercus agrifolia*) were observed a dirt road at the far western boundary of the site. Table 4.1-1 lists all plants found on-site during the field surveys. Portions of the project area have been used as a spreading ground for water recharge at the base of Thompson Creek Dam for decades. The entire project area is also bisected by dirt access roads and the outlet channel for the dam. The project area proposed for expansion of the TCSG is located south of the dam and north of the Thompson Creek concrete-lined channel.

Special Status Plant Species

Nevin's barberry

The TCSG project study area contains suitable habitat for this species. Because this species was noted in the literature search, focused surveys were completed during the blooming period for this species (March-June). A Jericho Systems botanist conducted surveys on foot with 100 percent visual coverage of the project study area. This species was not observed within the project study area. Therefore, this species is considered to be absent.

Plummer's mariposa-lily

The TCSG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (May-July). This species was not observed during the filed visits. Therefore, this species is considered absent.

Thread-leaved brodiaea

The TCSG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (March-June). This species was not observed during the filed visits. Therefore, this species is considered to be absent.

Slender-horned spineflower

The TCSG project study area contains suitable habitat for this species. Surveys were conducted during the appropriate blooming period for this species (April-June). This species was not observed during the field visits. Therefore, this species is considered absent from the project area.

Wildlife Species

No State and/or federally listed threatened or endangered species or other sensitive species were observed within the TCSG project study area during surveys. An analysis of the likelihood for the occurrence of all CNDDDB sensitive species documented in the *Mt. Baldy* and *Ontario 7.5'* quads is provided in Table 4.4-2, *CNDDDB Potential to Occur at the SASG or TCSG Locations*.

The Biological Resources Assessment prepared for the *Six Basins Watermaster Strategic Plan* took into account species range as well as documentation within the vicinity of the project study area for the TCSG and included the habitat requirements for each species and the

potential for their occurrence within the project study area, based on required habitat elements and range relative to the current site conditions.

Sensitive Wildlife Species

No State and/or federally listed threatened or endangered species or other sensitive species were observed on-site during surveys.

Arroyo Toad

The habitat onsite consists of upland scrub habitat. This species requires sandy wash soil and annual water flows that are sustained long enough for the species to reproduce. The water flow within the sites has been channelized into earthen rock lined channels or concrete lined channels. Therefore, no suitable habitat is present for this species and it is not likely to occur within the project study area.

Foothill Yellow-Legged Frog

This species is found in a number of different habitats. One of which does occur within the project study area - sage scrub. However, this species also needs a permanent water source. Due to the existing dam above the project study area, this species is considered absent from the project study area due to the lack of a source of permanent water.

Southern Mountain Yellow-Legged Frog

Although this species does occur within the *Mt. Baldy* USGS quad, there is no suitable habitat for this species present within the project study area. This species is typically found on the banks of mountain lakes and streams that do not dry out in the summer. Therefore, this species is considered absent the project study area.

Coastal California gnatcatcher (CAGN)

Similar to the SASG project site, the TCSG project site ranges in elevation from 1,600 to 2,000 feet above msl. California gnatcatcher's preferred habitat is coastal sage scrub dominated by California sage brush. The project site does not support coastal sage scrub habitat. Instead, it supports mature RAFFS habitat dominated by Laurel sumac and other large woody shrub and trees species. The last CNDDDB sighting of California gnatcatcher in the area was over a hundred years ago in 1918.

Although no protocol surveys were conducted for this species, the lack of suitable habitat and the location outside the typical range, plus the lack of observations within five miles of the project site in over 100 years provides strong evidence that this species is absent from the project site. Therefore, this species is not likely to be present within the project study area.

Santa Ana sucker

This species has been documented within the *Mt. Baldy* USGS quad as recently as 2006. However, the TCSG project study area is outside a watercourse where this species could be found. Additionally, the project study area occurs within upland scrub habitat and does not

contain the water that this species requires. This species was not observed within the project study area during field visits. Therefore, this species is considered to be absent.

San Bernardino kangaroo rat (SBKR)

Suitable habitat for this species does not occur within the project study area. The scrub habitat is dense and does not contain sandy soils for SBKR to burrow into. Additionally, the project study area is west of the species typical range and is not within critical habitat for SBKR. Although no protocol trapping was conducted for this species, the lack of suitable habitat and the location outside the typical range, exclude this species from occupying the TCSG project study area. Therefore, this species is considered absent from the project area.

Burrowing owl (BUOW)

The habitat in the TCSG project study area is very rocky with little sandy soils. In addition, the vegetation is quite dense with little to no open space and no grassland or open fields. The dense vegetation precludes the line-of-sight opportunities needed by BUOW for foraging and avoidance of predators. The project study area contains host burrow species, such as California ground squirrel, however, this species was not observed during the site surveys and no burrows were identified. Therefore, BUOW is considered absent from the project study area and is not likely to occur. Finally, without scouring, vegetation is maturing or converting into woodier plant species with plant species densities exceeding 75 percent. The project areas do not provide suitable BUOW habitat.

Designated Critical Habitat

The site is not located within or adjacent any USFWS designated Critical Habitat. No further action is required.

Nesting Birds

The TCSG project study area and immediate surrounding areas does contain habitat suitable for nesting birds. Nesting bird surveys should be conducted prior to any construction activities taking place, including clear and grubbing, during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th to September 15th), and conducting a worker awareness training. However, if all work cannot be conducted outside of the nesting season, a project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers. This requirement is set forth in mitigation measure BIO-2. See Section 4.4.4, *Mitigation Measures*.

Also see Impact 4.4-4 for additional pre-construction survey requirements (mitigation measure BIO-3) at the TCSG site.

Pedley Spreading Grounds

The PSG site is located in the City of Claremont and owned by the City of Pomona. The approximately 20-acre site is located adjacent to an elementary school and single-family

neighborhood on the east, and single-family neighborhoods on the north and south. To the west is a more rural residential area and the Rancho Santa Ana Botanical Gardens. Figure 4.1-8 in Section 4.1-1, *Aesthetics*, shows existing conditions at the project site and in the immediate vicinity. Under existing conditions, the site includes recharge basins, two reservoirs, a pump house, treatment facility and unpaved roads around the site.

The proposed project is to enhance recharge at the PSG to include stormwater and dry-weather runoff from the surrounding urbanized areas to assist with the requirements of the County of Los Angeles' MS4 Permit, intended to reduce the amount of pollutants that enter the storm drain system. The amount of stormwater and dry-weather runoff available for diversion into the PSG has not yet been characterized. Additionally, the recharge capacity at the PSG is not precisely known and so the facilities and operating schemes to accomplish recharge enhancement have not yet been defined. However, for the purposes of this analysis, it was assumed that stormwater and dry weather runoff would be collected in the existing underground storm drain system and conveyed to the PSG site through new pipeline interconnects between the storm drain system and the recharge basins. Increasing the size and depth of the recharge basins would be done at and below grade and the new conveyance (pipeline) would be underground.

The proposed site is primarily developed but has a large pond on the northeast side. The proposed improvements at this site could impact avian use of pond and surrounding vegetation. It is recommended that a preconstruction or nesting bird clearance survey be conducted prior to the start of construction. This is set forth in mitigation measure BIO-2.

Fairplex Underground Infiltration Galleries

The proposed project is to utilize up to 10 acres at the LA County Fairplex to construct an underground filtration gallery to recharge stormwater and dry-weather runoff, and supplemental water into the Pomona Basin. Stormwater would be brought to the site through the development of new pipelines connecting nearby neighborhoods and the Thompson Creek storm channel that runs adjacent to the Fairplex on the east. Figure 4.1-9 in Section 4.11, *Aesthetics*, shows the larger Fairplex site with the approximate location of the former horse racetrack being converted to soccer fields.

The proposed project could also help the City of Pomona to comply with the MS4 permit requirements as a regional stormwater diversion and recharge project. Three potential sources of water are considered for recharge at the Fairplex: (1) Stormwater and Dry Weather Runoff; (2) Recycled Water; and (3) Imported Water. Four new soccer fields are proposed, overlaying the underground infiltration gallery designed to retain stormwater onsite, for infiltration and/or release into the Thompson Creek channel. Recharge water would be fed into the basins through underground pipelines.

The proposed site of the Fairplex recharge facilities is located in a fully developed area where no biological resources (plant or animal species) are likely to occur due to the current use of the site as soccer fields. Therefore, the proposed improvements at this site would not result

in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. No direct or indirect impact would occur at the Fairplex site.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona's P-20 wellhead treatment facility, (2) constructing new production wells and monitoring wells; and (3) construction of new underground pipelines to interconnect some sites.

P-20 Well Site

The P-20 well is owned by the City of Pomona and is the only well located in the LCHB. The city has not produced groundwater from the P-20 well since 2000 due to high nitrate concentrations. Figure 4.1-10 in Section 4.-1-1, *Aesthetics*, shows existing conditions at the well site and surrounding area. The project site is located in an urban area surrounded by single-family neighborhoods on the north, west and south and, on the east by Claremont High School and related playing fields and courts. As shown in the photos embedded in the figure, the approximately 2-acre site is developed with a paved access road along the southerly boundary, and along the westerly portion of the site, the area is partially paved where the existing facilities are located, and surrounded by unpaved, but barren soil. The remaining approximately $\frac{3}{4}$ acre is enclosed by a berm and vegetated with ground cover, mostly ruderal vegetation. This area is not a part of the proposed well site improvements.

The proposed project is to rehabilitate the well to return it to production capacity in the Lower Claremont basin by constructing a new ion exchange or biological treatment facility to remove the nitrates. This will give the City of Pomona additional production capacity during periods when surplus water is available. In addition, a new interconnect between the P-20 site and the TVMWD Miramar WTP may be developed to provide treated water to the P-20 site to blend with the raw groundwater as an additional means of treating the groundwater.

Rehabilitation of the well and development of new treatment facilities would occur in that area of the site that is either paved or compacted soil and is devoid of vegetation. Therefore, proposed improvements at the P-20 well site would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. No direct or indirect impact would occur at the P-20 well site.

Construction of New Production Wells and Monitoring Wells

The Strategic Plan calls for the construction of up to 12 new production wells in the Upper Claremont Heights Basin and up to three new monitoring wells in the Pomona Basin within the area of historical high groundwater. However, the locations of these sites are unknown at this time. Therefore, some assumptions have been made regarding location and size in

order to assess a typical well site. The infrastructure associated with a well site is shown in Figures 4.1-1 through 4.1-6 and Figure 4.1-10. Assuming that new well sites would likely be developed within existing urban areas including residential neighborhoods, the following are the assumptions used to evaluate potential impacts on biological resources:

- The well site would be developed in an urban or suburban (e.g., residential) area.
- The well site would be at least ¼ acre in size. The aboveground pump and related gauges, etc. would be located in a small scale “pump house”.
- The well site will be surrounded by a wall or fencing with an access gate and landscaped with a combination of groundcover, shrubbery and trees in order for the site to blend into a neighborhood.
- Some related infrastructure such as treatment facilities, may be constructed as show in Figures 4.1-3 through 4.1-5 in Section 4.1-1, Aesthetics.

Because future sites are unknown, there is a potential to adversely impact species identified as a candidate, sensitive, or special status species, through habitat modification. Therefore, in addition to implementation of mitigation measure BIO-2 to conduct nesting bird surveys prior to commencement of construction activities where trees or other vegetation may be affected, a Watermaster Party proposing a new well may be required to conduct a Biological Resources Assessment in the form of a Preconstruction Survey prior to commencing with construction activities. The requirements for completion of such an assessment are set forth in mitigation measure BIO-3.

Construction of New Pipeline Interconnects

New pipeline interconnects would all be developed underground. This would require construction and excavation to place and connect the pipeline. As described in Section 3.6.1, *Construction Activities*, in Chapter 3, *Project Description*, up to 85,000 linear feet (approximately 16 miles) of new pipeline may be installed between wells and treatment plants, generally located within the urban areas of the project area and within the public right-of-way. Where portions of the new pipeline interconnections could be constructed in undeveloped area, these would include the interconnect between the P-20 well site and the TVMWD Water Treatment Plant, or between the Pomona Water Reclamation Plant to the San Antonio Spreading Grounds where construction activity would occur in or adjacent to the San Antonio Creek wash area.

Because future alignments are conceptual at this time, there may be a potential to adversely impact species identified as a candidate, sensitive, or special status species, through habitat modification, for example where trenching in the San Antonio Creek wash would be required to interconnect the line between the Pomona WRP and the new SASG recharge basins. Therefore, in addition to implementation of mitigation measure BIO-2 to conduct nesting bird surveys prior to commencement of construction activities where mature trees or other vegetation may be affected, a Watermaster Party proposing a pipeline interconnect may be required to conduct a Biological Resources Assessment of the site prior to commencing with

construction activities. The requirements for completion of such an assessment are set forth in mitigation measure BIO-3.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Biological Resources. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.4-2

Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Threshold 2); or

Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat in the Pomona Basin

Determination: Less Than Significant Impact.

All of the sites within this category of projects are located in urban areas and not located near a sensitive natural community including riparian habitat or protected wetlands. As shown in Figures 4.1-1 through 4.1-5, each of the project sites is developed with existing groundwater pump and treat facilities, are separated from adjacent properties by walls and or fences, and are all located adjacent to urban uses, not including flood control channels. Therefore, construction and operations activities associated with the development and operation of Project Category 1 projects would not have a substantial adverse effect on any riparian habitat or other sensitive natural community; or wetlands identified by any public agency.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

San Antonio Spreading Grounds

A general assessment of jurisdictional waters regulated by USACE, RWQCB – Los Angeles, RWQCB – Santa Ana River and CDFW was conducted for the proposed project area within the San Antonio Creek wash. This assessment was conducted as a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. This exercise was supplemented by examining aerial imagery of the site and comparing it with surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS National Wetland Inventory and EPA Water Program “My Waters” data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. No obvious signs of jurisdictional features were observed during the literature/aerial photograph review. The project area was then surveyed with 100 percent visual coverage and no drainage features were present on site. However, because the final location of the SASG recharge basin is unknown, implementation of mitigation measure BIO-4 may be required should the new facility result in impacts to jurisdictional wetlands. This measure requires consultation with the regulatory agencies and may require permits under Sections 401 and 404 of the federal Clean Water Act, and Section 1602 of the California Fish and Game Code.

Thompson Creek Spreading Grounds

A general assessment of jurisdictional waters regulated by USACE, RWQCB – Los Angeles, RWQCB – Santa Ana River and CDFW was conducted for the proposed project area within the Thompson Creek wash below the dam. This assessment was conducted as a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. This exercise was supplemented by examining aerial imagery of the site and comparing it with surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS National Wetland Inventory and EPA Water Program “My Waters” data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the Soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2018) were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. No obvious signs of jurisdictional features were observed during the literature/aerial photograph review. The project area

was then surveyed with 100 percent visual coverage and no drainage features were present on site.

However, because the final location of the TCSG recharge basin is unknown, implementation of mitigation measure BIO-4 may be required should the new facility result in impacts to jurisdictional wetlands. This measure requires consultation with the regulatory agencies and may require permits under Sections 401 and 404 of the federal Clean Water Act, and Section 1602 of the California Fish and Game Code.

Pedley Spreading Grounds

A general assessment of jurisdictional waters was not completed for the Pedley Spreading Grounds (PSG) site, nor was a field survey completed at the site. The PSG site consists of small basins that are fed by a pipeline that conveys water from below the San Antonio Dam through the pipeline and into the basins located in a residential neighborhood in the City of Claremont. There are no natural drainage features that provide water to the PSG and there is no outlet from the PSG site into any drainage feature such as a creek or flood control channel. Expansion of the PSG consists of widening and deepening the existing basins and providing additional water from the local storm drain system through a new pipeline. No outlet from the PSG site is envisioned for this project, therefore, there is no impact on jurisdictional waters or wetlands associated with the PSG project.

Fairplex Recharge Facilities

A general assessment of jurisdictional waters was not completed for the Fairplex site, nor was a field survey completed at the site. The proposed site of the new underground infiltration gallery would be constructed in an area that is transitioning from horse stables and tracks to soccer fields. The intent is to provide additional groundwater recharge in the Pomona Basin utilizing stormwater runoff, recycled water, imported water, or a combination. There are three potential sources of water considered for recharge at the Fairplex including (1) diverting stormwater and dry-weather runoff from the LA County Fairplex and the concrete-lined Thompson Creek channel; (2) pump recycled water from the Pomona WRP to the new underground galleries; or (3) pipe untreated imported water from the Rialto Feeder into the Thompson Creek channel and divert it to the new recharge basins.

There are no plans at this time to evaluate, however, using the Thompson Creek channel to convey imported water, or to otherwise divert stormwater from the channel into the new recharge facilities would require review and approval by CDFW under California Fish and Game Code Section 1600, which requires any person, local agency or public utility to notify CDFW prior to beginning any activity that may undertake one or more of the following activities:

- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or
- Deposit or dispose of material into any river, stream or lake

Although the Thompson Creek channel in the vicinity of the LA Fairplex is concrete lined, it is tributary to the San Gabriel River and at the confluence between the creek and the river, the river is unlined and exhibits riparian features. Therefore, mitigation measure BIO-4, has been identified to ensure that should construction or operational activities associated with the Fairplex recharge facilities, regarding conveyance of water from Thompson Creek, would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona's P-20 wellhead treatment facility, (2) constructing new production wells and monitoring wells; and (3) construction of new underground pipelines to interconnect some sites.

P-20 Well Site

The P-20 well is owned by the City of Pomona and is the only well located in the LCHB. The project site is located in an urban area surrounded by single-family neighborhoods on the north, west and south and, on the east by Claremont High School and related playing fields and courts. The approximately 2-acre site is developed with a paved access road along the southerly boundary, and along the westerly portion of the site, the area is partially paved where the existing facilities are located, and surrounded by unpaved, but barren soil. The remaining approximately $\frac{3}{4}$ acre is enclosed by a berm and vegetated with ground cover, mostly ruderal vegetation. This area is not a part of the proposed well site improvements.

The proposed project is to rehabilitate the well to return it to production capacity in the Lower Claremont basin by constructing a new ion exchange or biological treatment facility to remove the nitrates. Rehabilitation of the well and development of new treatment facilities would occur in that area of the site that is either paved or compacted soil and is devoid of vegetation. Therefore, proposed improvements at the P-20 well site would not result in a substantial adverse effect on jurisdictional waters or wetlands.

Construction of New Production Wells and Monitoring Wells

The Strategic Plan calls for the construction of up to 12 new production wells in the Upper Claremont Heights Basin, and up to three new monitoring wells in the Pomona Basin within the area of historical high groundwater. For the purposes of this analysis, it was assumed that new well sites would be located in urban areas within the Six Basins project area and not within undeveloped areas where jurisdictional waters or wetlands would be present. Therefore, the construction of new production wells and monitoring wells would not result in a substantial adverse effect on jurisdictional waters or wetlands.

Construction of New Pipeline Interconnects

New pipeline interconnects would all be developed underground. This would require construction and excavation to place and connect the pipeline. As described in Section 3.6.1, *Construction Activities*, in Chapter 3, *Project Description*, up to 85,000 linear feet

(approximately 16 miles) of new pipeline may be installed between wells and treatment plants, generally located within the urban areas of the project area and within the public right-of-way. Therefore, the construction of new pipeline interconnects in urban areas would not result in a substantial adverse effect on jurisdictional waters or wetlands.

Where portions of the new pipeline interconnections could be constructed in undeveloped area, these would include the interconnect between the P-20 well site and the TVMWD Water Treatment Plant (WTP), and between the Pomona Water Reclamation Plant (WRP) and the new SASG recharge basins where construction activity would occur in or adjacent to the San Antonio Creek wash area. As described above under Impact 4.4-2, during the field visits to the San Antonio Creek wash, the SASG project area was surveyed with 100 percent visual coverage and no definable bed or bank features exist within the SASG project study area. In addition, the TVMWD WTP an existing facility adjacent to existing roads (Padua and Miramar Avenues), construction of new pipeline interconnects would not adversely impact riparian habitat or jurisdictional waters.

However, because the final location of the proposed pipeline alignment is unknown, implementation of mitigation measure BIO-4 may be required should the new facility result in impacts to jurisdictional wetlands. This measure requires consultation with the regulatory agencies and may require permits under Sections 401 and 404 of the federal Clean Water Act, and Section 1602 of the California Fish and Game Code.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Biological Resources. No impacts associated with *Monitoring Programs in Support of the Strategic Plan* are expected to occur because no ground disturbing activities are anticipated. However, during site evaluation of a potential new well site, the preparation of a site-specific Biological Resources Assessment may be appropriate to assist a Watermaster Party proposing a new well during its due diligence phase. In such a case, implementation of mitigation measure BIO-3 would be implemented.

Impact 4.4-4

Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (*Threshold 4*)

Substantiation

Project Category 1: Pump and Treat in the Pomona Basin

Determination: Less Than Significant Impact.

This category of projects consists of improvements to existing facilities in the Pomona Basin. These project sites are already developed with groundwater wells and related facilities including perimeter walls and pavement, gravel, or compacted soil and do not provide habitat for native resident or migratory species including movement of wildlife species through the area or native wildlife nursery sites.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

New recharge basins in the undisturbed habitat at SASG and TCSG could have minor impacts on local migration routes along the foothills of the San Gabriel Mountains. At both sites, there would still be sufficient surrounding undeveloped habitat to allow local migration to continue between and valley floor, San Gabriel foothill and the upper reaches of the mountains. Therefore, during the design phase for the new SASG and TCSG recharge basins, mitigation measure BIO-3 shall be implemented. The Biological Resources Assessment shall identify areas where wildlife migratory corridors or nursery sites may occur relative to the proposed recharge basin sites. It is during the design phase that the ultimate location of the new recharge basins would be determined. Therefore, implementation of mitigation measure BIO-3 would assist project designers with the final site selection to ensure that impacts associated with the potential to interfere with wildlife movement or impede the use of a native wildlife nursery site would be less than significant.

Pedley Spreading Grounds

Impacts associated with the proposed improvements consisting of deepen existing recharge basins six feet to 10 feet; and constructing a pipeline interconnect between existing storm drains in the local neighborhood to the recharge basins may have very limited and temporary impacts that would be considered insignificant.

Fairplex Recharge Facilities

The site of the proposed underground galleries to be used for recharge is located in a developed area of the Fairplex that is currently developed with soccer fields. The site was formerly part of the facility's horse racing venue. Therefore, this project would not adversely impact native resident or migratory species and/or local migration routes?

Project Category 3: Temporary Surplus

Determination: Less Than Significant with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona’s P-20 wellhead treatment facility, (2) constructing new production wells and monitoring wells; and (3) construction of new underground pipelines to interconnect some sites.

Rehabilitation of P-20 Well Site

Regarding the rehabilitation of Pomona’s P-20 well site, as shown in Figure 4.1-10, the site is surrounded by a perimeter wall with some mature trees, generally located on adjacent residential properties. In addition, the location of the existing well is in an area of the site that is paved and includes a few scattered shrubs. Mature trees are located along the perimeter of the site, however, construction activities at this site would not affect these trees. Therefore, for the P-20 well site, there would be no impact on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

New Well Sites

The locations of future production and/or monitoring wells are unknown at this time. However, with the exception of proposed improvements in the San Antonio Creek Wash and Thompson Creek Wash, the focus of the Strategic Plan is on groundwater basins that underlie the urban areas of the Six Basins project area. The likelihood that a new well site would interfere with existing wildlife corridors or the movement of wildlife in general is low. However, because new sites are unknown, mitigation measure BIO-3 shall be implemented prior to any ground disturbing activities at proposed sites that have potential habitat for wildlife species. With implementation of these measures, impacts associated with new well sites on migration or movement would be less than significant.

Pipeline Interconnects

Regarding the development of new pipeline interconnects between new well sites and treatment facilities, between the Pomona WRP and the new San Antonio Creek Wash recharge basins, and between the P-20 well site and the TVMWD Miramar WTP, would generally be developed within existing rights-of-way, either in existing streets or within public parkways. Where pipelines would be constructed within existing streets, no impacts to wildlife species would occur.

Pipeline Between Pomona WRP to San Antonio Creek Wash Recharge Basins

This pipeline would be constructed within existing streets and would not affect wildlife. However, where the pipeline enters the wash area, there is a potential for temporary but adverse impact wildlife movement. Therefore, prior to commencing with pipeline construction in the San Antonio Creek Wash, the Watermaster Party proposing the project shall implement mitigation measure BIO-3. Therefore, this impact would be less than significant with implementation of mitigation measure BIO-3. After pipelines are installed, there should be minimal impact on migration or movement.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Biological Resources. No impacts associated with *Monitoring Programs in Support of the Strategic Plan* are expected to occur because no ground disturbing activities are anticipated. However, during site evaluation of a potential new well site, the preparation of a site-specific Biological Resources Assessment may be appropriate to assist a Watermaster Party proposing a new well during its due diligence phase. In such a case, implementation of mitigation measure BIO-3 would be implemented. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.4-5

Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Threshold 5)

Substantiation

Project Category 1: Pump and Treat in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Article 5 of the California Government Code entitled *Regulation of Local Agencies by Counties and Cities*, sets forth the requirements for compliance with applicable county and city building and zoning ordinances. Watermaster Parties that will be responsible for the construction, operation and maintenance of new projects under the Strategic Plans are specifically exempt from such ordinances under Section 53091(d) and (e) which specify that “(d) building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency, and (e) zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities ...” However, Watermaster Parties with existing facilities have worked with local jurisdictions to mitigate potential impacts on the surrounding neighborhoods through compliance with standards and requirements set forth by State agencies and regional agencies (e.g., SCAQMD and RWQCB), for impacts related to air quality, noise, and control of stormwater. Regarding mature trees at or adjacent to existing facilities, Watermaster Parties

performing maintenance at their facilities have had to occasionally trim or remove trees in order to continue operation at their well sites. In order to continue to be “good neighbors” mitigation measure BIO-1 is intended to allow Watermaster Parties the flexibility to operate facilities in a safe and efficient manner while still being “good neighbors”.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts associated with the construction and operation of new water recharge facilities may require vegetation removal. Therefore, implementation of mitigation measure BIO-1 may be required.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts associated with the construction and operation of new temporary surplus facilities may require tree trimming or removal. Therefore, implementation of mitigation measure BIO-1 may be required.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Biological Resources. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.4-6

Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Threshold 6)

Substantiation

Project Category 1: Pump and Treat in the Pomona Basin

Determination: Less Than Significant Impact.

This category of projects consists of improvements to existing facilities in the Pomona Basin. These project sites are already developed with groundwater wells and related facilities including perimeter walls and pavement, gravel, or compacted soil. None of the Project Category 1 sites are located in an area covered by a Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact associated with Project Category 1 projects.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

None of the Project Category 2 sites are located in an area covered by a Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact associated with Project Category 2 projects.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

Projects in this category include: (1) rehabilitating Pomona's P-20 wellhead treatment facility, (2) constructing new production wells and monitoring wells; and (3) construction of new underground pipelines to interconnect some sites. None of the Project Category 3 sites are located in an area covered by a Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact associated with Project Category 3 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Biological Resources. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.4.4 Cumulative Impacts

The proposed project sites are predominantly developed and surrounded by urban development and do not contain sensitive biological resources and would not result in potential cumulative impacts. Two projects, SASG and TCSG are in areas that have been partially developed with the construction of dams and groundwater spreading grounds, as

well as the development of various stormwater facilities that have channelized portions of San Antonio Creek and Thompson Creek. As a result of these ongoing activities, both project areas have experienced impacts since the early 1900s and the remaining undeveloped areas do not support pristine, undeveloped habitat. With proper protection of the SASG and TCSG project sites, as required with implementation of the biological mitigation measures, the proposed projects and any future development in the project area will work within the existing regulations for the protection of biological resources and impacts to biological resources would not be cumulatively significant.

4.4.5 Mitigation Measures

- BIO-1 *Tree Removal.* Prior to the trimming or removal of a tree at any project site, a project proponent will coordinate with the local agency to determine if the particular trees targeted for trimming or removal are heritage trees regulated by local agency. If the targeted tree is a heritage under the City or County Regulations, the appropriated application will be submitted and approved by the local agency prior to conducting the trimming or removal of the heritage tree(s), except where compliance is not required by California law.
- BIO-2 *Nesting Birds.* Removal of any trees, shrubs, or any other potential nesting habitat shall be conducted outside the avian nesting season, as verified by a qualified Avian Biologist. The nesting season generally extends from February 1 through August 31, but it can vary slightly from year to year based on seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the qualified Avian Biologist's-verified nesting season, a preconstruction clearance survey for nesting birds shall be conducted within 30 days of the start of any construction. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.
- BIO-3 *Additional Biological Resources Assessments.* Prior to the approval of future projects on sites not identified in this EIR and occurring within an undeveloped area, a biological assessment shall be made of the selected or potential sites to determine if sensitive biological resources (sensitive plant community, sensitive species, jurisdiction waters) are present. If a sensitive biological resource is present, an analysis will be made of the potential for impact to the resource, an appropriate mitigation strategy will be developed and submitted to the wildlife and regulatory agencies with authority to review and approve the mitigation strategy as reducing impacts to less than significant. Either appropriate avoidance and minimization measures will be developed to offset any potential impact or offsite mitigation shall be provided to offset the impact.

BIO-4 *Wetland Permits*. Prior to approval of a project where permanent impacts in areas determined to be potential jurisdictional wetlands, Waters of the State or Waters of the U.S., the Watermaster Party undertaking a project shall consult with the regulatory agencies (USACE, RWQCB and CDFW) to determine if a CWA 404 permit, CWA 401 or a Streambed Alternation Agreement under Fish and Game Code 1602 are required prior to development. The following shall be incorporated into the permitting subject to approval by the regulatory agencies:

- a) On- or offsite replacement of USACE/RWQCB jurisdictional waters of the U.S./waters of the State at a ratio no less than 1:1 for permanent impacts and to restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.
- b) On- or offsite replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for permanent impacts and to restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.

4.4.6 Level of Significance After Implementation

Implementation of mitigation measures BIO-1 through BIO-4 would ensure that impacts associated with the construction and operation of Strategic Plan projects would be less than significant.

4.4.7 References

Sources used in the preparation of this section are as follows:

City of Claremont, 1997 (revised through December 2015), *City of Claremont Tree Policies and Guidelines Manual*

_____, Municipal Code, Accessed June 8, 2020, *Section 12, Streets and Sidewalks*

City of LaVerne, June 2018, *General Plan Update Conservation and Natural Resources Background Report*.

_____, Municipal Code, Accessed June 8, 2020, *Section 12.36.060, Installation and Maintenance of Street Trees*.

City of Pomona, 2014, *General Plan Update Conservation Component*.

_____, Municipal Code, Accessed June 8, 2020, *Section 46-467, Permit Required to Trim or Remove*.

City of Upland, 2015, *General Plan Update Open Space and Conservation Element*.

_____, Municipal Code, Accessed June 8, 2020, *Section 12.26.050, Tree Care Maintenance – Responsibility For*.

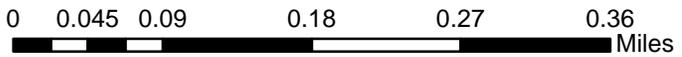
Jericho Systems, July 220 (updated March 2021), *Biological Resources Assessment for the Six Basins Strategic Plan Programmatic Environmental Impact Report (sch no. 2018091020)*

Legend

-  San Antonio Creek Boundary
-  Artemesia/Eriogonum/Malosma Shrubland Mosaic
-  Bare Ground



Date: 3/24/2021



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

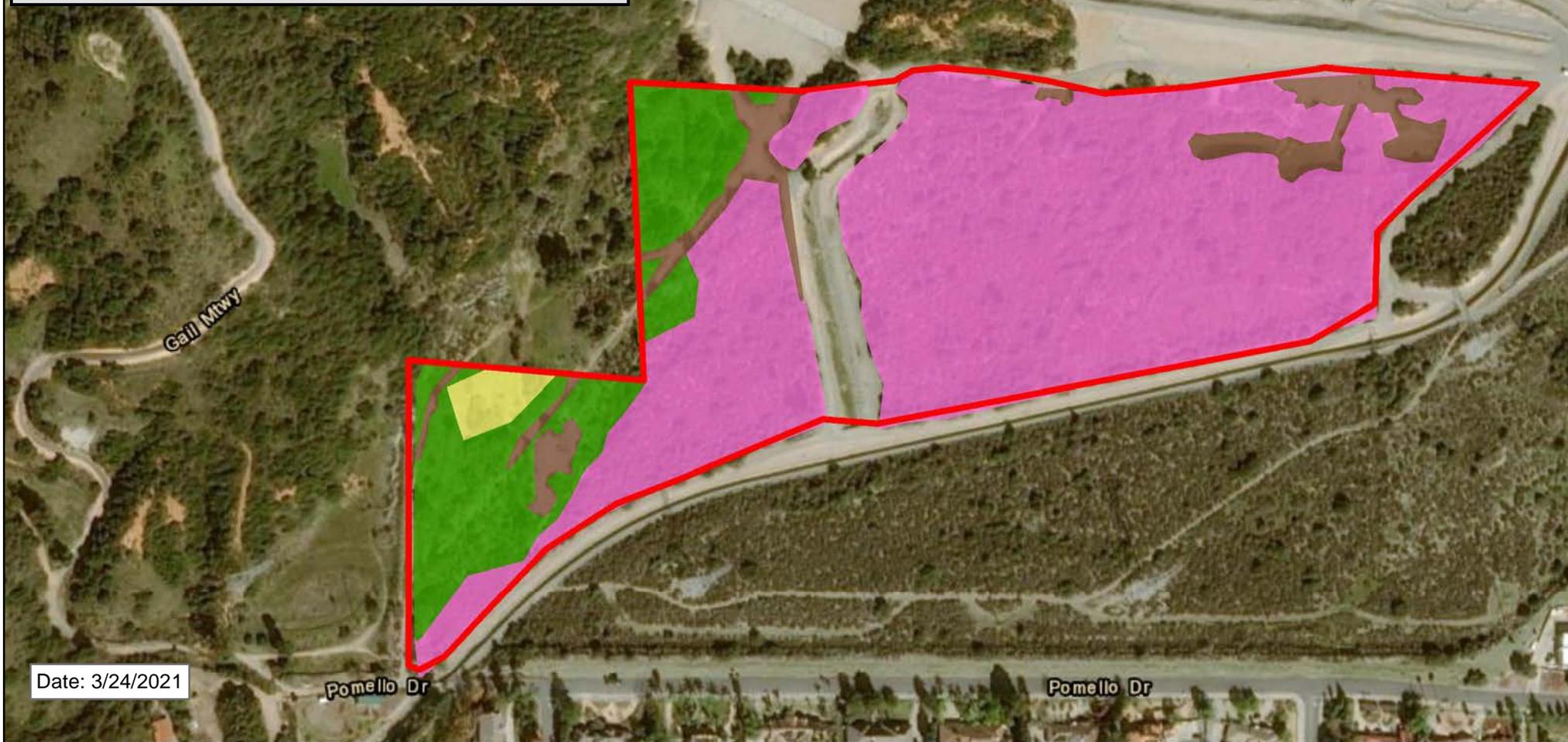


**Figure 4.4-1
SASG Vegetation Map**

**6 Basins
Strategic Plan - Program EIR**

Legend

- Thompson Creek Boundary
- Artemesia/Eriogonum/Malosma Shrubland Mosaic
- Quercus agrifolia* Woodland
- Lepidospartum squamatum* Shrubland Alliance
- Bare Ground



0 0.0225 0.045 0.09 0.135 0.18 Miles

1 inch = 305 feet Imagery Date: 2/8/2019

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Figure 4.4-2
TCSG Vegetation Map**

**6 Basins
Strategic Plan - Program EIR**

4.5 Cultural Resources/Tribal Cultural Resources

4.5.1 Introduction

This section describes the environmental and regulatory setting for *Cultural Resources and Tribal Cultural Resources*, and evaluates the potential significant impacts associated with implementation of the Strategic Plan projects on known or unknown resources. Where impacts have been identified as significant or potentially significant mitigation measures have been identified that would reduce those impacts to less than significant levels.

Because projects may require review by the State Water Resources Control Board (SWRCB) in the regulatory compliance procedures known as CEQA-Plus, the study was conducted in accordance with both CEQA and Section 106 of the National Historic Preservation Act. The primary purpose of the study is to assist TVMWD as the lead agency and other Watermaster Parties in assessing the cultural resources sensitivity within the Strategic Plan's Area of Potential Effect (APE). In order to accomplish this objective, CRM TECH conducted a cultural resources records search, pursued geoarchaeological, ethnohistorical, and historical background research, and contacted pertinent Native American representatives. The results of this research are included in the *Due Diligence Cultural Resources Study* that is included in the Program EIR in Appendix D.

4.5.2 Environmental Setting

Regional Setting

Figures 2-1 and 2-2 in Chapter 2, *Existing Conditions*, shows the regional location of the project area; a broad alluvial plain below the San Gabriel Mountains. The APE for this project roughly coincides with the Six Basins project area boundary, encompassing a total of approximately 20.5 square miles in the southeastern portion of Los Angeles County and the southwestern portion of San Bernardino County. The APE is shown in Figure 4.5-1, *Six Basins Area of Potential Effect*. The APE is divided into six interconnected groundwater sub-basins bounded by the San Jose Hills on the south, the Chino Basin on the east, the San Gabriel Mountains on the north, and the Main San Gabriel groundwater basin on the west, and extends across portions of the cities of Claremont, La Verne, Pomona, Upland and a portion of San Dimas, as well as adjacent unincorporated areas of both counties. Note: although the City of San Dimas is within the APE boundary it is not within the Six Basins project area boundary.

Ethnohistory

The APE has been identified as being within the traditional territory of the Gabrielino people. Also known as Gabrieleno, Tongva or Kizh, a Takic-speaking people who were probably the most populous, wealthiest, and therefore most powerful ethnic nationality in aboriginal

southern California. However, according to archaeological records, the Gabrielino were not the first inhabitants of the region.

Evidence suggests they may have arrived as early as the Middle Holocene, replacing or intermarrying with indigenous Hokan speakers. By the time of European contact, Gabrielino territory included the southern Channel Islands and the Los Angeles Basin reaching east into the present-day San Bernardino-Riverside area and south into southern Orange County, but their influence, through trade and cultural exchange, spread as far as the San Joaquin Valley, the Colorado River, and Baja California.

In equilibrium with the natural environment, different groups of the Gabrielino adopted different types of subsistence economies, albeit all based on some combination of gathering, hunting, and/or fishing. As the APE is an inland region, the predominant food sources were acorns, sage, deer, and various small animals, including birds. Because of the similarities to other southern California tribes in economic activities, inland Gabrielino groups' industrial arts, dominated by basket weaving, demonstrated no substantial difference from those of their neighbors. Coastal Gabrielino material culture, on the other hand, reflected an elaborately developed artisanship most recognized through the medium of steatite, which was rivaled by few other groups in southern California. Steatite is a soft compacted form of the mineral talc more commonly referred to as soapstone.

The intricacies of Gabrielino social organization are not well known, although there is evidence indicating the existence of a moiety system (either of two primary subdivisions in a tribe) in which various clans belonged to one or the other of two main social/cultural divisions. There also seems to have existed at least three hierarchically ordered social classes, topped with an elite consisting of the chiefs, their immediate families, and the very rich. Some individuals owned land, and property boundaries were marked by the owner's personalized symbol. Villages were politically autonomous, composed of nonlocalized lineages, each with its own leader. The dominant lineage's leader was usually the village chief, whose office was generally hereditary through the male line. Often several villages were allied under the leadership of a single chief. The villages were frequently engaged in warfare against one another, resulting in what some consider to be a state of constant enmity between coastal and inland Gabrielino groups.

As early as 1542, the Gabrielino were in contact with the Spanish during the historic expedition of Juan Rodríguez Cabrillo, but it was not until 1769 that the Spaniards took steps to colonize Gabrielino territory. Shortly afterwards, most of the Gabrielino people were incorporated into Mission San Gabriel and other missions in southern California. Due to introduced diseases, dietary deficiencies, and forceful reduction, the Gabrielino population dwindled rapidly. By 1900, they had almost ceased to exist as a culturally identifiable group. In recent decades, however, there has been a renaissance of Native American activism and cultural revitalization among a number of groups of Gabrielino descendants.

Historical Background

The establishment of Mission San Diego de Alcalá in 1769 marked the beginning of Spanish colonization of Alta California. Alta California encompasses more than present day California in the US and included parts of Arizona, Nevada and Utah. The Francisco Garcés and the Juan Bautista de Anza expedition became the first European explorers to travel through the vicinity of the APE. After Mission San Gabriel Arcángel was founded in 1771, the area became a part of the vast landholdings of that mission. However, during the Spanish Period (1769-1821) and the first half of the Mexican Period (1821-1848), the inland region of southern California remained largely untouched by the colonization activities, which were concentrated along the coastline, with the exception of the establishment of a few mission outposts.

Between 1834 and 1846, during secularization of the mission system, a number of large ranchos were established in and around the APE on the basis of Mexican land grants. Two of these, Rancho Cucamonga and Rancho San José, overlapped the northeastern end and the southwestern end of the APE, respectively. As elsewhere in southern California, cattle raising was the most prevalent economic activity on these ranchos until the influx of American settlers in the second half of the 19th century.

The 13,045-acre Rancho Cucamonga, granted to Tiburcio Tapía in 1839, was headquartered in the Red Hill area of the city now bearing the same name, which is more than a mile to the east of the APE. The 22,340-acre Rancho San José, granted to Ygnacio Palomares and Ricardo Vejar in 1837, was headquartered in the southernmost portion of the APE, where the adobe residences of Ygnacio Palomares and his close friend Ygnacio Alvarado, known as La Casa Primera de Rancho San José (built in 1837), La Casa Alvarado (built in 1840), and the Ygnacio Palomares Adobe (built in 1850-1855), still survive today in the City of Pomona. Another adobe home, occupied by Ygnacio Palomares' sister Maria Barbara and her family, once stood at what is now Memorial Park in the City of Claremont, in the southeastern portion of the APE.

After the American annexation of Alta California in 1848, Rancho San José and Rancho Cucamonga, like the majority of other Mexican land grants, were sold to developers and speculators and eventually subdivided into smaller farms and townsites. Beginning in the 1870s, spurred by the completion of the Southern Pacific Railroad and the competing Atchison, Topeka and Santa Fe Railway, inland southern California underwent a major growth spurt that culminated in the land boom of the 1880s, when many of the cities and towns in the region were originally founded. All of the cities involved in the APE, namely Pomona, Claremont, La Verne, San Dimas, and Upland, trace their roots to the 1870s-1880s era.

Local Setting

By 1894, two concentrated settlements, Claremont and Lordsburg (now La Verne), were known to have formed in the southwestern portion of the APE, along with the northernmost

portion of the town of Pomona, known as North Pomona. The rest of the APE demonstrated a settlement pattern that was typical of rural areas in inland southern California at the time, featuring crisscrossing roads lined by scattered buildings. Meanwhile, the town centers of Upland, Ontario, Pomona, and San Dimas were located roughly one to three miles outside the APE boundaries.

During the first half of the 20th century, the towns of La Verne, Upland, and Claremont, which incorporated as cities in 1906 and 1907, respectively, gradually expanded their urbanized core, but most of the APE remained under agricultural use, primarily citrus cultivation. In the meantime, through the presence of the forerunners of the University of La Verne and the Claremont Colleges, higher education also played a notable role in the growth of area. The University of La Verne was founded in 1891 as Lordsburg College, and the Claremont Colleges began with the establishment of Pomona College in Pomona in 1887 and its relocation to Claremont in 1889.

San Antonio Water Company

The following summary of San Antonio Water Company (SAWCo) is from <http://www.sawaterco.com/history>, and adds to the discussion of the history of the project area.

SAWCo is a historically established mutual water company incorporated October 25, 1882. It is an urban water wholesale provider headquartered in the City of Upland. SAWCo has consistently provided water service to its active shareholders for over 130 years. Shareholders include most residents of the unincorporated area of San Antonio Heights, the cities of Upland and Ontario, and Monte Vista Water District; local golf course and aggregate mine operations; and those few remaining grove irrigators within the original Village of Ontario area.

The natural waters of the area were part of the 1839 Cucamonga Rancho land grant. This grant of land was a portion of the original territory granted to the San Gabriel Mission. In the 43 years between the land grant and SAWCo's incorporation, the social, economic and cultural changes in the inland valley lifestyle were substantial. The westward expansion and the transcontinental railroads facilitated most of the change, and changes continued after the SAWCo's formation. Subsequent development of water rights and delivery services were initiated as the migration of people resulted in the development of agriculture, business and residency.

Pomona Valley Protective Association

The Pomona Valley Protective Association (PVPA) is a corporation established in 1910 by agricultural landowners to capture and percolate stormwater on PVPA lands to sustain the groundwater aquifer. This enables local groundwater producers including the cities of Pomona and Upland, the West End Consolidated Water Company, SAWCo, Pomona College

and Golden State Water Company to supply their communities with high quality water and reliable water service. These producers are all Six Basins Watermaster Parties.

San Antonio Spreading Grounds

After PVPA was formed, land was purchased to enhance recharge of the Six Basins by diverting and spreading surface water from San Antonio Creek into the SASG that is in excess of the needs of the water rights holders. The total area of the SASG is approximately 1.4 square miles or 980 acres (see Figure 2-8 in Chapter 2, *Existing Conditions*, for location). In 1956, in response to flood events in 1937 and 1938, USACE completed construction of the San Antonio Dam, including facilities to convey water captured behind the dam to recharge basins below the dam. The San Antonio Creek Channel below the Dam was concrete-lined by 1960.

As shown on Figure 2-8, the SASG is disturbed by a number of land uses including aggregate mining; Southern California Edison (SCE) electrical transmission lines; basins for the capture and percolation of stormwater flows; and other water infrastructure including underground pipelines, turnouts to spreading grounds, and the San Antonio Creek concrete lined channel.

Thompson Creek Spreading Grounds

PVPA's Thompson Creek Spreading Grounds (TCSG) are located below the Thompson Creek Dam on approximately 154 acres north of the City of Claremont adjacent to Claremont and bordered on the north and west by the Claremont Hills Wilderness Park. Similar to the SASG area, after PVPA was formed the TCSG site was purchased to enhance recharge by capturing surface-water runoff generated in the Thompson Creek watershed. In 1931, the Los Angeles County Flood Control District (LACFCD) obtained easements in the TCSG for the construction of Thompson Creek Dam and its associated facilities for flood-control purposes. The area within the TCSG site where the new recharge basins would be located is shown in Figure 3-8 in Chapter 3, *Project Description*.

Post WWII Urbanization

The history of the APE in the second half of the 20th century is characterized by continuous urban expansion and the suburbanization of former agricultural lands. The post-WWII boom brought about large-scale residential tract development in the southwestern half of the APE, while the northeastern half remained mostly rural and agricultural in character in the mid-1960s with the exception of the San Antonio Heights neighborhood north of Upland, which was developed in the 1930s. Between the 1960s and the turn of the 21st century, however, virtually the entire APE was gradually urbanized.

City of Claremont

The City of Claremont was established in the 1880's and incorporated in 1907. Since the 1970s, the City has maintained a strong focus on historic preservation, by establishing historic zoning districts and identifying the unique characteristics of the City's

neighborhoods. In 1977, a historic resource survey was started with a grant from the State Office of Historic Preservation. Claremont Heritage, a non-profit organization, was formed and has been responsible for continually updating the Register. The Register is an inventory of local sites of architectural and historic merit. Since 1981, when the Register was adopted formally by the City, over 1,000 structures have been listed.

City of La Verne

The southern portion of the City of La Verne is located within the 15,000-acre Rancho San Jose which was granted in 1837. During the 1870s and 1880s a long drought starved cattle and impoverished many of the ranchers. In the late 1880s the Santa Fe railroad extended its line through the area that was then called Lordsberg. The community of La Verne was a smaller town west of Lordsberg with no railway depot. New arrivals settled in Lordsburg or San Dimas. Eventually most of the homes were moved away from La Verne and the name was seen only on orange crate labels; until 1917 when the residents of Lordsberg voted to change the city's name to La Verne.

As part of the City's General Plan Update, a *Cultural Resources Assessment* was completed in April 2018. Cogstone conducted a search of the California Historic Resources Inventory System (CHRIS) in August 2017. Results of the record search indicated that 65 previous cultural resources studies were completed within the boundaries of the City. The records search also determined 83 previously recorded cultural resources are located within the City boundaries. Of these 83 resources, seven are prehistoric archaeological sites, one is a prehistoric archaeological isolate, two are multicomponent sites, one is a historic archaeological site, 70 are historic resources, and two are historic districts.

City of Pomona

Pomona's prehistory and history are similar to the other cities in the project area. The city of Pomona was also a part of the Mission San Gabriel lands and subsequently, part of Rancho San Jose. Pomona's development began with the arrival of the Southern Pacific railroad in 1874. However, growth was slow due to the lack of a reliable and consistent water supply. In the 1880s the Pomona Land and Water Development Company developed a number of wells and built a pipeline to serve the town and the surrounding groves and orchards. The City incorporated in 1888 and grew quickly due to the success of the citrus industry and proximity to the railroad. The second World War brought an influx of people working in war related industries. The post war building boom transformed Pomona, as it had the neighboring cities, with residential tracts and commercial centers taking over the citrus groves.

In 1994, the City and Pomona Heritage sponsored the *Pomona Historic Resources Survey*, that found the following:

- 2,784 properties contributing to the history of Pomona, of which 382 are potential local landmarks and 129 are potentially eligible for listing on the National Register of Historic Places;
- Twelve potentially eligible local historic districts;
- Eight potentially eligible National Register districts; and
- Sixteen themes important in developing Pomona’s growth and development history.

The survey concluded with a number of recommendations including the implementation of a Historic Preservation Ordinance which was adopted in 1995, and established Pomona’s Historic Register, a list of historic landmarks and historic districts. Then in 2004, a reconnaissance survey of neighborhoods and districts developed between 1945 and 1954 was completed that identified those area with potential historic significance. This survey focused on eight areas, seven residential areas and the commercial corridors.

The City of Pomona has two historic districts on the National Register of Historic Places. These are the Edison Historic District whose period of significance was from 1875 through 1924; and the Lincoln Park Historic District whose period of significance was from 1890 through the 1930s. Other districts have a local historic designation - Wilton Heights Historic District and the Hacienda Park Historic District.

Finally, The City has 10 properties that are listed on the National Register of Historic Places; 5 additional properties that have formally been determined to be eligible, another 2 listed on the California Register of Historical Resources; and 13 properties listed as City of Pomona landmarks.

City of Upland

Upland’s prehistory and history are similar to the other cities in the project area. At the end of the Mission era, the area that now comprises the City of Upland and adjacent San Antonio Heights, became a part of the Cucamonga Rancho. During the rancho era, the area was used mostly for cattle grazing.

In 1881, George Chaffey established the Etiwanda irrigation community. Irrigation water was transported from the San Gabriel mountains to a reservoir through a series of flumes. Chaffey added to the community with the purchase of 6,200+ acres in the Cucamonga Rancho, along with significant water rights from San Antonio Creek. Water was delivered to individual farms through a series of concrete pipes. In 1882, the San Antonio Water Company (SAWCo) was incorporated with each landowner becoming a shareholder. At this time Upland was known as North Ontario, part of the Ontario Model Colony. Orchards of various fruit trees (peaches, pears, apples) were planted, but by 1889, citrus was replacing these trees. The City of Upland was located along the route of the Santa Fe railroad that took the fruit to market.

The City of Upland incorporated in 1906. The City has identified 9 historic districts and a number of individual homes throughout the City. Historic districts include:

- Arrow/Laurel District
- Citrus and Transportation District
- Civic Center East District
- Euclid Avenue District
- Old Magnolia District
- Old Town District
- Pleasant View District
- Stowell (various locations)
- Victorian Row

Regulatory Framework

There are a number of regulations and laws that require federal, State, and local agencies to consider the effects that a project may have on Cultural Resources, including Tribal Cultural Resources. They stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other responsible or trustee agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation).

The National Historic Preservation Act (NHPA) of 1966, as amended; the California Environmental Quality Act (CEQA); and the California Register of Historical Resources, Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance. These and other regulations, including city ordinances are identified herein.

Federal

National Historic Preservation Act

Cultural resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [U.S.C.] 300101 et seq.), and the implementing regulations: (1) Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800); (2) the Archaeological and Historic Preservation Act of 1974; and (3) the Archaeological Resources Protection Act of 1979.

Prior to implementing an “undertaking” (e.g., issuing a federal permit), the NHPA (54 U.S.C. 306108) requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (National Register).

Specifically, regarding Tribal Cultural Resources, under the NHPA, properties of traditional religious and cultural importance to a Tribe are eligible for inclusion in the NRHP (54 U.S.C. 302706). Also, under the NHPA, a resource is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

National Register of Historic Places

The National Register is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history,

architecture, archeology, engineering, and culture. The National Register recognizes resources of local, State and national significance which have been documented and evaluated according to uniform standards and criteria. Authorized under the NHPA of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The National Register is administered by the National Park Service, which is part of the U. S. Department of the Interior. To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history
- B. Is associated with the lives of persons significant in our past
- C. Embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction
- D. Has yielded, or may be likely to yield, information important in history or prehistory

State

California Environmental Quality Act (CEQA) (PRC Section 21000 et seq)

CEQA states that “[i]t is the policy of the State that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of a proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.”

CEQA also states that it is State policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." CEQA further states that public or private projects financed or approved by the State are subject to environmental review by the State. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, CEQA requires that alternative plans and mitigation measures be considered. If archaeological resources are identified as being within the proposed project study area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource PRC Section 21083.2.

Tribal Cultural Resources

CEQA

In 2015 CEQA was amended and established that “[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). In order to be considered a “tribal cultural resource” the resource must be a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is either:

- (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
- (2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Such consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC Section 21080.3.1).

In applying those criteria, a lead agency must consider the value of the resource to the tribe. For example, in considering the criterion that a resource is “associated with the lives of persons important in our past,” a lead agency would ask whether the resource is associated with the lives of persons important to the relevant tribe’s past. That determination must be supported with substantial evidence.

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. PRC Section 21084.3(b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. These are as follows:

- (1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- (2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - (A) Protecting the cultural character and integrity of the resource.
 - (B) Protecting the traditional use of the resource.
 - (C) Protecting the confidentiality of the resource.

- (3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- (4) Protecting the resource.

California Senate Bill 18 – Protection of Tribal Cultural Resources

California Senate Bill 18 (SB 18) requires public notice to be sent to tribes listed on the NAHC SB 18 Tribal Consultation list within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether or not they want to consult with the local government. However, SB 18 only applies to projects where may be affected by the proposed adoption or amendment to a general or specific plan. The Strategic Plan is not part of a general plan or specific plan, therefore, SB 18 does not apply to the Strategic Plan.

California Assembly Bill 52 – Effects on Tribal Cultural Resources

Although SB 18 does not apply to the implementation of the Six Basins Strategic Plan, it is subject to the requirements of AB 52 for the completion of tribal consultation prior to taking an action to approve the Strategic Plan and certify the Program EIR. Similar to SB 18, the intent of AB 52 is to provide California Native American tribes an opportunity to participate in local land use decisions - other than for projects where the adoption or amendment to a general plan or specific plan is required - at an early planning stage. The Strategic Plan identifies a number of projects and their physical locations where individual, site specific impacts to tribal cultural resources may occur. Therefore, tribal consultation under AB 52 is appropriate.

California Register of Historical Resources (PRC Section 5024.1)

The California Register of Historical Resources (California Register) is a listing of all properties considered to be significant historical resources in the State. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106 of the NHPA, and State Historical Landmarks numbered No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as those listed on local historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or time period within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. In other words, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

Public Resources Code Section 5097.5

PRC Section 5097.5(a) states that “no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.” PRC Section 5097.5(b) defines public lands as follows: “... lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.”

Native American Remains

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code Section 7050.5 and PRC Section 5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

California Administrative Code, Title 14, Section 4307

This section of the California Administrative Code states that “No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value.”

Local

The Strategic Plan project area encompasses the cities of Claremont, La Verne, Pomona and Upland as well as Los Angeles County unincorporated areas adjacent to these cities, and the unincorporated community of San Antonio Heights in the County of San Bernardino. As described above, the project area is known for Native American occupation, historic Spanish (Mission San Gabriel) and Mexican (land grants) occupation, and subsequent citrus ranching, irrigation system development, and town building in the late 19th and early 20th centuries.

Each of these jurisdictions has its own independent General Plan and municipal code that pertain to cultural and historic resources, including historic preservation ordinances.

Existing Conditions in the Project Area

CRM Tech conducted a *Due Diligence Cultural Resources Study* of the Six Basins project area. The study consisted of a cultural resources records search that included geoarchaeological, ethnohistorical, and historical background research; and contacted pertinent Native American representatives. The records search was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, located on the campus of California State University, Fullerton. As this study covers a very large area of fully developed land (with the exception of the spreading grounds areas), the records search was aimed at identifying areas of higher sensitivity for prehistoric or

historical cultural resources rather than producing a complete list of known sites or previous studies within the APE.

The results of the records search indicate that the majority of cultural resource studies previously completed within the APE have been concentrated along major transportation or power transmission lines, around the Los Angeles County Fairplex in Pomona, and near San Antonio Creek in and around Upland, and that the bulk of the APE has not been surveyed systematically for cultural resources. Of the large number of historical/archaeological sites that have been previously recorded within the APE, only five were of prehistoric—i.e., Native American—origin, consisting typically of scattered lithic artifacts. Three of these were found along San Antonio Creek, including two near the San Antonio Dam in San Antonio Heights, and the other two were discovered along Indian Hill Boulevard in Claremont.

The rest of the known sites dated to the historic period and were concentrated noticeably around the downtown areas of La Verne and Claremont, including the Los Angeles County Fairplex and the Claremont Colleges, near the San Antonio Dam, and along Baseline Road and Foothill Blvd (formerly U.S. Route 66). These sites consisted mostly of buildings from the late 19th and early 20th centuries, including residences as well as various commercial, public, educational, or agricultural buildings. Also among the sites were cemeteries, irrigation features, refuse deposits, and infrastructure features such as roads and railroads.

Regarding historic-period cultural resources, development patterns over the last 150 years suggest that the southerly portion of the APE generally demonstrates a higher level of sensitivity than the northerly portion, both for built-environment features and for archaeological remains, although such resources could occur anywhere within the APE boundaries. Existing cultural resources records further identify several concentrations of known historic-period sites, such as the areas around the downtown areas of La Verne and Claremont, near the San Antonio Dam, and along Baseline Road and Foothill Blvd.

4.5.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact on *Cultural Resources or Tribal Cultural Resources* if it would result in any of the following:

Cultural Resources

1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
3. Disturb any human remains, including those interred outside of formal cemeteries?

Tribal Cultural Resources

4. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k),
 - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact Evaluation

Impact 4.5-1

Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, *Determining the Significance to Archaeological and Historical Resources?* (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

There are three basic impacts that may adversely affect cultural resources through the implementation of future projects: (1) adverse changes in the elements of historical structures, features, districts, or landscapes that may be considered a significant resource; (2) potential destruction of prehistoric and historical archaeological resources during site disturbance; and (3) potential to disturb Native American human remains during site disturbance. Regarding Impact 1, if a project would be developed adjacent to a historical structure, etc., the adjacency to a resource and the potential to adversely impact the resource (historical structures, etc.) must be considered. Note: the evaluation of historic resources under Impact 4.5-1 are limited to historic resources and structures. The potential for the

Implementation of the Strategic Plan and its related projects to cause adverse effects tribal cultural resources are evaluated below in Impact 4.5-5.

Section 4.1-1, *Aesthetics*, provides a description of each of the project sites and their surroundings, and includes photographs of the sites. As shown on these photographs, each of the sites are improved with existing facilities. This category of projects involves improvements such as new treatment facilities that may require the disturbance of existing undisturbed areas on a site. However, most of these sites have already been disturbed with existing wells and treatment facilities and for the most part, are paved with asphalt.

Regarding Impact 1 related to a historical structure, feature, district, or landscape that may be considered a significant resource. The projects under Project Category 1 are all being proposed at sites that are currently developed with wells and/or treatment facilities. Some of the existing sites may be older than 45 years. The 45-year rule is used due to the anticipated length of time a project may be in planning/design before construction begins and is meant to prevent last minute problems with resources that have become 50 years old and are therefore historic under State and federal laws. Therefore, to ensure that proposed projects on existing sites comply with this requirement, mitigation measures CUL-1 requires the project proponent (Watermaster Party) to hire a qualified historian or architectural historian meeting the Secretary of the Interior's Standards for Architectural History if existing facilities at Project Category 1 sites are at least 45 years in age. If facilities at a project site are determined to be greater than 45 years in age and it is determined that such facilities represent an historic resource, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources.

Regarding Impact 2 related to the potential destruction of prehistoric and historical archaeological resources during site disturbance; although the potential to recover of unknown resources at these project sites is low due to previous site disturbance, the possibility exists that excavation or trenching activities may uncover such resources. Therefore, mitigation measure CUL-2 requires each of the Watermaster Parties to hire an archeologist to review site/construction plans, conduct a site visit, and determine whether monitoring would be required.

Regarding Impact 3 related to the potential to disturb Native American human remains during site disturbance, the proposed projects would be located on previously disturbed site. However, should construction activity result in the disturbance of human remains, mitigation measure CUL-3 would be implemented. This requires that the construction contractor stop work in the area and contact the Coroner.

Implementation of mitigation measures CUL-1 through CUL-3 would ensure that impacts associated with Project Category 1 projects on archaeological or historical resources, or the disturbance of human remains would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken at the San Antonio Spreading Grounds (SASG) and the Thompson Creek Spreading Grounds (TCSG) to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the Pedley Spreading Grounds (PSG); to create an area for the recharge of stormwater and supplemental water at the LA County Fairplex; and to identify opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). Note: at the time of the release of the Notice of Preparation only two MS4 projects were identified: PSG and Fairplex.

With the exception of the Fairplex site, the areas where new basins will be created are undeveloped. The proposed areas where the SASG and TCSG recharge basins would be developed are located in washes largely covered by vegetation. Both of these spreading ground sites are disturbed with a variety of man-made features including dams and channels. In addition, the SASG area is disturbed with other uses including SCE transmission towers, recharge basins, and unpaved roads. Nevertheless, archaeological resources associated with Native American occupation, may be present that could be uncovered during clearing and grubbing, and excavation for the new basins and related infrastructure. The proposed new recharge basin at the SASG could be as large as 50-acres and as deep as 200 feet below ground level. Buried resources may be uncovered during excavation. The new recharge basins at the TCSG would be smaller (up to 25 acres) and shallower (up to 20 feet in depth).

The PSG site is currently developed with the recharge basin and the Pedley water treatment plant. The existing basins would be excavated to increase basin capacity. In addition, the City of Pomona, the owner of the Pedley site, is considering connecting the PSG to the local residential neighborhood with a new storm drain in order to capture storm flows and nuisance water and convey it to the onsite basins as part of an MS4 compliance strategy. Construction activity would include excavation to expand the basins and trenching to connect the local storm drains to the basins. During excavation and trenching activities, unknown archaeological resources may be uncovered.

The Fairplex site is located in an area of the County's fairgrounds formerly used for horse racing. This activity is being replaced with soccer fields. The intent is to construct an underground infiltration gallery to capture storm flows from the surrounding on-site areas. This facility would be developed under the soccer fields. There is a potential for this project to also include a connection to the adjacent Thompson Creek storm channel along the east side of the Fairplex site and conveying storm flows from the channel to the underground galleries as part of an MS4 compliance strategy. Construction activity would include excavation to expand create the infiltration gallery and trenching to connect the storm channel to the basins. During excavation and trenching activities, unknown archaeological resources may be uncovered.

Because these projects require excavation and trenching, Watermaster Parties proposing *Stormwater and Supplemental Water Recharge Projects* would be required to implement mitigation measures CUL-1 and CUL-2 during development of projects in Project Category 2.

Project Category 3: Temporary Surplus

Determination: Less Than Significant with Mitigation Incorporated.

Projects in this category include: 1) rehabilitating Pomona’s P-20 wellhead treatment facility, 2) constructing new production wells and monitoring wells; and 3) construction of new underground pipelines to interconnect some sites.

The rehabilitation of the P-20 site would result in similar impacts as identified under Project Category 1 and would require the implementation of mitigation measures CUL-1 and CUL-2.

Regarding the construction of new production wells and interconnects (underground pipelines) to interconnect new wells to water treatment plants, or new monitoring wells, this EIR has been prepared at the programmatic level, because specific project locations and design elements of the new production and monitoring wells and related facilities, and new pipelines have yet to be finalized. Therefore, impacts to specific historical resources would be speculative. There is a potential for future development occurring under the Strategic Plan to adversely affect historic resources within the project area. The potential impact to a historical resource is considered significant. Therefore, similar to projects in Project Category 1, during the design phase of any new project in Project Category 3, a project proponent (Watermaster Party) shall hire a qualified archeologist to review site/construction plans, conduct a site visit, and determine whether there is a potential for a significant impact to occur. During this study phase, the archaeologist would determine whether monitoring during construction would be required. If the project is located next to an historic building or site, or is located in a designated historic district, an architectural historian may be needed to assess the potential impacts. This would be determined during the cultural resources assessment. Therefore, with implementation of mitigation measures CUL-1 and CUL-2, impacts associated with a future project’s effects on an historic or archaeological resource would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new production or monitoring wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including review for the potential impacts to Cultural Resources and Tribal Cultural

Resources. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.5-2

Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? (Threshold 2)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant with Mitigation Incorporated.

See discussion under Impact 4.5-1.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

See discussion under Impact 4.5-1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant with Mitigation Incorporated.

See discussion under Impact 4.5-1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.5-3

Disturb any human remains, including those interred outside of formal cemeteries? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant with Mitigation Incorporated.

Disturbance of a project site by drilling, excavation or trenching has the potential to disturb Native American human remains. Since this is an unknown variable there is no way to know before site disturbance whether a gravesite would be disturbed. However, should construction activity result in the disturbance of human remains, mitigation measure CUL-3 would be implemented. This requires the construction contractor to stop work in the area and contact the Coroner. In accordance with Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the NAHC by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

Mitigation measure CUL-3 shall be implemented to ensure a project's compliance with the requirements of Health and Safety Code Section 7050.5.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

See discussion under Impact 4.5-1, Project Category 1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant with Mitigation Incorporated.

See discussion under Impact 4.5-1, Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.5-4

Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). (Threshold 4.i)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

There are no existing sites in this category of projects that are listed or eligible for listing on the California Register of Historical Resources, or in a local register of historical resources. However, some of these sites contain facilities that may be over 45 years old, and thus may be eligible to be listed as historic resources. Figures 4,1-1 (Reservoir 5), 4.1-2 (Durward 2) and 4.1-5 (Del Monte) in Section 4.2, *Aesthetics*, are examples of older sites where additional facilities are proposed to be added. Therefore, to ensure that proposed projects on existing sites comply with the requirement to consider projects that may affect facilities over 45 years in age, mitigation measure CUL-1 shall be implemented. This measure requires the project proponent (Watermaster Party) to hire a qualified historian or architectural historian meeting the Secretary of the Interior's Standards for Architectural History. If potentially significant resources are encountered during the survey, mitigation measure CUL-2 shall be implemented.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

There are no existing sites in this category of projects that are listed or eligible for listing California Register of Historical Resources, or in a local register of historical resources. Therefore, there is no impact associated with implementation of projects in Project Category 2.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

The City of Pomona's P-20 well may qualify as an historic resource if it is found to be 45 years old or older. The determination of the significance of the site and related structures would be made by a qualified archaeologist, through the implementation of mitigation measures CUL-1. This measure requires the project proponent (Watermaster Party) to enlist the services of a qualified archaeologist to review the design and/or site plans and determine if new facilities at existing sites would adversely affect the existing facilities. If potentially significant resources are encountered during the survey, mitigation measure CUL-2 shall be implemented.

Regarding new production and monitoring wells, specific sites are not known at this time, but could potentially be sited adjacent to historic structures or be located in historic districts. The potential for new projects to adversely affect historic structures or other historic features would be determined in site specific Cultural Resources Assessments as set forth in mitigation measure CUL-1. This measure requires the project proponent (Watermaster

Party) to hire a qualified archaeologist to review the design and/or site plans and determine if new facilities adjacent to historic structures or located in historic districts would adversely affect the existing resources. If potentially significant resources are encountered during the survey, mitigation measure CUL-2 shall be implemented.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.5-5

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (Threshold 4.ii)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

On August 1, 2019, TVMWD sent via certified mail, a request for consultation to 11 Native American tribes. Responses were received from two tribes: (1) Morongo Band of Mission Indians; and (2) San Manuel Band of Mission Indians. A response from the Morongo Band of Mission Indians was received via email on August 27, 2009 stating that there was no additional information to provide to TVMWD at that time, and no consultation was requested.

On August 26, 2019, TVMWD received a response from the San Manuel Band of Mission Indians (SMBMI) that they were electing to be a consulting party under CEQA. The representative requested “any documentation concerning cultural/historical resources, proposed disturbance, and existing disturbance (geotechnical report) that may have been, or will be, completed as a part of that effort”. Information provided to the SMBMI representative included copies of the Cultural Resources Due Diligence Report (literature and desktop searches), the Notice of Preparation of the Program EIR, and a number of exhibits identifying the locations of the projects identified in the Strategic Plan. On June 25, 2020, after additional discussion, the SMBMI representative concluded that her questions

had been answered and that it was understood that at such time as TVMWD or other Watermaster Party came forward with a Strategic Plan project, the lead agency for such a project would undertake AB 52 consultation. The representative acknowledged that as of this date SMBMI considered CEQA consultation for this Six Basins Strategic Plan concluded.

No other Native American tribes responded to the request for consultation.

As described in the *Environmental Setting* section above, the Six Basins project area is within the traditional territory of the Gabrielino people. In addition, in consultation with the SMBMI representative, a portion of the project area may fall within the traditional territory of the SMBMI. Potential tribal cultural resources may be present at Strategic Plan project sites and could be uncovered during construction of such projects. Effects on tribal cultural resources are highly dependent on the individual project site conditions and the characteristics of the proposed project. Impacts to tribal cultural resources (if uncovered) may include damage or destruction. Adherence to the requirements of AB 52 would ensure consultation with local California Native Americans on a project-by-project basis where a Native American tribe may identify mitigation measures pursuant to PRC Section 21084.3. This section reads as follows:

If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, the following are examples of mitigation measures that, if feasible, may be considered to avoid minimize the significant adverse impacts:

1. *Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.*
2. *Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:*
 - A. *Protecting the cultural character and integrity of the resource*
 - B. *Protecting the traditional use of the resource*
 - C. *Protecting the confidentiality of the resource.*
3. *Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.*
4. *Protecting the resource.*

If AB 52 consultation determines that a project could cause a substantial adverse change in the significance of a tribal cultural resource, the impact would be potentially significant. Therefore, if no specific mitigation measures are identified during consultation, the Watermaster Party proposing a project shall implement mitigation measure CUL-4, to minimize adverse impacts to tribal cultural resources to the satisfaction of the lead agency and the Native American tribe that requested consultation under AB 52. Mitigation measure CUL-4 reiterates the language in PRC Section 21084.3.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

The Cultural Resources Due Diligence Report was prepared for the whole of the Six Basins project area, including projects that are proposed in the San Antonio, Thompson Creek and Pedley spreading grounds. Mitigation measures CUL-1 through CUL-4 apply to all of the projects as well.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

The Cultural Resources Due Diligence Report was prepared for the whole of the Six Basins project area, including new well projects and treatment facility; and interconnect projects. The rehabilitation of the P-20 well was evaluated under Project Category 1 because it is similar to other projects in that category. Mitigation measures CUL-1 through CUL-4 apply to all of the projects as well.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.5.4 Cumulative Impacts

Historical and Archaeological Resources

Although the Six Basins project area is largely urbanized with residential, commercial, and industrial development, there are still opportunities for development to occur as identified in cities' general plans. As described in Section 4.5.1, *Environmental Setting*, the project area contains a significant archaeological and historical record. Therefore, there is the potential for Strategic Plan projects and other future development projects in the project area to

disturb known or unknown historical and archaeological resources, including archaeological sites, historic-era built resources, and resources of traditional and cultural significance to Native American tribes.

The potential construction impacts associated with the development of projects in Project Categories 1 through 3, in combination with other projects as a result of growth in the area, could contribute to a cumulatively significant impact on cultural resources. However, like the Strategic Plan projects, each of these projects would be required to go through a city's development review process that would likely require the assessment of a project's impacts on Cultural Resources and Tribal Cultural Resources. On a project-by-project basis, each project proponent would be required to implement a mitigation measure similar to mitigation measure CUL-1 that requires hiring a qualified archaeologist to identify any potentially significant archaeological resources. The study would outline measures to reduce or avoid impacts to potentially significant archaeological resources. In addition, if a project site contains structures that are 45 years old or older, or the site is located adjacent to an historical structure or within a historic district, the project proponent (Watermaster Party) shall implement mitigation measure CUL-2 prior to finalization of design/site plans. This measure requires the completion of a historic built environment survey to evaluate potentially historic structures for their potential historic significance. If potentially significant resources are encountered during the survey, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources identified. Therefore, with implementation of mitigation measures CUL-1 and CUL-2, project implementation would result in a less-than-significant impact involving an adverse change in the significance of an historical or archaeological resource. Thus, implementation of the Strategic Plan would not contribute to cumulative impacts to Cultural Resources.

Discovery of Human Remains

The Six Basins project area is largely urbanized with residential, commercial, and industrial development. With development of Strategic Plan projects and cumulative growth as identified in each city's general plan, it is possible, but unlikely, that construction activities could impact unknown human remains. However, implementation of mitigation measure CUL-3, which sets forth the requirements under Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, the cumulative potential to impact human remains would be less than significant.

Tribal Cultural Resources

On a project-by-project basis throughout the Six Basins project area, any local agency (e.g., city, county, water district) is required to conduct tribal consultation as set forth in AB 52, when a project that is not exempt from CEQA is proposed. For Strategic Plan, future projects may require additional environmental review in the form of a subsequent Mitigated Negative Declaration or subsequent EIR. Regarding Project Category 1 projects, most if these sites are already developed with facilities and for some projects, no additional ground disturbance

may be required. However, where ground disturbance is required (e.g., Durward 2 new well and wellhead treatment facility), AB 52 consultation would be required. Regarding the SASG and TCSG projects, the exact location of new recharge basins is only preliminary, and additional subsequent environmental review would likely be required including Tribal Consultation under the requirements of AB 52. Then, because the location of individual projects are not known at this time for Category 3 projects (with the exception of the rehabilitation of the P-20 well site), subsequent environmental review would be required on a project by project basis, including Tribal Consultation under the requirements of AB52. Projects that would be subject to subsequent review for the potential to discover Cultural and Tribal Cultural Resources would go through this process. Consultation may result in additional mitigation measures, however, those identified in Section 4.5.5, *Mitigation Measures*, are standard measures. Consultation with Native American tribes under AB 52, and implementation of mitigation measures CUL-1 through CUL-4, would ensure that the development of Strategic Plan projects would not contribute to the exacerbation of cumulative impacts regarding Cultural and/or Tribal Cultural Resources.

4.5.5 Mitigation Measures

CUL-1 Prior to approval of a project identified under Project Categories 1 through 3, Watermaster Party undertaking a project shall retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology to conduct an assessment of the project site and vicinity for all project elements that involve ground disturbance. The archaeologist shall conduct cultural resources assessment consisting of: (1) a cultural resources records search to be conducted at the South Central Coastal Information Center located at California State University Fullerton; (2) consultation with the Native American Heritage Commission (NAHC) and with interested Native American tribes identified by NAHC; (3) a field survey by the archaeologist; and (4) recordation of all identified archaeological resources located on a project site on California Department of Parks and Recreation 523 Site Record forms. The archaeologist shall provide recommendations regarding resource significance and additional work for those resources that may be affected by a project.

CUL-2 Prior to ground disturbance activities at a project site that contain structures 45 years old or older, affected structure(s) shall be subject to a historic built environment survey, and potentially historic structures shall be evaluated for their potential historic significance, prior to a Watermaster Party's finalization of design/site plans. The survey shall be carried out by a qualified historian or architectural historian meeting the Secretary of the Interior's Standards for Architectural History. If potentially significant resources are encountered during the survey, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources identified.

CEQA Guidelines Section 15064.5(e) requires that in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, specific steps must be taken as outlined in mitigation measure CUL-3.

CUL-3 In the event that human remains are uncovered at a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
- If the coroner determines the remains to be Native American:
 - The coroner shall contact the Native American Heritage Commission within 24 hours.
 - The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
 - The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.
- Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
 - The descendant identified fails to make a recommendation; or
 - The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

CUL-4 Prior to approval of a project, the Watermaster Party undertaking the project shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC. If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, Watermaster Parties shall implement the following measures where feasible and necessary to address site specific impacts to avoid or minimize the significant adverse impacts:

- Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

- Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource
 - Protecting the traditional use of the resource
 - Protecting the confidentiality of the resource
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Protecting the resource.

4.5.5 Level of Significance After Implementation

It is recognized that additional study may be required for proposed Strategic Plan projects, particularly those in Project Categories 2 and 3 where the specific location of a project (other than the P-20 well site, has not been identified; and that individual project sites have not been subject to formal cultural pedestrian surveys. Therefore, construction of the proposed Strategic Plan projects has the potential to affect significant historic-period archaeological resources, tribal cultural resources, and/or human remains; and thus, construction impacts on historical, archaeological, and tribal cultural resources, as well as human remains, could be significant. During the planning and design phase for these projects, and prior to ground-disturbing activities within previously undisturbed areas at sites identified in Project Category 1, the Watermaster Party proposing a project would have a qualified archaeologist and/or architectural historian conduct a cultural resources inventory of the project location and make evaluations for cultural resources as determined necessary. The archaeological and architectural resources surveys would include intensive pedestrian surveys to assess potential impacts to cultural resources as determined necessary.

Operations of the proposed Strategic Plan projects would not involve earthmoving activities, facility upgrades, and other demolition. Regular maintenance activities would be completed as part of the operation of all facilities and may include activities such as vegetation clearance or facility repairs. Such activities are expected to be limited to previously disturbed areas; therefore, operation of the proposed Strategic Plan projects is not expected to affect significant historic-period archaeological resources, tribal cultural resources, and/or human remains. Operations and maintenance impacts on historical, archaeological, and tribal cultural resources, as well as human remains, would be less than significant.

4.5.6 References

Sources used in the preparation of this section are as follows:

City of Claremont, 2009. *General Plan Update, Land Use, Community Character and Heritage Preservation Element.*

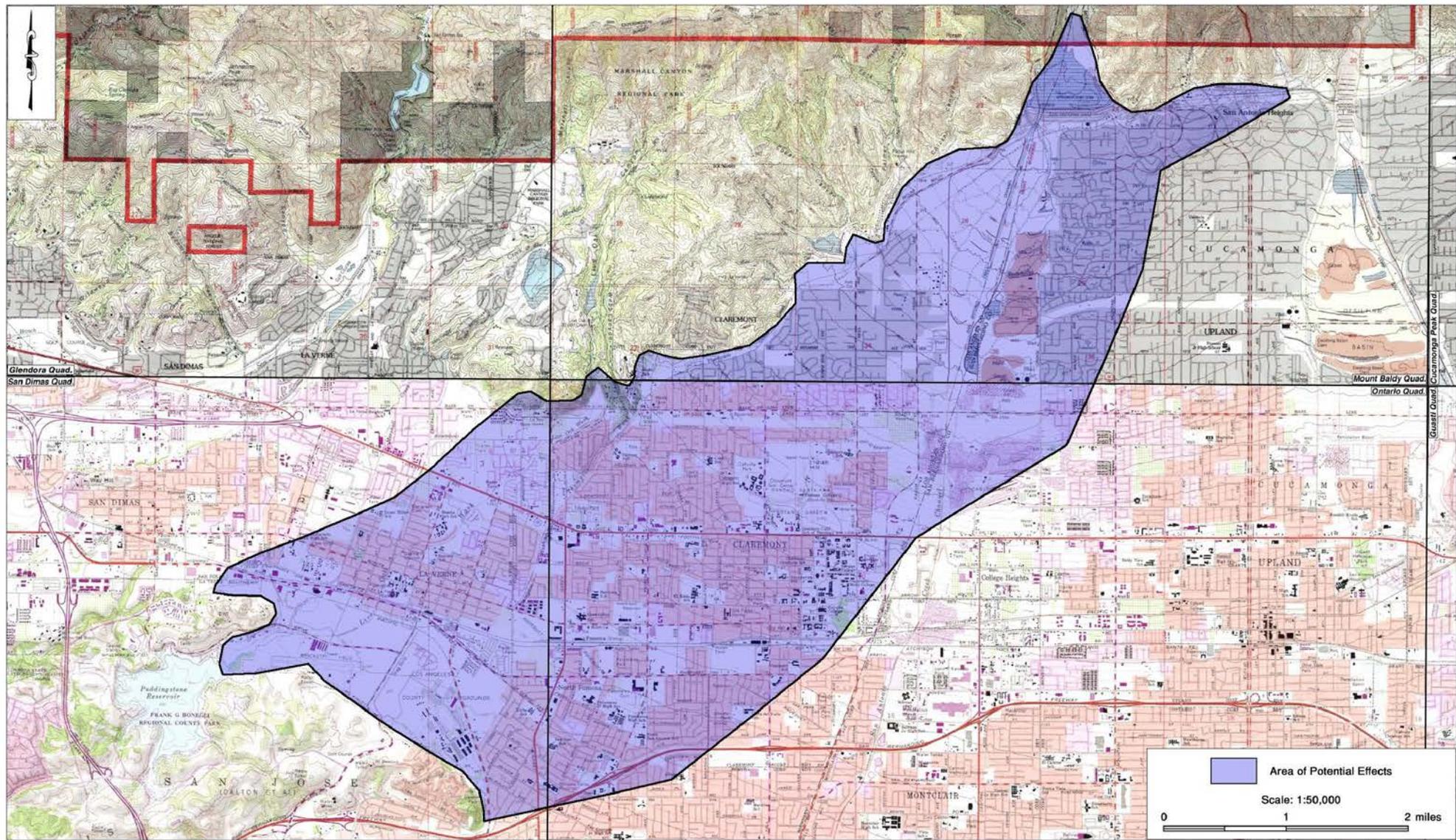
Cogstone, 2018. *Cultural and Paleontological Resources Assessment for the City of La Verne General Plan Update, City of La Verne, Los Angeles County, California.*

CRM TECH, 2019. *Due-Diligence Cultural Resources Study for the Six Basins Strategic Plan In and around the Cities of Claremont, La Verne, Pomona, San Dimas, and Upland Los Angeles and San Bernardino Counties, California*

Rincon, 2013. *Draft Program EIR for the City of Pomona General Plan Update Corridors Specific Plan Active Transportation Plan and Green Plan*

Upland Heritage web site accesses August 20, 2019 <http://uplandheritage.org/home/>

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Source: CRMTech Figure 1. Area of Potential Effects. (Based on USGS Cucamonga Peak, Glendora, Guasti, Mount Baldy, Ontario, and San Dimas, Calif., 7.5 quadrangles)

Date: 4/27/2020



Figure 4.5-1
Cultural - Area of Potential Effects

6 Basins
Strategic Plan - Project EIR

4.6 Environmental Justice

4.6.1 Introduction

This section describes the environmental setting and regulatory framework for *Environmental Justice* and evaluates the potential significant environmental impacts that may be associated with implementation of the Strategic Plan and related projects on disadvantaged communities. Where impacts have been identified as significant or potentially significant mitigation measures have been identified that would reduce those impacts to less than significant levels.

The analysis of the Strategic Plan’s potential adverse effects on minority and low-income populations has been undertaken in compliance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (Note: see the Regulatory Framework section below for definitions of such populations). This order requires federal agencies – as part of their due diligence under the National Environmental Policy Act (NEPA) – to assess the potential for the proposed action to have a disproportionately high and adverse environmental and health impacts on minority and low-income populations. An analysis of the Strategic Plan’s potential adverse effects on minority and low-income populations is required as part of this Program EIR because some Strategic Plan projects may be funded through the Clean Water State Revolving Fund (CWSRF) Program that is administered by the State Water Resources Control Board (SWRCB) and partially funded by the US Environmental Protection Agency (EPA). The purpose of the CWSRF Program is to implement the federal Clean Water Act and other State laws by providing low-interest financing for construction of new or improvements to existing water supply and water treatment facilities. The Strategic Plan identifies a number of projects including: (1) rehabilitation of groundwater wells and water treatment facilities; (2) the development of new production wells and a new treatment facility; (3) new monitoring wells; and (4) new or expanded recharge basins that could qualify for CWSRF funding. Projects that qualify to participate in the CWSRF Program are deemed projects under CEQA but because of the federal nexus with the EPA, must also meet federal environmental laws and regulations, including an analysis of the potential adverse environmental and health impacts on minority and low-income populations.

4.6.2 Environmental Setting

Regional Setting

The Six Basins project area is located within a portion of the eastern San Gabriel Valley in Los Angeles County with a smaller area located in San Bernardino County in the northwest portion of the City of Upland and the unincorporated community of San Antonio Heights. For this assessment, the area of potential effect was determined in accordance with the federal Council on Environmental Quality’s (CEQ) guidance for identifying the “affected community”,

which requires consideration of the nature of likely project impacts and identification of a corresponding unit of geographic analysis.

Figure 2-2, in Chapter 2, *Existing Conditions*, shows the location of the Six Basins and the boundaries of the regional and local water purveyors that would be implementing the Strategic Plan and its related projects. Figure 4.6-1, *Six Basins Census Tracts*, shows the census tracts within the project area boundary and the one-mile radius. As shown in Figure 4.6-1, the project area is highly urbanized until the boundary reaches the foothills of the San Gabriel Mountains.

Local Setting

The Six Basins project area encompasses all or portions of the cities of Claremont, La Verne, Pomona and Upland as well as some adjacent unincorporated areas in Los Angeles and San Bernardino counties. The unincorporated areas that are a part of East San Gabriel Valley Planning Area of Los Angeles County include the following:

- North Claremont encompassed by the City of Claremont
- Northeast La Verne and West Claremont located between the cities of La Verne and Claremont
- North Pomona consisting of two separate areas surrounded by the City of Pomona.

The unincorporated community of San Antonio Heights is located in San Bernardino County adjacent and to the north of the City of Upland.

To establish context for this analysis, race and ethnicity as well as income characteristics for the population residing within the Six Basins project area were reviewed. Table 4.6-1, *Minority and Low Income Populations*, presents population by minority and low income (represented as percent in poverty) status from the 2010 US Census for the cities within the Six Basins project area, as well as for Los Angeles and San Bernardino counties, and finally, the State of California. The table shows that with the exception of the City of Claremont, the project area has a minority/majority population but that less than 21 percent of the total population is in poverty.

Table 4.6-1 Minority and Low-Income Populations

Place	Total Population	Percent Minority	Percent in Poverty ¹
<i>San Bernardino County</i>	2,171,603	77.3	16.0
City of Upland	76,200	61.7	14.0
<i>Los Angeles County</i>	9,818,605	77.9	14.9
Claremont	34,926	42.4	8.5
La Verne	31,063	54.4	7.7
Pomona	149,058	92.2	20.7

Source: US Census Bureau Quick Facts Website for Los Angeles County, San Bernardino County and the cities of Claremont, La Verne, Pomona, and Upland based on 2010 Census data, accessed July 15, 2019

Note: ¹Per CEQ Guidelines definition of the national poverty level, based on national census information.

Table 4.6-1 identifies the population, percent minority and percent of the population in poverty by City within the Six Basins project area. However, the Six Basins project area does not correspond to corporate boundaries of the cities.

Table 4.6-2, *Population Data by Census Tract in the Six Basins Project Area*, shows the Six Basins project area (plus a one-mile radius) census tracts, total population, percent of the population that is minority, in poverty or both.

Table 4.6-2 Population Data by Census Tract in the Six Basins Project Area

Census Tract	Total Population	Percent Minority	Percent in Poverty	EJ Population (and basis) ¹
<i>Los Angeles County</i>				
4002.04	6,001	21.8	4.7	Does not meet the criteria
4002.05	2,976	43.4	5.7	Does not meet the criteria
4002.06	5,318	32.1	2.9	Does not meet the criteria
4002.07	4,541	17.2	3.1	Does not meet the criteria
4003.02	3,140	34.3	10.5	Does not meet the criteria
4003.04	7,489	35.6	9.8	Does not meet the criteria
4004.03	4,146	27.1	5.3	Does not meet the criteria
4013.03	2,358	34.1	5.3	Does not meet the criteria
4013.04	5,826	32.0	3.9	Does not meet the criteria
4013.11	6,145	29.2	10.1	Does not meet the criteria
4015.00	6,229	30.4	9.7	Does not meet the criteria
4016.01	5,364	22.3	6.8	Does not meet the criteria
4016.02	6,264	30.5	13.3	Does not meet the criteria
4016.03	2,734	15.1	8.2	Does not meet the criteria
4017.01	4,338	26.9	9.0	Does not meet the criteria
4017.03	4,306	40.6	18.4	Does not meet the criteria
4017.04	6,220	50.3	16.6	Over 50% minority
4018.00	8,197	26.3	13.0	Does not meet the criteria
4019.01	4,025	44.9	13.3	Does not meet the criteria
4019.02	5,961	32.6	5.6	Does not meet the criteria
4020.01	3,207	46.0	15.5	Does not meet the criteria
4020.02	4,199	38.5	16.1	Does not meet the criteria
4021.01	5,198	49.6	20.4	Statistically at 50% minority
4021.02	4,801	43.5	18.5	Does not meet the criteria
4022.00	7,293	57.1	21.7	Over 50% minority
4023.01	5,829	51.8	23.3	Over 50% minority
4023.03	3,858	45.9	32.4	Does not meet the criteria
4023.04	4,381	51.5	31.8	Over 50% minority
4024.02	6,484	47.0	20.5	Does not meet the criteria
4024.06	5,101	49.0	19.8	Does not meet the criteria
4026.00	7,229	39.7	17.9	Does not meet the criteria
4027.02	6,584	44.5	37.3	Does not meet the criteria
4027.03	4,770	48.8	20.7	Does not meet the criteria
4027.05	3,202	38.9	13.8	Does not meet the criteria
4027.06	4,213	42.9	15.4	Does not meet the criteria

Table 4.6-2 Population Data by Census Tract in the Six Basins Project Area (con't)

Census Tract	Total Population	Percent Minority	Percent in Poverty	Environmental Justice Population (and basis) ¹
4088.00	4,033	41.0	38.1	Does not meet the criteria
9303.01	823	26.4	22.1	Does not meet the criteria
	182,782	37.53%	15.15%	
<i>San Bernardino County</i>				
2.01	2,703	63.1	15.7	Over 50% minority
2.03	2,048	43.8	9.1	Does not meet the criteria
2.07	1,157	51.2	14.3	Over 50% minority
8.04	1,842	15.0	3.4	Does not meet the criteria
8.13	1,746	22.3	7.2	Does not meet the criteria
8.14	1,069	29.5	3.2	Does not meet the criteria
8.15	1,689	39.0	4.2	Does not meet the criteria
8.16	1,698	11.1	1.8	Does not meet the criteria
8.17	1,057	25.4	9.6	Does not meet the criteria
8.18	1,359	36.1	13.9	Does not meet the criteria
8.20	1,597	19.0	7.4	Does not meet the criteria
8.21	3,893	47.3	18.1	Does not meet the criteria
8.23	2,218	44.2	31.3	Does not meet the criteria
8.24	1,095	16.8	23.3	Does not meet the criteria
20.11	1,576	11.9	7.4	Does not meet the criteria
20.14	2,324	30.1	4.5	Does not meet the criteria
92.02	1,606	34.9	11.1	Does not meet the criteria
	30,677	31.8%	10.9%	

Source: ESRI, the GIS Community, and the United States Census Bureau American Fact Finder-Vintage 2012-2016; Los Angeles County: 2017 American Community Survey – 5 Year Estimates; San Bernardino County: 2017 American Community Survey – 5 Year Estimates

Notes:

1. Basis = 50 percent or greater minority/majority population or population in poverty.

As shown, within the project area there are seven census tracts (five in Los Angeles County and two in San Bernardino County) with a minority/majority population but that six of the tracts showed less than 25 percent of the population was in poverty. Only one tract – 4023.04 had a poverty level of 32 percent.

Table 4.6-2 is based on federal census data by census tract for only those tracts within the Six Basins project area and a one-mile radius. The data in Table 4.6-2 does not represent the entirety of any of the cities or the adjacent unincorporated areas in Los Angeles county, or the unincorporated community of San Antonio Heights in San Bernardino County but does provide a stronger representation of minority population and population in poverty by focusing on the Six Basins project area itself where the Strategic Plan projects would be implemented.

Regulatory Framework

Federal

Executive Order (EO) 12898 - *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* - was issued on February 11, 1994. The intent of the Order is to focus attention on environmental and human health conditions in areas of high minority populations and low-income communities and to promote nondiscriminatory programs and projects substantially affecting human health and the environment. EO 12898 requires federal agencies and State agencies receiving federal funds to develop strategies to address environmental justice issues. Agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their respective programs, policies, and activities on minority and low-income populations.

In 1998, federal agencies received a framework for the assessment of environmental justice in the EPA's *Guidance for Incorporating Environmental Justice Concerns* and its corresponding NEPA Compliance Analysis. Minority populations are identified where either:

- The minority population of the affected area is greater than 50 percent of the affected area's general population; or
- The minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

In 1997, the President's Council on Environmental Quality (CEQ) also issued environmental justice guidance that defined minority and low-income populations as follows:

- Minorities are identified as individuals who are members of the following population groups:
 - American Indian or Alaskan Native; Asian or Pacific Islander; Black not of Hispanic origin; or, Hispanic (without double-counting nonwhite Hispanics falling into the Black/African American Asian/Pacific Islander; and Native American categories)
- Low-income populations are identified as populations with mean annual incomes that fall below the annual statistical poverty level.

For the proposed Strategic Plan and related projects, the definitions of minority and low-income populations are based upon the 1997 CEQ Guidance, and they are considered applicable when a defined area's total population is 50 percent or more minority or low income. In January 2018, the national poverty level (based on a family of four) was established at \$25,100; and in 2019 that level was identified as \$25,750. Table 4.6-2 shows the percentage of each census tract that is "in poverty", is based on the federal definition.

State

California law defines environmental justice as “the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Government Code section 65040.12 and Public Resources Code section 72000). In conformance with this law, it is the California Natural Resources Agency’s policy that the fair treatment of people of all races, cultures, and income be fully considered during the planning, decision making, development, and implementation of all Natural Resources Agency programs, policies, and activities. The intent of this policy is to ensure that the public, including minority and low-income populations, are informed of opportunities to participate in the development and implementation of all Natural Resources Agency programs, policies, and activities, and that they are not discriminated against, treated unfairly, or caused to experience disproportionately high and adverse human health or environmental effects from environmental decisions. The State Department of Water Resources is a part of the Natural Resources Agency.

When evaluating a project’s potential to cause disproportionately high and adverse environmental and health impacts on minority and low-income populations, the State Water Resources Control Board’s *Clean Water State Revolving Fund Program Instructions and Guidance for Environmental Compliance Information*, provides this guidance.

A project may involve an “environmental justice concern” if the project could:

- (a) Create new disproportionate impacts on minority, low-income, or indigenous populations;
- (b) Exacerbate existing disproportionate impacts on minority, low-income, or indigenous populations; or
- (c) Present opportunities to address existing disproportionate impacts on minority, low-income, or indigenous populations that are addressable through the project.

There are a number of California Laws and Regulations governing Environmental Justice. These are summarized herein.

Senate Bills 115 and 89, Assembly Bill 1553

Senate Bill (SB) 115 was signed into law by Governor Gray Davis in 1999 leading to the definition of environmental justice in statute and identified the Governor’s Office of Planning and Research (OPR) as the coordinating agency for environmental justice programs. SB 115 also required the California EPA (CalEPA) to develop a model environmental justice mission statement for agency boards, departments, and offices. In addition, SB 89 was signed in 2000 and required the creation of an environmental justice working group and an advisory group to assist CalEPA in developing an intra-agency environmental justice strategy. This was finalized in 2003.

Assembly Bill (AB) 1553, which became effective in 2003, required OPR to develop guidelines for jurisdictions to address environmental justice in general plans. In the 2003 OPR Guidelines, the focus of environmental justice was on siting decisions for land uses, but not broader equity considerations such as access to clean water.

Senate Bill 244

SB 244 took effect in 2012. This law requires cities, counties, and local agency formation commissions to identify disadvantaged unincorporated communities and provide an analysis of water, wastewater, stormwater, drainage, and structural fire protection needs or deficiencies. SB 244 defines a disadvantaged community as a fringe, island, or legacy community in which the median household income is 80 percent or less of the statewide median household income. This legislation was passed to address the complex barriers that contribute to regional inequity and infrastructure deficiencies in disadvantaged unincorporated communities. Note: the federal government and the State of California have differing standards for which to evaluate impacts on affected communities regarding income levels. As discussed above, the federal standard for low-income populations is a mean annual income that falls below the annual statistical poverty level.

The State uses median household income and in 2018, that was \$70,489. Therefore, a disadvantaged unincorporated community would have a median household income of \$56,391. Under this definition, the unincorporated Los Angeles County islands encompassed by the cities of La Verne, Claremont and Pomona would not qualify as disadvantaged unincorporated communities. As part of the County’s Eastern San Gabriel Area Plan update (www.planning.lacounty.gov/esgvap), a study of each of these unincorporated areas was completed (Northeast La Verne data unavailable). The median income for the unincorporated communities of North Claremont and West Claremont was over \$200,000. Only North Pomona came closest to the median household income of \$56,391, at \$59,132. However, as discussed in Section 4.6.2, *Project Impacts*, below, identifying County islands within the Six Basins was not done as part of the evaluation of the Strategic Plan and related projects, because: (1) proposed projects would be undertaken throughout the Six Basins project area regardless of socioeconomic factors, and (2) the intent of the Strategic Plan is to enhance water supplies, protect and enhance water quality through the treatment of contaminated groundwater, and enhance management of groundwater throughout the Six Basins project area, regardless of socioeconomic factors of a particular census tract or neighborhood.

Senate Bill 535 and AB 1550

SB 535 was passed into law in 2012 and is largely based on the goal and actions of AB 32, the *California Global Warming Solutions Act of 2006*. AB 32 requires the State to achieve a noticeable reduction of greenhouse gas (GHG) emissions, in order to transition to a sustainable, low-carbon future, with strong emphasis on the creation of a cap-and trade system. Under such a system, companies must purchase extra credits when they exceed their allotted amount of GHG emissions. Along with supplemental legislation (AB 1550), enacted

in 2016, SB 535 requires that 25 percent of the money generated from companies purchasing extra credits to be spent on projects that benefit and are located in disadvantaged communities, per the State’s CalEnviroScreen (CES) model (see further discussion of this model under SB 1000 below) and CARB definitions for the purposes of California Climate Investments. The State’s definition of a disadvantaged community is discussed under SB 244 above. In recognition of the challenges with respect to addressing environmental justice issues, AB 1550 extended priority consideration for cap-and-trade funds for lower income communities. Implementation of the proposed Strategic Plan and related projects would enhance water supplies and groundwater management in the Six Basins, improve groundwater quality, and equitably finance projects to achieve these goals. Such projects do not generate significant amounts of GHG emissions and therefore would not be subject to the requirements of SB 535 to purchase credits. Because the Watermaster Parties are not private companies and are not proposing projects that would generate significant amounts of GHG emissions, implementation of the Strategic Plan and related projects would not be subject to requirements of SB 535 or AB 1550. See Section 4.3, *Air Quality/Greenhouse Gas Emissions/Global Climate Change*, for an evaluation of potential GHG and Global Climate Change impacts associated with the implementation of the Strategic Plan.

Senate Bill 1000

SB 1000, the *Planning for Healthy Communities Act*, was signed into law in September 2016. SB 1000 mandates that, after January 1, 2018, cities and counties that have disadvantaged communities to incorporate environmental justice (EJ) policies into their general plans, either in a separate EJ element or by integrating related goals, policies, and objectives throughout the other elements. SB 1000 states:

The environmental justice element, or related environmental justice goals, policies, and objectives integrated in other elements, shall do all of the following: a) identifying objectives and policies to reduce the unique or compounded health risks in disadvantaged communities; b) identifying objectives and policies to promote civil engagement in the public decision-making process; and c) identifying objectives and policies that prioritize improvements and programs that address disadvantaged communities.

The Six Basins Strategic Plan is being undertaken by the Six Basins Watermaster Parties and not an individual city or county. Therefore, the Strategic Plan is not required to include an EJ element. However, there are four cities that are also Watermaster Parties that would be subject to this requirement when updating a general plan or integrating environmental justice policies, objectives, and goals if two or more elements of a general plan are being updated. The city of Pomona updated its general plan in 2014, and the city of Upland in 2015; therefore, these two cities are not currently updating individual elements. The city of Claremont completed its general plan update in 2006 with an update to its housing element in 2018. Currently, the City of La Verne is the only city in the process of updating its general plan, and is addressing EJ goals, policies and objectives in appropriate elements rather than in a separate EJ element. The most likely element to address EJ would be the Economic

Development Element which encompasses Economic Development, Fiscal Sustainability and Health and Wellness. See the Local Section below for discussion of Los Angeles and San Bernardino counties approach to EJ.

Regional

South Coast Air Quality Management District

SCAQMD defines Environmental Justice as the "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution." SCAQMD's program has been in effect since 1997. Program Initiatives include

- (1) continuing to pursue the concept of sub-regional analyses to address and mitigate significant air quality impacts in specific areas such as through the use of Localized Significance Thresholds (LST) in CEQA documents to evaluate localized air quality impacts; and
- (2) providing leadership in the development of an enhanced Model Air Quality Element to be made available for use in local government's general plan updates. Finally, SCAQMD prepares an annual summary of its Environmental Justice program efforts and proposed enhancements.

Southern California Association of Governments

Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) for six Southern California counties. SCAG is responsible for the development of the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), and the Federal Transportation Improvement Program for the region. As a government agency that receives federal funding, SCAG was required to conduct an environmental justice analysis for its 2016 RTP/SCS. Because SCAG's main focus is regional transportation its role is to: (1) ensure that when transportation decisions are made, low-income and minority communities have ample opportunity to participate in the decision-making process; and (2) identify whether such communities receive an equitable distribution of benefits and not a disproportionate share of burdens. The Strategic Plan for the Six Basins and related projects are not transportation projects or related land uses that could result in adverse impacts on minority and low-income communities. Even so, the Program EIR includes an analysis of the Strategic Plan's consistency with the RTP/SCS goals. Table 4.10-1 in Section 4.10, *Land Use and Planning*, is a summary of the consistency analysis performed for the Strategic Plan. The table shows that implementation of the Strategic Plan and related projects would be consistent or would not be inconsistent (neutral) with the 2016 RTP/SCS.

Local

Los Angeles County

In 2015 the Los Angeles County Board of Supervisors initiated a Green Zones Program intended to enhance public health and land use compatibility in the unincorporated communities that bear a disproportionate pollution burden. Development of this program is on-going and in 2018, County staff and environmental groups conducted surveys and documented environmental hazards in two unincorporated areas of the County, East Los Angeles and the Florence-Firestone/Walnut Park area located between the 710 and 110 freeways. The Green Zones Program is on-going and to date, has not been extended into the eastern San Gabriel Valley where the Six Basins project area is located.

The General Plan *Air Quality Element* includes a series of Goals and Policies for protection of sensitive receptors. These are as follows:

- Goal AQ 1 Protection from exposure to harmful air pollutants
- Policy AQ 1.1 Minimize health risks to people from industrial toxic or hazardous air pollutant emissions, with an emphasis on local hot spots, such as existing point sources affecting immediate sensitive receptors.
- Policy AQ 1.2 Encourage the use of low or no volatile organic compound (VOC) emitting materials.
- Policy AQ 1.3 Reduce particulate inorganic and biological emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

The General Plan *Economic Development Element* also identifies goals and policies related to Environmental Justice.

- Goal ED 2 Land use practices and regulations that foster economic development and growth.
- Policy ED 2.2 Utilize adequate buffering and other land use practices to facilitate the compatibility between industrial and non-industrial uses.
- Policy ED 2.3 Ensure environmental justice in economic development activities.

San Bernardino County

The County of San Bernardino recently updated (2020) its General Plan that includes an *Environmental Justice and Legacy Communities Background Report* (Background Report). The Background Report identified the Environmental Justice Communities within the County of San Bernardino, as well as unincorporated islands adjacent to cities in the San Bernardino Valley. The only San Bernardino County unincorporated community within the Six Basins project area is San Antonio Heights, located adjacent and to the north of the City of Upland. This community was not identified as an environmental justice study area in the Background Report. Likewise, there is no San Bernardino County island within the Six Basins

project area. Therefore, there is no further discussion of San Bernardino County regarding Environmental Justice goals and policies.

4.6.3 Project Impacts

Thresholds of Significance

The CEQA Guidelines do not specifically address *Environmental Justice*. The following thresholds of significance are based on EPA and SWRCB thresholds for consideration of potential impact on minority or low-income populations. Implementation of the Strategic Plan and its related projects may have a significant impact on minority and low-income populations if it would result in either of the following:

- (1) Result in or exacerbate a disproportionate human health or significant environmental impact on minority and/or low-income populations; or
- (2) Result in a disproportionate decrease in the employment and/or economic base of minority and/or low-income populations of working or residing in the area surrounding the project area.

In addition to these thresholds this section also addresses the additional issue identified by SWRCB regarding the ability of a project to address existing disproportionate impacts.

- (3) Present opportunities to address existing disproportionate impacts on minority, low-income, or indigenous populations that are addressable through the project.

The analysis of the implementation of the Strategic Plan and related projects was done using the CES model that defines a range of variables to use in assessing impacts on disadvantaged communities. These are summarized in Table 4.6-3, *CalEnviroScreen Environmental Variables*. There are two categories of variables – *Environmental Pollution* and *Population Characteristics*.

Table 4.6-3 CalEnviroScreen Environmental Variables¹

Pollution Burden: Exposure Indicators	
Ozone	Amount of daily maximum 8-hour ozone concentration
Fine particulate matter (PM2.5)	Annual mean PM2.5 concentrations
Diesel particulate matter	Diesel PM emissions from on-road and non-road sources
Drinking water	Drinking water contaminant index for selected contaminants
Pesticides	Total pounds of selected active pesticide ingredients (filtered for hazard and volatility) used in production-agriculture per square mile in the census tract
Toxic releases	Toxicity-weighted concentrations of modeled chemical releases to air from facility emissions and off-site incineration (from RSEI)
Traffic density	In vehicle-kilometers per hour per road length, within 150 meters of the census tract boundary
Cleanup sites	Cleanup sites, sum of weighted EnviroStor cleanup sites within buffered distances to populated blocks of census tracts
Groundwater threats	Sum of weighted GeoTracker leaking underground storage tank sites within buffered distances to populated blocks of census tracts
Hazardous waste	Sum of weighted hazardous waste facilities and large quantity generators within buffered distances to populated blocks of census tracts
Impaired water bodies	Sum of number of pollutants across all impaired water bodies within buffered distances to populated blocks of census tracts
Solid waste facilities and sites	Sum of weighted solid waste sites and facilities (SWIS) within buffered distances to populated blocks of census tracts

Source: California Environmental Protection Agency (CalEPA), January 2017. Update to the California Communities Environmental Health Screening Tool.
<https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3report.pdf>

Notes:

1. A second set of variables – Population Characteristics – has not been included in Table 4.6-3 because the Strategic Plan and related projects would not directly result in an increase in population. Instead implementation of the Strategic Plan would result in the enhancement of the water supply and water quality, and increase the reliability and sustainability of the local groundwater supplies to the benefit of all residents regardless of minority status or income levels.

The variables identified in Table 4.6-3 are addressed in other sections of the Program EIR; and findings, including mitigation measures to reduce potential impacts to less than significant levels are summarized herein. Therefore, the *Environmental Justice* section provides a summary of findings from these other analyses found in the following sections: Section 4.3, *Air Quality/Greenhouse Gas Emissions/Global Climate Change*; Section 4.8, *Hazards/Hazardous Materials/ Wildfire Hazards*; Section 4.7, *Hydrology/Water Quality*; and Section 4.14, *Transportation*.

Impact Evaluation

Impact 4.6-1

Result in a disproportionate human health or significant environmental impact on minority and/or low-income populations? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Projects in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and (2) increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

Table 4.6-4, *Census Tracts Overlying the Pomona Basin*, is based on the Population Data identified in Table 4.6-2. It is within these census tracts where the existing production wells would be rehabilitated, treatment facilities would be upgraded, or new treatment facilities would be installed.

Air Quality/Greenhouse Gas Emissions/Global Climate Change

This discussion is a summary of Section 4.3, *Air Quality/Greenhouse Gas Emissions/ Global Climate Change*, specifically regarding SCAQMD's Environmental Justice Initiative. The basis for Section 4.3 is the Air Quality Impact Analysis prepared for the Strategic Plan and included in the Program EIR in Appendix B1. SCAQMD established Localized Significance Thresholds (LST) in response to its Governing Board's Environmental Justice Initiative I-4. The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. Because the Strategic Plan is a long-range plan (20 years), it is unknown when projects would be developed during this period. Therefore, to provide a worst-case analysis of air emissions, the Strategic Plan's *Air Quality Impact Analysis* assumed a one-year construction period that would include the development of the following:

Table 4.6-4 Census Tracts Overlying the Pomona Basin

Census Tract ¹	Total Population	Percent Minority	Percent in Poverty	EJ Population and Basis ²
4017.01	4,338	26.9	9.0	Does not meet the criteria
4017.03	4,306	40.6	18.4	Does not meet the criteria
4017.04	6,220	50.3	16.6	Over 50% minority
4018.00	8,197	26.3	13.0	Does not meet the criteria
4019.01	4,025	44.9	13.3	Does not meet the criteria
4019.02	5,961	32.6	5.6	Does not meet the criteria
4020.01	3,207	46.0	15.5	Does not meet the criteria
4020.02	4,199	38.5	16.1	Does not meet the criteria
4021.01	5,198	49.6	20.4	Statistically at 50% minority
4021.02	4,801	43.5	18.5	Does not meet the criteria
4022.00	7,293	57.1	21.7	Over 50% minority
4023.01	5,829	51.8	23.3	Over 50% minority
4023.03	3,858	45.9	32.4	Does not meet the criteria
4023.04	4,381	51.5	31.8	Over 50% minority
4024.02	6,484	47.0	20.5	Does not meet the criteria
4024.06	5,101	49.0	19.8	Does not meet the criteria
4026.00	7,229	39.7	17.9	Does not meet the criteria
4027.02	6,584	44.5	37.3	Does not meet the criteria
4027.03	4,770	48.8	20.7	Does not meet the criteria
4027.05	3,202	38.9	13.8	Does not meet the criteria
4027.06	4,213	42.9	15.4	Does not meet the criteria
4088.00	4,033	41.0	38.1	Does not meet the criteria
9303.01	823	26.4	22.1	Does not meet the criteria
<i>P-20 Well Site Located in the Lower Claremont Heights Basin</i>				
4018.00	8,197	26.3	13.0	Does not meet the criteria

Source: ESRI, the GIS Community, and the United States Census Bureau American Fact Finder-Vintage 2012-2016; Los Angeles County: 2017 American Community Survey – 5 Year Estimates; San Bernardino County: 2017 American Community Survey – 5 Year Estimates.

Notes:

1. All or portions of census tracts overlie the Pomona Basin except census tract 4018.00 which overlies a portion of the Lower Claremont Heights Basin (see text for explanation).
2. Basis = 50 percent or greater minority/majority population or population in poverty.

- the construction of a treatment facility with related infrastructure;
- up to 8,500 linear feet of pipeline construction; and
- the construction of the San Antonio Spreading Grounds would occur. Construction of the spreading grounds includes the disturbance approximately 50 acres to a depth of up to 200 feet, and the removal of 2.5 million tons of aggregate material that would be conveyed across the SASG to the existing Holliday Rock aggregate mine site east of the San Antonio Creek channel.

For purposes of analysis of air emissions, construction of these projects was expected to commence in August 2021 and will last through September 2022 (approximately 13 months). Construction duration utilized in the analysis represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as the analysis year increases.

The *Air Quality Impact Analysis* made use of methodology included in the LST Methodology. The following discussion provides a summary of the LST analysis for the project.

Applicability of LSTs for the Proposed Strategic Plan Projects

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from project activities. The Air Quality Impact Analysis was conducted without regard to minority or low-income populations because Strategic Plan project sites are located throughout the Six Basins project area.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These “sensitive receptors” include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Places where sensitive receptors may be housed or where they gather are also referred to as sensitive receptors. These include residences, schools, hospitals, and other places where people are located for extended periods.

SCAQMD recommends that the nearest sensitive receptor be considered when determining a project’s potential to cause an individual or cumulatively significant impact. The nearest residential receptor could potentially be located immediately adjacent to construction activities. Examples of sites that are located near sensitive receptors are identified in Section 4.1, *Aesthetics*. Figures included in that section show the relationship between a project site and adjacent land uses. Figures 4.1-1, 4.1-3, 4.1-4 and 4.1-8 show existing well sites that will undergo rehabilitation and that are located adjacent to single family residences. Figure 4.1-10 shows the Pedley Spreading Ground site that is located adjacent to single family residences and near an elementary school. Other projects not yet identified by the Watermaster Parties may also be located in or near residential neighborhoods. Therefore, it is noted that the LST Methodology explicitly states that *“It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.”* Consistent with SCAQMD’s LST Methodology, a 25-meter receptor distance was utilized in the *Air Quality Impact Analysis* and provides for a conservative i.e., “health protective” standard of care.

Impacts Without and With Mitigation

Table 4.6-5, *Localized Significance Summary of Construction (Without Mitigation)*, identifies the localized impacts at the nearest receptor locations in the vicinity of a typical Strategic Plan project.

Table 4.6-5 Localized Significance Summary of Construction (Without Mitigation)

On-Site Construction Emissions	Emissions (lbs/day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	40.20	32.48	4.08	2.76
SCAQMD Localized Threshold	103	612	4	3
Threshold Exceeded?	No	No	Yes	No

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-7.*

Notes:

1. CalEEMod localized construction source emissions are presented in Appendix 3.1 of the Air Quality Impact Analysis Report included in Appendix B of the Program EIR.

Without mitigation, localized construction emissions would exceed the applicable SCAQMD LSTs for emissions of PM10. However, as shown in Table 4.6-6, *Localized Significance Summary of Construction (With Mitigation)*, after implementation of mitigation measures AQ-1 and AQ-2), construction-source emissions would not exceed the applicable SCAQMD LSTs thresholds and would be less-than-significant.

Table 4.6-6 Localized Significance Summary of Construction (With Mitigation)

On-Site Construction Emissions	Emissions (lbs/day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	32.91	38.19	3.76	2.51
SCAQMD Localized Threshold	103	612	4	3
Threshold Exceeded?	No	No	No	No

Source: *Urban Crossroads, Six Basins, Air Quality Impact Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 3-8.*

Notes:

1. CalEEMod localized construction source emissions are presented in Appendix 3.2 of the Air Quality Report included in Appendix B of the Program EIR.

Mitigation measure AQ-1 requires compliance with SCAQMD fugitive dust control requirements and mitigation measure AQ-2 requires that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

Localized Significance – Long Term Operational Activity

According to SCAQMD’s methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or solid waste transfer facilities). During post-construction conditions (operation), proposed Strategic Plan projects would generate a nominal number of traffic trips (see Section 4.14. *Transportation*) in the context of routine site inspections generally done using a light duty pickup truck or car, or periodic maintenance, resulting in a negligible amount of new mobile source emissions. However, when maintenance is required such as rehabilitating a well or cleaning out a recharge basin, it was envisioned that the type and number of vehicles entering the site would be similar project construction conditions.

Additionally, all well pumps associated with the project are assumed to be electrically powered and would not directly generate air emissions. However, some projects may include the use of an emergency diesel generator, allowing well pumps and related monitoring equipment to run on backup power in case of emergency.

If a backup generator is installed, the lead agency would be required to obtain the applicable permits from SCAQMD for operation of such equipment. SCAQMD is responsible for issuing permits for the operation of stationary sources in order to reduce air pollution, and to attain and maintain the national and California ambient air quality standards in the Air Basin. Upon compliance with SCAQMD permitting procedures, localized emissions from any potential diesel generator would not result in substantial pollutant concentrations capable of exceeding operational LST thresholds. Therefore, the proposed Project Category 1 projects would not expose sensitive receptors, including minority or low-income populations, to substantial pollutant concentrations and impacts would be less than significant. No mitigation measures for operation of Project Category 1 projects are required.

Hazards/Hazardous Materials/Wildfire Hazards

The focus of this analysis is on hazards and hazardous material associated with groundwater contamination in the Six Basins project area and how it affects overlying census tracts. The most affected basins represent the southwesterly most extension of the Six Basins project area and a one-mile radius as shown in Figure 4.6-1. There are three sites that have contributed the most to groundwater contamination in these basins (other sites in the project area have also contributed but to a lesser extent). The sites are: (1) former Xerox Corporation site in Pomona; (2) former Victor Graphic site at in La Verne; and (3) former United Production Services in La Verne.

The Strategic Plan described a series of contaminants known from groundwater monitoring/testing, including the following:

- Constituents associated with salt and nutrient management planning, which are primarily Total Dissolved Solids and nitrate.

- Other constituents where a primary or secondary Maximum Contaminant Level (MCL) was exceeded in five or more wells from 2007 to 2011, which include TDS, nitrate, and perchlorate.
- Constituents associated with known point-source contamination sites, which include trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), and hexavalent chromium (Cr-6).
- Constituents for which the Department of Water Resources Division of Drinking Water (DDW) is in the process of developing an MCL that may impact future beneficial use of groundwater, which include hexavalent chromium and 1,2,3- trichloropropane (1,2,3-TCP).

Census tracts that appear to be affected by groundwater contamination from these sites are shown in Table 4.6-4 above and are located in the Pomona Basin and Ganesha Basin, the southwesterly most basins in the project area. The census tracts that also represent minority and/or low-income populations are highlighted in bold. The Strategic Plan identifies a number of projects to pump and treat in the Pomona Basin in order to enhance water supply, enhance groundwater management in the Six Basins, and protect and enhance water quality. Similar projects may be proposed for wells in the Ganesha Basin, in the future, but at present the focus of the Strategic Plan and Pump and Treat projects is the Pomona Basin. This is because it provides the greatest opportunity to pump and treat groundwater for beneficial uses including a more sustainable supply of potable water, and to reduce high groundwater levels along the south and easterly portions of that basin.

Table 4.6-7, *Groundwater Constituents of Potential Concern and Treatment Facilities*, lists the wells to be upgraded, the known constituents of potential concern, current treatment, and proposed additional treatment.

Note that the P-20 well site (Project Category 3, Temporary Surplus project) is also included in this table although it is located in the Lower Claremont Heights Basin, adjacent to the Pomona Basin to the north. This is because, the City of Pomona will be rehabilitating this well and is proposing to treat groundwater through blending of treated water piped down from TVWMD's Miramar Water Treatment Plant located approximately one-mile northeast of the P-20 well site.

Therefore, as proposed, implementation of the Six Basins Strategic Plan and related projects would result in an increase in the availability of treated potable water in the project area and resolve an underlying issue of high groundwater levels that would otherwise have the potential to damage buildings, and during a seismic event, be exposed to liquefaction-related damage without consideration of demographic or socioeconomic factors.

Finally, regarding Wildfires, none of the existing well sites that are proposed to be upgraded/rehabilitated are located in a Fire Hazard Severity Zones. Therefore, there would be no impact.

Use of Hazardous Materials During Construction and Operation

The proposed Strategic Plan *Pump and Treat* projects are intended to resolve existing conditions at well sites in the Pomona Basin that have limited groundwater production due to contamination levels. The use of hazardous materials and substances associated with the rehabilitation of existing wells and treatment facilities; and/or the operation of certain types of treatment facilities may be subject to federal, State, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, summarized in the Regulatory Framework section above.

4.6-7 Groundwater Constituents of Potential Concern and Treatment Facilities

Site	Known Constituents of Potential Concern	Current Treatment	Proposed Additional Treatment
Reservoir 5	Concentrations of DCE Chromium-6 Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove Cr-6, nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove DCE
Lincoln/Mills	Concentrations of TCE Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove TCE
Del Monte 4	Concentrations of TCE, Arsenic	GAC system	(1) construct an arsenic treatment system
Durward 2	Concentrations of TCE Nitrate Perchlorate	No facilities, well has been removed	(1) construct new well; (2) construct new air stripping, GAC; IX and/or biological treatment facilities at the new well to treat TCE, nitrate, perchlorate
Old Baldy Well	Concentrations of Nitrate Perchlorate	Well has been inactive since 2002 due to high	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate
P-20 Well ¹	Concentrations of Nitrate	Well has been inactive since 2002 due to high nitrate concentrations	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate

Source: *Strategic Plan for the Six Basins, WEI, 2017, Section 2.6.3.*

Notes:

- The City of Pomona's P-20 well site is listed under Project Category 3, Temporary Surplus Project, however, because this project is similar in type and scope to the Pump and Treat projects, it is included in this table and related discussion.

It is anticipated that during long-term operation of production wells (and related infrastructure) and water treatment facilities, hazardous materials (e.g., architectural coatings, lubricants, cleaning solutions/chemicals) could be used during the course of normal operations at any of the sites identified in Project Category 1. Good housekeeping practices and compliance with applicable laws governing the routine transport, storage, and use of hazardous materials would minimize the potential impacts to the public or environment. Therefore, potential impacts associated with the operation of Project Category 1 projects would be less than significant and no mitigation is required. In addition, depending on the type of stationary equipment that could be installed as part of a Project Category 1 project, permits from SCAQMD may be required.

SCAQMD rules that may apply to an individual project include:

- Rule 201: *Permit to Construct.* A Permit to Construct may be required if the operation of a new treatment facility would result in the release of air contaminants, or the use of which may eliminate, reduce or control the issuance of air contaminants.
- Rule 203: *Permit to Operate.* If a Permit to Construct is required, operation of a new treatment facility would also require a Permit to Operate, with the Permit to Construct acting as the temporary permit for operation of equipment.
- Rule 219: *Equipment Not Requiring a Written Permit Pursuant to SCAQMD Regulation II.* The purpose of this rule is to identify equipment, processes, or operations that emit small amounts of air contaminants that shall not require written permits. There are exceptions to this rule which would be considered when a site-specific treatment facility is proposed.
- Rule 402: *Nuisance.* A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The need to obtain a Permit to Construct/Operate would be considered on a project-by-project basis as new projects are proposed as set forth in mitigation measure HAZ-1 (see Section 4.6.4, *Mitigation Measures*, at the end of this section).

Therefore, implementation of Project Category 1 projects to pump and treat groundwater in the Pomona Basin would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Hydrology/Water Quality

Project Category 1 projects are intended to address water quality issues in the Pomona Basin by rehabilitating existing wells and development of new treatment facilities at some of these sites as summarized above in the Hazards section. Hydrology issues at existing sites are largely associated with the potential for pollutants to enter stormwater and be transported offsite, affecting stormwater quality. Section 4.9, *Hydrology/Water Quality*, addresses this issue through mitigation measure HWQ-1 which requires that all construction contractors identify and implement Best Management Practices (BMPs) for the control of stormwater during construction. During long-term operation, Watermaster Parties are also responsible for minimizing stormwater runoff from these sites. Therefore, there would be a less than significant impact on Hydrology/Water Quality from proposed Project Category 1 projects, and such projects would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Transportation

Traffic generated by proposed Category 1 projects would be limited to construction traffic including: (1) delivery of equipment and material to the site; (2) construction worker trips; and (3) potential hauling excess soil off-site (Project Category 2, only). The Traffic Memo prepared for the Strategic Plan (Appendix G) showed that a typical project is anticipated to generate fewer than 50 morning and evening peak hour trips. As such, traffic impacts associated with employee and construction-related activities is considered to be less than significant. However, there may be short-term impacts such as road detours or lane closures associated with equipment and material deliveries. Construction related traffic issues were identified in the Traffic Memo (Appendix G), and mitigation measures were identified that would apply to impacts identified in Section 4.8, *Hazards and Hazardous Materials/Wildfire Hazards*. Mitigation measures TR-1 through TR-3 address the need for a Watermaster Party or construction contractor to prepare and implement a Construction Traffic Management Plan. These measures have been identified to ensure that impacts can be minimized in the short term.

During operations minimal transportation/traffic impacts associated with the operation/maintenance of well sites and treatment facilities are anticipated. On a daily basis, site inspections involving access for a light duty vehicle would occur. However, at times wells and treatment facilities require maintenance which may involve the use of vehicles and equipment similar to those used during construction, mitigation measures TR-1 through TR-3 would apply. Implementation of these measures would ensure that such activities would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Air Quality/Greenhouse Gas Emissions/Global Climate Change

The Air Quality Impact Analysis for the Strategic Plan evaluated a range of projects that could be developed over a 13-month construction period, including the development of the new recharge basin at the SASG. The SASG project was selected because it represents the largest of the *Stormwater and Supplemental Water Recharge* projects. The evaluation of LSTs associated with implementation of the Strategic Plan and related projects presented in Table 4.6-5 and Table 4.6-6 included development (clearing and grubbing, grading, excavation, etc.) of the SASG recharge basin. The area of disturbance (approximately 50 acres to a depth of up to 200 feet) is than the area of disturbance in the TCSG (5 acres to a depth of up to 20 feet); the area associated with expanding the PSG (approximately 6 acres to a depth of up to 10 feet) and the area set aside for the underground infiltration gallery at the Los Angeles Fairplex site (approximately 10 acres). The tables showed that after implementation of mitigation measures during construction activities, SCAQMD's Localized Significance Thresholds would not be exceeded. Then during operation, emissions would be negligible, associated with site inspections and periodic maintenance.

Hazards/Hazardous Materials/Wildfire Hazards

Hazards/Hazardous Materials

During construction there is a potential for hazardous materials, substances, or waste to be routinely transported, used, or stored at a site, although because Category 2 projects are generally simply excavated earthen areas with little or no infrastructure associated with their operation, impacts associated with the routine transportation, use, storage, and disposal of hazardous materials would be less than significant and would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Wildfires

Two projects in Project Category 2 – new recharge basins at SASG and TCSG sites would be located in a Fire Hazard Severity Zone and there is a potential for future projects in Project Category 3 (e.g., new production wells and the pipeline between the Pomona WRP and the SASG) to be located nearby. Neither of the spreading grounds sites are located in census tracts that represent minority or low-income populations, therefore there would be no impact. Regardless, mitigation measures HAZ-5 and HAZ-6 have been identified that would require a Watermaster Party proposing a project within a Fire Hazard Severity Zone to develop and implement a Fire Management Plan, thus reducing the potential to contribute to the severity of this impact. Therefore, implementation of these measures would ensure that such activities would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Hydrology/Water Quality

The location of existing sites for *Stormwater and Supplemental Water Recharge* projects do not coincide with any of the census tracts representing minority or low-income populations. Therefore, there would be no impact associated with these projects. The proposed underground infiltration gallery proposed at the LA County Fairplex site would be developed beneath proposed soccer fields on the site of the former horse racing track. Therefore, like other *Stormwater and Supplemental Water Recharge*, there would be no Hydrology/Water Quality impacts associated with this project.

Transportation

Impacts associated with the development of *Stormwater and Supplemental Water Recharge* projects on the local street network would be similar to those identified under Project Category 1 because all construction projects include the delivery of equipment and materials, and construction worker trips. There may be short-term impacts such as road detours or lane closures associated with equipment and material deliveries. Therefore, mitigation measures TR-1 through TR-3 have been identified to ensure that impacts can be minimized in the short term. No transportation/traffic impacts associated with the operation/maintenance of *Stormwater and Supplemental Water Recharge* projects as these activities would be intermittent and be limited to one or two vehicles on site.

During operations minimal transportation/traffic impacts associated with the operation/maintenance of recharge basins are anticipated. On a daily basis, site inspections involving access for a light duty vehicle would occur. However, at times recharge basins require maintenance which may involve the use of vehicles and equipment similar to those used during construction. At that time, mitigation measures TR-1 through TR-3 would apply to this type of activity. Implementation of these measures would ensure that such activities would not disproportionately affect existing minority or low-income communities in the Six Basins project area during short-term construction or long-term operation.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category would have similar impacts as Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects

that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.6-2

Result in a disproportionate decrease in the employment and/or economic base of minority and/or low-income populations of working or residing in the area surrounding the project area? (Threshold 2)

Substantiation

Determination: Less Than Significant Impact All Categories.

Implementation of the Strategic Plan and related projects would not result in a decrease in employment and/or economic base of minority and/or low-income populations because none of the proposed projects include the displacement of any urban uses (e.g., residential, commercial, institutional) that would result in the loss of jobs. In addition, all Project Category 1 projects are on sites already developed with well sites and related infrastructure. Project Category 2 projects are also all located at existing sites or at the LA County Fairplex site and do not include any residential uses that would be adversely affected nor would the development of these projects would not result in the loss of any business opportunities that would result in the loss of jobs. Project Category 3 projects include rehabilitation of the City of Pomona P-20 well site, new production or monitoring wells, and new pipeline interconnects between wells and treatment facilities or between the Pomona WRP and the new SASG recharge basin. The P-20 site is an existing site with a well that has not been used to produce potable water in several years. The rehabilitation of that well would not result in a change in economic or employment opportunities in the project area. Proposed new pipeline interconnects would all be constructed underground so that impacts such as roadway detours that may affect nearby residences and businesses would be temporary and the implementation of Construction Traffic Management Plans would ensure that impacts on accessibility would be minimized. Finally, the development of new production or monitoring wells would be done at vacant sites so that no residences or businesses would be displaced. Because the selection of these sites would be done based on groundwater monitoring data the development of new well sites would represent optimum sites regardless of economic data. Therefore, impacts would be less than significant.

Impact 4.6-3

Present opportunities to address existing disproportionate impacts on minority, low-income, or indigenous populations that are addressable through the project? (Threshold 3)

Substantiation

Determination: No Impact – All Categories.

The proposed Strategic Plan and related projects are neutral on the issue of disproportionate impacts on minority, low-income, or indigenous populations. The intent of the Strategic Plan is to address water supply and water quality issues throughout the Six Basins project area regardless of residents' race or income status. Therefore, implementation of the Strategic Plan and related projects would not present such opportunities.

4.6.4 Cumulative Impacts

Implementation of the Strategic Plan and related projects would not contribute to the severity of an existing cumulative impact because the intent of the Strategic Plan is to address water supply and water quality issues throughout the Six Basins project area regardless of residents' race or income status. In general, where environmental impacts have the potential to be significant (e.g., air quality, water quality), mitigation measures have been identified that would reduce these impacts to less than significant levels. In addition, most impacts associated with Strategic Plan projects are related to the construction of new treatment facilities (Project Category 1) water recharge basins (Project Category 2), new wells, treatment facilities and interconnects between new facilities (Project Category 3) and the development and implementation of groundwater monitoring programs in support of other categories of projects (Project Category 4). Once construction is completed and sites are operational, impacts associated with operation of facilities would be less than significant and related to site inspections and periodic maintenance.

4.6.5 Mitigation Measures

AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.

The complete Rule 403 Table 1, *Best Available Control Measures (BACM)*, is provided at the end of Section 4.3.4, in order that the reviewer may see the full range of BACMs that may apply to the construction of the Strategic Plan projects. On a project-by-project basis, this table will be reviewed and appropriate measures will be incorporated into a project-specific

mitigation monitoring program for each Strategic Plan project to ensure that all projects are in compliance with SCAQMD Rule 403.

AQ-2 Regarding emissions of NO_x and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

Hazards/Emissions

HAZ-1 Permits. Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, the Watermaster Party responsible for a project site where treatment facilities are located, or a diesel operated back-up generator is proposed, shall obtain a Permit to Construct from SCAQMD. Once a piece of equipment is installed, modified and/or operated, SCAQMD will process the application for a Permit to Operate.

Hazards/Contamination

HAZ-3 Prior to the commencement of any construction that would require ground-disturbing activities, a project proponent shall undertake a Phase I Environmental Site Assessments (ESA) to determine the presence/absence of soil and/or groundwater contamination at or in the vicinity of a project site. Recommendations identified in the ESA shall be implemented to the satisfaction of applicable agencies prior to and during construction. If the Phase I ESA finds the potential for hazardous concentrations of contaminated soil or groundwater to occur within the project site, a Phase II ESA shall be completed before construction begins.

If the Phase II ESA determines that the site has contaminated soil and/or groundwater, a Soil and Groundwater Management Plan that specifies the method for handling and disposing of contaminated soil and groundwater prior to demolition, excavation, and construction activities shall be prepared and implemented. A Phase II ESA shall include soil and/or groundwater sampling and analysis for anticipated contaminants. Such sampling is intended to identify how contaminated soil and/or groundwater shall be disposed of, and to determine if construction workers would need special personal protective gear and/or equipment.

TR-1 Prior to commencement of construction activities at a project site, the construction contractor shall develop and implement an approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.

- TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.
- TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:

$$50 \text{ PCE truck trips} / 3.0 \text{ PCE factor} = 16 \text{ total trucks during the peak hour}$$

4.6.6 Level of Significance After Implementation

With implementation of mitigation measures identified throughout the Program EIR and in Section 4.6.4 above, impacts associated with the implementation of the Strategic Plan and related projects on Environmental Justice would be less than significant.

Consider whether noise from new or re-operation of existing wells could also be a EJ issue and suggest adding to the preceding analysis.

4.6.7 References

Sources used in the preparation of this section are as follows:

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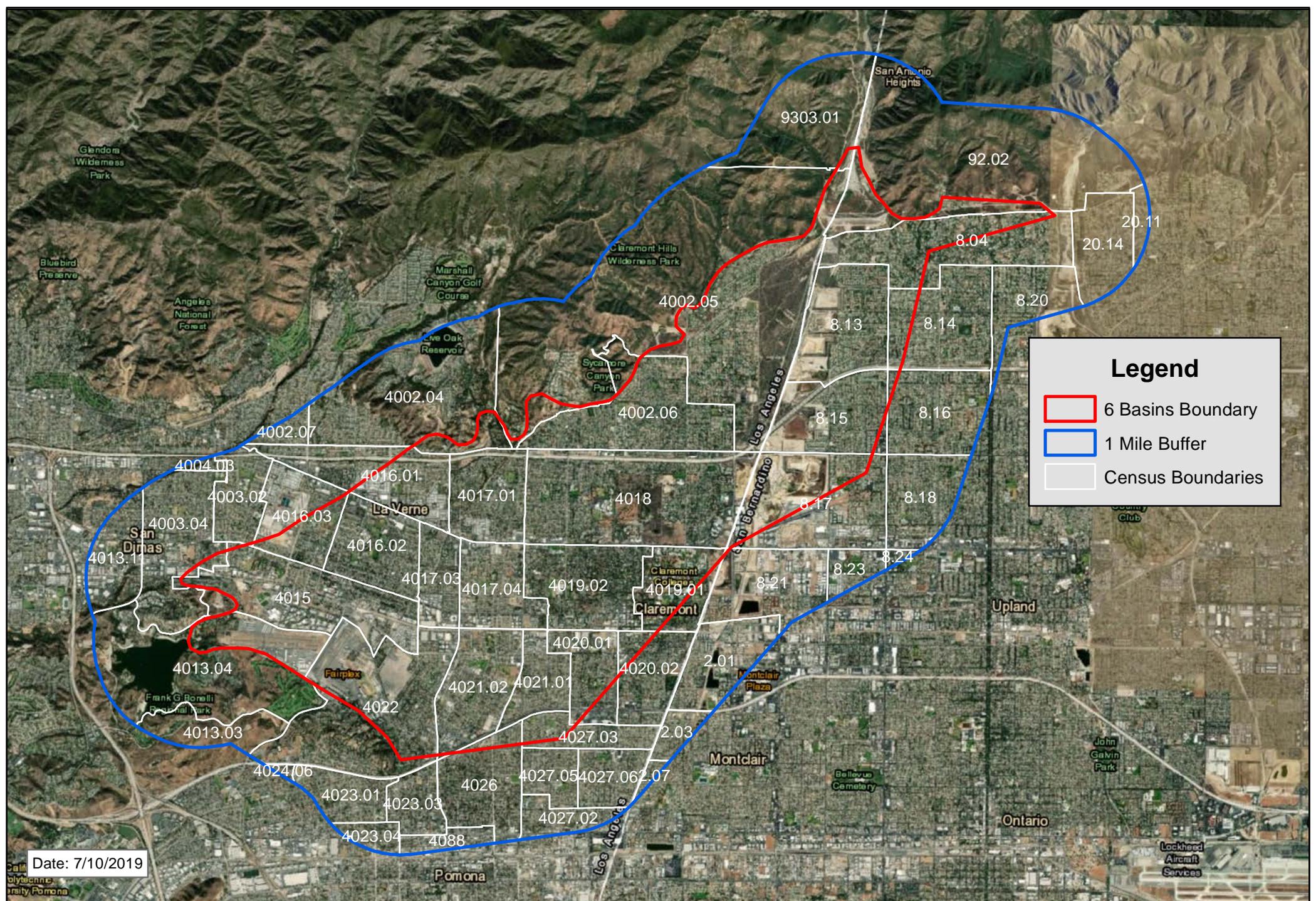
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- USEPA, 2018, *Environmental Justice Screening and Mapping Tool* website, <https://www.epa.gov/ejscreen/learn-use-ejscreen>

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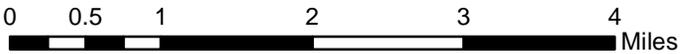
- 2018 poverty level statistics, <https://aspe.hhs.gov/2018-poverty-guidelines>.
- 2019 poverty level statistics, <https://aspe.hhs.gov/poverty-guidelines>



Legend

- 6 Basins Boundary
- 1 Mile Buffer
- Census Boundaries

Date: 7/10/2019



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community



1 inch = 6,667 feet

**Figure 4.6-1
Census Tracts**

6 Basins
Strategic Plan - Project EIR

4.7 Geology/Soils/Paleontological Resources/Mineral Resources

4.7.1 Introduction

This section describes the existing geology, soils, and seismic conditions in the Six Basins project area and evaluates the potential physical environmental effects related to seismic and geologic hazards. In particular, this section focuses on the geologic and hydrogeologic features that are critical to the Watermaster Parties' ability to manage the spreading and percolation of State Water Project and Colorado River water, natural runoff water, and recycled water, and subsequent pumping of that water from the Six Basins that may also lead to the potential risks associated with the impacts of seismic events on water facilities. This section also discusses the potential for rising groundwater levels to adversely impact local communities.

In addition, to address the latest CEQA Environmental Checklist, this section includes a discussion of Paleontological Resources and their potential to be adversely affected by the implementation of the Strategic Plan and its related projects.

Finally, this section includes an evaluation of mineral resources and the potential impacts associated with proposed recharge basin improvements in the San Antonio Spreading Grounds (SASG), where the eastern portion of the SASG is a regional source of aggregate material.

4.7.2 Environmental Setting

Geology/Seismicity/Soils

Regional Geology

The Six Basins are six interconnected groundwater basins located along the front of the San Gabriel Mountains and underlying the cities of Claremont, La Verne, Pomona, Upland and adjacent unincorporated areas of Los Angeles and San Bernardino counties. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are generally defined as the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east. Figure 2-1, in Chapter 2, *Existing Conditions*, shows the location of the Six Basins relative to these boundaries.

The Six Basins underlay an area that is characterized as a gentle southwesterly-sloping alluvial fan located along the base of the San Gabriel Mountains that are part of the Transverse Range Geomorphic Province of Southern California. The US Geological Survey (USGS) describes the Transverse Ranges as a series of mountains, valleys, and geologic structures that lie east-

west or *transverse* to the prevailing northwest-trending mountain ranges including the Coast Ranges and Sierra Nevada Provinces of southern and central California. In addition to the San Gabriel Mountains, the Transverse Ranges Geomorphic Province includes the San Bernardino Mountains, to the east - separated from the San Gabriel Mountains by the Cajon Pass - and the Little San Bernardino Mountains that pass through the Coachella Valley further east.

The Six Basins are part of a large, broad, alluvial plain located south of the San Gabriel Mountains and atop a depressed portion of the Perris Block also referred to as the Chino Plain. The Chino Plain was formed during the Quaternary period which extends from 2.5 million years ago to the present and is divided into two epochs: (1) Pleistocene (2.5 million years ago to approximately 11.7 thousand years ago); and (2) Holocene (11.7 thousand years ago to the present). The surrounding mountains and hills have been uplifted over time by tectonic compression and faulting; and rock material has been eroded and washed out of the mountains by streams, then deposited in the low-lying depressions on the Chino Plain. These Quaternary sediments are the alluvial material that comprise today's groundwater reservoirs that underlie the Six Basins project area, the adjacent Chino Basin to the east and southeast and other groundwater basins in the region. Figure 4.7-1, *Geologic Map of the Six Basins Project Area*, shows the relationship between the Six Basins project area and the adjacent groundwater basins.

Regional Seismicity

Figure 4.7-1 shows the Six Basins project area within the larger region, that shows the relationship between the project area and the San Gabriel Mountains. According to the City of Claremont *Hazards Mitigation Plan*, the mountains are bounded on the north by the San Andreas Fault zone (capable of a magnitude 6.8 to 8.0 earthquake). The San Andreas Fault is approximately 15 miles northeast of the City and is considered the most seismically active fault in the southern California region. The Six Basins project area is affected by Cucamonga-Sierra Madre fault complex (capable of a magnitude 6.0 to 7.0 earthquake) that traverses the cities of Upland and Claremont. Locally, the San Jose Fault has the potential for a magnitude 6.0-6.5 earthquake. The San Jose fault is also a known barrier to groundwater flow that separates the Six Basins from the larger Chino Basin to the southeast.

The San Gabriel Mountains are composed of impermeable metamorphic and igneous rocks. Folding and faulting compresses the rocks so as the two plates move and the mountains rise, landslides and erosion cause boulders, rocks, cobble and other alluvial material to be transported into the San Gabriel Valley. This material comprises the water bearing alluvium in place along the front of the mountains, including in the Six Basins.

Basin Boundaries

Figure 4.7-1 shows the physical boundaries of the Six Basins, such as the front of the San Gabriel Mountains and the faults that affect the project area. Note: the physical boundaries do not correspond exactly to the adjudicated boundaries. The Strategic Plan refers to the

physical boundary of the Six Basins as the hydrologic boundary. This boundary includes the following geologic features as described in the Strategic Plan:

San Gabriel Mountain Front. The northern boundary of the Six Basins is the impermeable Basement Complex that outcrops along the front of the San Gabriel Mountains generally coincident with the Cucamonga-Sierra Madre fault, as shown in Figure 4.7-1. Vertical movement on this fault has been upward on the north side of the fault which is, in part, responsible for the uplift of the Basement Complex in the San Gabriel Mountains and the depression of the Six Basins area. Other local faults that affect the Six Basins project area are also shown on Figure 4.7-1. It is these local faults that affect the groundwater flows in the project area.

San Jose Fault. The eastern/southeastern boundary of the Six Basins is the San Jose fault. Although the surface of the alluvial fan that emanates from the mouth of San Antonio Canyon does not appear to be offset by movement along the San Jose fault, this fault offsets bedrock at depth and acts as a distinct barrier to groundwater flow between the Six Basins and the Chino Basin located to the east and southeast. The fault is approximately 8 miles in length and generally traverses the cities of Claremont and Pomona.

Indian Hill Fault and Intermediate Fault. The Indian Hill and Intermediate faults (shown on Figure 2-11) are “internal faults” within the Six Basins that act as barriers to groundwater flow. The Indian Hills fault is approximately six miles long generally running east and west through the cities of Pomona and Claremont. This fault serves as a barrier to groundwater movement and offsets sediments of Late Pleistocene age, which is the reason it is considered potentially active. It has been described in a number of reports on the behavior of groundwater in the area. To better understand this behavior, WEI conducted a study using Interferometric Synthetic Aperture Radar (InSAR) to monitor vertical ground motion associated with changes in groundwater elevations. The purpose was to more accurately locate the Indian Hill fault within the aquifer system. InSAR data for the period of March 2011 to February 2012 suggested that the fault near its intersection with the San Jose fault is approximately 900 feet north of the Six Basins adjudicated boundary.

The Intermediate fault runs parallel to the San Jose fault in the Pomona Basin, south of the Indian Hill fault.

Other Faults

Other faults have been mapped in the Six Basins in the past and have been used to delineate the sub-basins as defined in the Judgment, including the Claremont Heights barrier, the Thompson Wash barrier, and the San Antonio fault. The InSAR data evaluated for the Strategic Plan does not show differential vertical ground motion across these faults, indicating that these faults may not be effective barriers to groundwater flow.

Other faults that may affect proposed projects in the project area are more localized. For example, the Chino fault intersects the San Jose fault generally south of the I-10 Freeway near

San Jose Creek. This fault runs southeasterly into the City of Chino where it intersects with the Central Avenue fault.

Effects of Earthquakes

Seismic hazards include rupture along active faults and ground shaking. Rupture along active faults can occur at the surface as well as below ground. Ground shaking is the main source of seismic hazards and results in the most damage depending in the magnitude and location of the seismic event. The two most common scales for measuring the strength of an earthquake are: the Richter Scale (measuring the magnitude of an earthquake) and the Modified Mercalli Scale (measuring the intensity of an earthquake). The Richter scale is a numerical scale for expressing the magnitude of an earthquake at its epicenter. It is logarithmic with each whole number representing a 10-fold increase in the magnitude of the amount of energy released over the lower number. Effects based on magnitude of an earthquake are summarized in Table 4.7-1, *Richter Scale Magnitudes and Effects*.

Table 4.7-1 Richter Scale Magnitudes and Effects

Magnitude	Effects
< 3.5	Typically, not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – 6.0	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

Source: https://www.conservation.ca.gov/cgs/Documents/Publications/Note_32.pdf California Geological Survey.

Other scales such as the Modified Mercalli scale measure earthquake intensity in a given location and based on observations of earthquake effects. This scale uses a range of I through XII with I described as “not felt except by a very few...”, and XII described as “... Practically all works of construction are damaged...”. and Table 4.7-2, *Modified Mercalli Intensities and Effects*, summarizes the effects of an earthquake related to its intensity.

Soils/Sediments

The USGS has characterized the San Gabriel Mountains as being “traversed by deep, steep-sided canyons cut into highly fractured crystalline basement rocks that form the bedrock underpinnings of the mountains. The sides of most canyons are covered by unstable rock debris along the slopes that is constantly being sloughed off by slope failures and by stormwater runoff, then washed out along the front of the mountains through the numerous local drainages (creeks) where sediment is deposited on the alluvial fans. Over time, these sediments were transported from the canyons by flooding and deposited atop the consolidated bedrock formations as interbedded, discontinuous layers of boulders, cobble, gravel, sand, silt, and clay to form the water-bearing sediments of the Six Basins.

Table 4.7-2 Modified Mercalli Intensities and Effects

Intensity	Effects
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt noticeably indoors, but not always recognized as a quake; vibration like a passing truck
IV	Felt indoors by many and outdoors by few. Sensation like heavy truck striking building
V	Felt by nearly everyone. Some breakage of windows, dishes, and plaster
VI	Felt by all; some heavy furniture moved; falling plaster; damage small
VII	Damage negligible in buildings of good design and construction
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings; Walls, monuments, chimneys fall
IX	Damage considerable; buildings shift off foundations
X	Most masonry and frame structures destroyed with foundations. Railroad rails bent.
XI	Few structures remain standing; bridges destroyed
XII	Damage total; lines of sight and level are distorted; objects thrown into the air

Source: https://www.conservation.ca.gov/cgs/Documents/Publications/Note_32.pdf California Geological Survey

Sediments are continuously eroding from the mountains and transported into the area through the various drainages that emanate from the mountains including San Antonio Creek, Thompson Creek, and Live Oak Creek. These sediments are divided into two classes - older alluvium and younger alluvium.

The largest of the drainage systems is San Antonio Creek, which is responsible for the deposition of material that created the broad alluvial fan, emanating from the mouth of San Antonio Canyon. The USGS has mapped the geology and associated soils (or sediments at depths below six feet) in the region (<https://pubs.usgs.gov/of/2006/1217/>). In the Six Basins region, these soils/sediments include:

Qa *Very young axial-channel deposits (late Holocene)*. Unconsolidated deposits of silty, sandy and cobbly alluvium deposited by streams in through-going stream valleys; cemented only where carbonate rocks are in source area. The area of *Qa* deposits is limited to the area behind the San Antonio dam.

Qf *Very young alluvial-fan deposits (late Holocene)*. Unconsolidated to slightly coherent, essentially undissected deposits of sand, gravel, and boulders that form active and recently active parts of alluvial fans. Clasts typically angular to subrounded, rarely rounded. Deposits generally coarsen toward heads of fans. Relative abundance of clast sizes varies greatly depending on setting, size of drainage area, and sediment source. In the project area *Qf* soils are limited to the SASG.

Qyf Young alluvial-fan deposits (Holocene and late Pleistocene). Unconsolidated to moderately consolidated silt, sand, pebbly cobbly sand, and bouldery alluvial fan deposits having slightly to moderately dissected surfaces. Young alluvial-fan deposits, including subunits, constitute most widespread, and probably greatest in terms of sediment volume, of all Quaternary units. These deposits form large and small fans along the front of the San Gabriel and San Bernardino mountain ranges. Near the mountains, deposits typically contain large proportions of cobbles and boulders. The *Qyf* classification is divided into seven units; three are associated with the alluvial material in the Six Basins project area including:

Qyf₃ Young alluvial-fan deposits, Unit 3 (middle Holocene). Slightly to moderately consolidated silt, sand, and coarse-grained sand to bouldery alluvial-fan deposits having slightly to moderately dissected surfaces.

Qyf₄ Young alluvial-fan deposits, Unit 4 (late Holocene). Unconsolidated to slightly consolidated silt, sand, and coarse-grained sand to bouldery alluvial fan deposits having slightly to moderately dissected surfaces. Fans emanating from canyons on the south side of the San Gabriel Mountains contain large proportion of coarse boulders, especially in upper parts.

Qyf₅ Young alluvial-fan deposits, Unit 5 (late Holocene). Unconsolidated to slightly consolidated coarse-grained sand to bouldery alluvial-fan deposits having slightly dissected to essentially undissected surfaces.

The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provides information on soils and their characteristics, highlighting limitations that could affect land use decisions. Predominant soils in the Six Basins project area are classified as Urban Land, defined as discontinuous human-transported material over alluvium derived from granite and/or sedimentary rock, ranging from 0 to 9 percent slope. Underlying soils/sediments are well drained to excessively drained sands, loams and gravelly sands typical of alluvial material, down to bedrock. In the SASG, soils where the mine pits are located are a combination of sands, loams, gravels and larger cobbles and boulders.

Groundwater and Potential for Liquefaction/Differential Settlement to Occur

As described above, sediment deposits in the Six Basins project area are the result of deposition associated with sediments washing down from the San Gabriel Mountains along numerous drainages over time, coalescing and building to form the water bearing sediments that sit atop the bedrock.

The Strategic Plan describes the stratigraphy (rock layering) of the Six Basins as being divided into two natural divisions: (1) pervious formations that comprise the groundwater reservoir are termed “water-bearing sediments”; and (2) impermeable formations that bound the groundwater reservoirs in places are termed “consolidated bedrock.” Water-bearing sediments overlie consolidated bedrock, with bedrock formations coming to the surface in the surrounding hills and mountains. These geologic formations are described

below in stratigraphic order, beginning with the oldest formations. Chapter 2, *Existing Conditions* provides additional detail on the stratigraphy of the Six Basins and how the water bearing sediments work as a reservoir for groundwater. Also see Section 4.9, *Hydrology/Water Quality*.

Chapter 2, *Existing Conditions*, provides a discuss of the Hydrogeology of the Six Basins. Figure 2-12, *Elevations of the Bottom of the Aquifer and the Location of Geologic Cross Sections*, shows the depth of the Six Basins between the ground surface and consolidated bedrock. Figure 2-13, *Cross Section A-A'*, Figure 2-14, *Cross Section B-B'*, Figure 2-15, *Cross Section C-C'*, and Figure 2-16, *Cross Section D-D'*, depict data from various monitoring and production wells within the Six Basins that show the depth of the water bearing sediments relative to the ground surface and the consolidated bedrock. The composition of the water bearing sediments include gravel, sand, silt and clay that are derived from granite, decomposed granite and cobbles/boulders. Other data shown on these figures summarize the maximum concentrations of chemical constituents that adversely affect water quality measured in the wells that are further described and evaluated in Section 4.9, *Hydrology/Water Quality*.

Consolidated Bedrock

The consolidated bedrock formations that flank and underlie the Six Basins consist of very old crystalline rocks of the Basement Complex and younger sedimentary and volcanic rocks of the Puente Group. The Basement Complex consists of deformed and recrystallized metamorphic rocks (*e.g.*, banded gneisses) that have been intruded by masses of igneous rocks (*e.g.*, granite). As shown in the Cross Sections, the Basement Complex outcrops in the San Gabriel Mountains along the northerly boundary of the Six Basins and in the eastern San Jose Hills along the southerly boundary of the Six Basins. Weathering and erosion of the Basement Complex in the San Gabriel Mountains is the major sediment source for the younger sedimentary formations, in particular the water bearing sediments of Six Basins.

Water Bearing Sediments

Water bearing sediments daylight along the northern and southern basin boundaries at the surface contact with the consolidated bedrock. They are typically composed of gneissic and granitic debris from the mountains and can be differentiated into the older alluvium of Pleistocene age (Qoa), and the younger alluvium of Holocene age (Qyf). The Strategic Plan has characterized these formations from driller's logs and surface outcrops within the Six Basins.

The older alluvium has been deposited over the bedrock formations under conditions similar to existing conditions in the area where runoff carries sediment and debris in the drainages emanating from the mountains. Typically, the older alluvium is thicker than the younger alluvium, especially in the central and deeper portions of the Six Basins. This alluvial material contains the stored groundwater pumped by the production wells and monitored by the monitoring wells. Most wells in the Six Basins have their screens completed within the water bearing sediments.

The younger alluvium is typically more permeable than the older alluvium allowing surface water to percolate readily. Figure 2-11 in Chapter 2, *Existing Conditions*, shows the hydrologic soils types across the Six Basins as mapped by NRCS. When reviewed with Figure 4.7-1, one can see that the soils mapped as having moderate to high infiltration rates coincide with the younger alluvium, and soils mapped as having slow infiltration rates coincide with the older alluvium on the Figure 2-11. Also, the spreading grounds in the Six Basins are located in areas that overlie the younger alluvium and, in the case of the SASG, soils with relatively high infiltration rates.

Liquefaction

Liquefaction occurs when loose alluvial sediments such as sand and silt that are saturated with water are subjected to severe groundshaking during an earthquake. Earthquake waves cause water pressure to increase and sand grains to lose cohesion and behave like a liquid. The loss of cohesion and strength may result in ground failure. Related ground failures may include lateral spreading and subsidence. Areas most susceptible to liquefaction are those underlain with alluvial material where the water table is shallow; at a depth of 50 feet or less. In the Six Basins project area, there are known areas of high groundwater along the southeast portion of the project area in the Pomona Basin (see Figure 2-18 in Chapter 2, *Existing Conditions*).

Subsidence

Land subsidence is defined as the loss of ground surface elevation resulting from the removal of subsurface support. In the Six Basins project area, subsidence may occur as a result of ground water pumping. Liquefaction is a form of subsidence specific to seismic activity, but subsidence can occur in the absence of an earthquake. The USGS, through its California Water Science Center concluded that the compaction of susceptible aquifer systems caused by excessive groundwater pumping is the single largest cause of subsidence in California. https://ca.water.usgs.gov/land_subsidence/california-subsidence-cause-effect.html.

Table 3-2 in Chapter 3, *Project Description*, lists the impediments to the implementation of the Strategic Plan. One of these is that there is an area within the City of Pomona along the boundary between the Pomona Basin and Chino Basin that has experienced differential land subsidence of at least one foot between 1993-2012. Actions to remove this impediment are discussed below in Section 4.7.3, *Project Impacts*.

Landslides

A landslide is defined as the movement of a mass of rock, debris, or earth down a slope, usually triggered by heavy rain events or earthquakes, or by mining activities. In the Six Basins project area, landslides are limited to the mountain and canyon areas above the Six Basins project area.

Paleontological Resources

Paleontological resources consist of fossils and trace fossils, such as imprints or outlines, that are preserved in sedimentary rock layers; including fine-to medium-grained marine, lake, and stream deposits such as limestone, siltstone, sandstone, or shale, and in ancient soils (paleosols). They are also found in coarse-grained sediments such as conglomerates or coarse alluvium.

The evaluation of paleontological resources is based on identifying the Area of Potential Effect (APE), similar to the APE for the evaluation of Cultural Resources (see Section 4.5). As described in the Environmental Setting section above, the project area lies mostly atop Quaternary sedimentary units derived from alluvial sources, that lie atop bedrock. Alluvial fan deposits (Qyf series) typically have high coarse to fine clast (fragments of rocks) ratios. Note: the lower the number associated with the soil, the older the alluvial material.

As part of the City of La Verne General Plan Update that is currently in progress, a *Cultural and Paleontological Resources Assessment* was prepared. The assessment included a records search at the Los Angeles County Natural History Museum. The County's paleontologist found no records of fossils from the sediments in the City or from similar sediments within 5 miles of the City boundaries. However, lack of records does not mean that no resources exist.

The City of La Verne is one of the Six Basins Watermaster Parties and the City overlies the Live Oak and Ganesha basins (two of the six basins). The *Cultural and Paleontological Resources Assessment* concluded that the geologic formations within the Six Basins project area that overlaps the City's corporate boundary include undifferentiated older Quaternary alluvial deposits overlain by late Pleistocene to late Holocene younger alluvial deposits. According to geologic mapping in the region, these are similar to deposits in the project area east of the City of La Verne (see Figure 4.7-1 for a generalized geologic map of the project area). The commonality is proximity to the San Gabriel Mountains and the continuous deposition of alluvial material washing down from the numerous drainages emanating from the mountains.

In order to generally characterize the soils in the area and evaluate the potential impacts associated with future development projects in the City of La Verne, the paleontologist utilized the federal Bureau of Land Management's (BLM) potential Fossil Yield Classification (PFYC) system. This PFYC system provides some guidance for assessing the potential for paleontological resources to be present and can be used to assist in determining if further assessment is necessary. Although the PFYC system was designed to be used to assess the significance of paleontological resources on public lands, it can be adapted for use in assessing other projects as well. The class assignments of PYFC are meant to serve as a guideline and not an independent classification system. It is the BLM's intent that the PYFC system augment the knowledge of the geology and paleontology in the area when determining the significance of a geologic unit or formation to bear paleontological

resources. Table 4.7-3, *BLM's Potential Yield Classification System*, outlines the PYFC classes and their respective descriptions.

The City of La Verne Paleontological Assessment concluded the following:

1. Very young axial channel and wash deposits (late Holocene):
 - i. Potentially Moderate but Unknown (PFYC 3b) at depths greater than 8 feet south of the 210 Freeway;
 - ii. Low by Location (PFYC 2) in all deposits north of the 210 Freeway; and
 - iii. Low by Depth (less than 8 feet) (PFYC 2) in all deposits south of the 210 Freeway.
2. Very young landslide deposits (PFYC 1) (late Holocene):
 - i. All deposits
3. Young alluvial fan deposits (early Holocene), old axial channel deposits (late to middle Pleistocene), and old alluvial fan deposits (late to middle Pleistocene):
 - i. Potentially Moderate but Unknown at depths greater than 8 feet south of the 210 Freeway (PFYC 3b)
 - ii. Low by Depth (less than 8 feet) (PFYC 2) in all deposits south of the 210 Freeway
4. Puente Formation, non-conglomerate units, early Pliocene to late Miocene
 - i. Potentially Moderate but Unknown (PFYC 3b) for all deposits
5. Puente Formation, conglomerate units, early Pliocene to late Miocene
 - i. Low by Location (PFYC 2) in all deposits; and
 - ii. Low by Depth (PFYC 2) in all deposits.

The Puente Formation represents bedrock beneath the Six Basins.

Mineral Resources

The California Department of Conservation Special Report 202 provides a comprehensive assessment of the aggregate resources in Claremont and Upland Production-Consumption region of Los Angeles and San Bernardino counties. California is rich in mineral resources including both commercially viable oil and gas deposits, and nonfuel mineral resources deposits. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate, including sand, gravel, and crushed stone. In and around the Six Basins project area, mineral resources are limited to construction aggregate.

Construction aggregate is an important component in concrete which is used to construct residential and non-residential buildings, dams, bridges, highways, and other structures. Aggregate, such as sand and gravel, provides 80 to 100 percent of the material volume, in

Table 4.7-3 BLM’s Potential Yield Classification System

Class ¹	Description
1 - Very Low	Geologic units are not likely to contain recognizable paleontological resources either because they are igneous, metamorphic, or are of Precambrian age (prior to 600 million years generally considered without fossils). An assignment of Class 1 normally does not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate an unanticipated discovery.
2 - Low	Geologic units that are not likely to contain paleontological resources, either because field surveys have verified the absence of resources, geologic units are younger than 10,000 years, are of recent aeolian (wind) origin, or are sediments that exhibit significant physical or chemical changes that make fossil preservation unlikely. An assignment of Class 2 may not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate unanticipated discoveries.
3 - Moderate	Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. This classification includes units of moderate or infrequent occurrence of paleontological resources. Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.
4 - High	Geologic units that are known to contain a high occurrence of paleontological resources. The probability for impacting significant paleontological resources is moderate to high and is dependent on the proposed action. Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. A detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases, avoidance of known paleontological resources may be necessary.
5 - Very high	Geologic units are highly fossiliferous that consistently and predictably produce significant paleontological resources. The probability for impacting significant paleontological resources is high. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.
U - Unknown Potential	Geologic units that cannot be defined by another PYFC class Characteristics of Class U may include: (1) geological units that may exhibit features or preservational conditions suggesting significant paleontological resources could be present, but little information about the actual paleontological resources of the geologic unit or area is known; (2) geological units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail; (3) scientific literature does not exist or does not reveal the nature of paleontological resources; (4) reports of paleontological resources are anecdotal or have not been verified, (5) an area or geologic unit is poorly or under-studied; or (6) BLM staff has not yet been able to assess the nature of the geologic unit.

Source: Bureau of Land Management, 2016, *Potential Fossil Yield Classification System*

Notes:

1. There are two other classifications that are not included in this table because they do not apply. These are Water and Ice. There is no body of water or permanent ice within the Six Basins project area.

products including Portland cement concrete, asphaltic concrete, railroad ballast, stucco, road base, and fill.

Portland cement concrete is an important product used in many applications such as concrete blocks and pipes, foundation pilings, pre-cast concrete beams, and tilt-up concrete walls. These products play an important role in our economy and the construction industry.

Existing conditions as described in each of the jurisdictions' general plans below.

Los Angeles County

The Six Basins area is largely within Los Angeles County's East San Gabriel Planning Area. The General Plan described this planning area as largely built out with residential, commercial and industrial uses. A small area identified as MRZ-2 is located in the western portion of Claremont and the northern portion of Pomona. These areas are built out with residential land uses; thus, mineral resources that would not be available for extraction.

County of San Bernardino

The County of San Bernardino has a long history of mining mineral resources, including aggregate resources, and has established a set of Land Use and Mineral Resources goals and policies in its general plan to ensure protection of these resources for future use. However, a review of the County's list of mine sites concluded that there are no mine sites located in the Six Basins area that are with the County's jurisdiction. Existing mine pits in the SASG are located in the City of Upland.

City of Claremont

There are no operations currently located in Claremont, although evidence of past mining operations can be seen along the eastern corporate boundary, east of Monte Vista Avenue and south of the 210 Freeway. This site, owned by Holliday Rock, is no longer active, and the City's land use designation for that site is Mixed Use – Commercial and Business Park.

The City's general plan designation for the SASG and the area around TCSG is Park/Resources Conservation and acknowledging that these areas are located in an MRZ-2 zone. Most of the land within this zone is owned by PVPA and designated for use as groundwater recharge. It is the City's intent that these areas be protected from incompatible development that would prevent access to the aggregate material should access to these deposits be necessary in the future; and does not preclude PVPA from developing spreading grounds in the Thompson Creek Spreading Grounds (TCSG) and the SASG.

City of La Verne

The City's general plan does not address mineral resources. Although, according to the State's report on the Claremont-Upland Production-Consumption Region, the City is located within an MRZ-1 zone, the City is build-out, there are no active mineral extraction sites in the City and there are no opportunities to extract aggregate material.

City of Pomona

Similar to the City of La Verne, the City of Pomona is largely built-out and does not have any active mineral extraction sites. The City is largely located in an MRZ-3 zone where mineral resources are known or inferred, but that the significance of the resources cannot be determined and there are no opportunities to extract aggregate material.

Regulatory Setting

Geology and Soils

Federal

The 2000 Disaster Mitigation Act (DMA) requires local agencies such as the cities that are a party to the Six Basins Watermaster, to develop a natural hazard mitigation plan as a condition of mitigation grant assistance. A plan must include a detailed City profile; identify specific threats and vulnerabilities within the city; and identify specific mitigating measures to address such threats and vulnerabilities.

Related to the Six Basins area, natural disasters that could pose great danger to human life and to property include earthquakes, flooding, and wildfires. The plan must also include (1) identifying and assessing the risks from natural disasters; (2) implementing adequate measures to reduce losses from natural disasters; and (3) ensuring that the critical services and facilities of communities will continue to function after a natural disaster. Critical facilities include water supply infrastructure (wells, pumps, pipelines, and water treatment facilities).

State

The most relevant state laws that regulate geology and soils in the Six Basins project area are the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the California Building Code. These generally apply to habitable structures, however, with regard to the Six Basins, infrastructure including production and monitoring wells and related pumps, pipelines and monitoring equipment; as well as water treatment facilities and recharge basins in spreading grounds, may be compromised as a result of seismic activity or where liquefaction may occur.

Alquist-Priolo Earthquake Fault Zoning Act

The main purpose of the Alquist-Priolo Earthquake Fault Zoning Act enacted in 1972, is to prevent the construction of buildings used for human occupancy on top of the traces of active faults. Although the Act is intended to mitigate the hazard of surface faulting to structures used for human occupancy, it is important to understand the potential environmental impacts of siting infrastructure within a known earthquake hazard area. The Act only addresses the hazards associated with surface-fault rupture; it does not address other earthquake-related hazards, such as seismically induced ground shaking, liquefaction, or landslides. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults,

and to publish appropriate maps that depict these zones. The zones that would affect infrastructure within the Six Basins project area are shown in Figure 4.7-1.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990. It addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides. Under this Act, seismic-hazard zones have been mapped by the State Geologist to assist local governments in land use planning. The Act states that “it is necessary to identify and map seismic-hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land-use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.” Section 2697(a) of the Act states that “cities and counties shall require, prior to the approval of a project located in a seismic-hazard zone, a geotechnical report defining and delineating any seismic hazard.”

California Building Code

The California Building Standards Code, also known as Title 24 of the California Code of Regulations, reflects various building criteria that have been derived from different sources. One of these sources is the International Building Code (IBC), a model building code adopted across the United States that has been modified to suit conditions in the State, resulting in the development of the California Building Code (CBC), or Part 2 of CCR Title 24. The CBC is updated every three years, and much of the CBC is adopted by reference in the Los Angeles County Code, and the San Bernardino County Code. Cities within the Six Basins project area also utilize the CBC and other California Codes (mechanical, electrical, energy, etc.). Through the CBC, the State provides a minimum standard for building design and construction. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

Although these codes generally apply to habitable structures, applicable requirements for grading, excavation, retaining walls, etc. may also apply to some of the Strategic Plan projects.

Local

The Six Basins underlay all or portions of the cities of Claremont, La Verne, Pomona and Upland. The easterly extension of the Canyon Basin underlays a portion of the unincorporated residential community of San Antonio Heights in San Bernardino County. In addition, there are a few small pockets of unincorporated Los Angeles County islands in the cities of Claremont, La Verne and Pomona.

Article 5 of the California Government Code entitled *Regulation of Local Agencies by Counties and Cities*, sets forth the requirements for compliance with applicable county and city building and zoning ordinances. Watermaster Parties that will be responsible for the construction, operation and maintenance of new projects under the Strategic Plans are

specifically exempt from such ordinances under Section 53091(d) and (e) which specify that “(d) building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency, and (e) zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities ...” However, construction of projects would still be subject to the requirements of the California Building Code (CBC) as administered by local agencies.

Paleontological Resources

Federal

No regulations regarding Paleontological Resources have been identified.

State

CEQA provides guidelines for the identification and protection of archaeological sites, artifacts, and paleontological resources. If a project threatens a paleontological resource, the project is required to provide mitigation measures to protect the site or enable study and documentation of the site. Assessment of these resources would require a records search at the Los Angeles County Natural History Museum, and if the results of the records search show a potential for resources to be present, may require a site survey conducted by a qualified paleontologist.

Local

At the local level, cities and counties having jurisdiction within the Six Basins project area have addressed Paleontological Resources in their respective general plans. These are summarized here and are based on the findings of their respective general plan Program EIRs regarding the likelihood that paleontological resources may be uncovered during future construction projects. Although, as described above the Article 5 of the California Government Code specifically exempts the proposed Strategic Plan projects from local planning and zoning requirements. However, because the State CEQA guidelines specifically addresses paleontological resources, local City requirements designed to protect such resources are included herein.

City of Claremont

No general plan goals, policies or programs specific to Paleontological Resources were identified. The discovery of such resources would be subject to the State CEQA Guidelines.

City of La Verne

General Plan

The City of La Verne is currently updating its general plan and as part of that effort, a *Cultural and Paleontological Resources Assessment* was completed. Although no specific general plan goals or policies have yet to be defined specifically for Paleontological Resources, the following mitigation measure from the General Plan Program EIR has been identified in

compliance with State CEQA Guidelines requirements to minimize impacts on paleontological resources:

MMPAL-1 City staff shall require applicants for future proposed projects with planned impacts greater than 5 feet below the current surface in undisturbed sediments ranked PFYC 3 or above to provide a technical paleontological assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified paleontologist. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments, provides a fossil recovery protocol that includes data to be collected, requires professional identification, radiocarbon dates and other special studies as appropriate, requires curation at an accredited museum such as the Los Angeles County Museum of Natural History for fossils meeting significance criteria, requires a comprehensive final mitigation compliance report including a catalog of fossil specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the fossils.

Zoning Code

The City's Zoning Code does not specifically address Paleontological Resources. The discovery of such resources would be subject to the State CEQA Guidelines.

City of Pomona

The City's 2014 General Plan Update included policies to protect paleontological resources including Policy 7F.P.40 and 7F.P.41 which require that a qualified paleontologist/archeologist monitor all grading and/or excavation where there is a potential to affect cultural, archeological or paleontological resources (Policy 7F.P.40) and require new development to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Pomona, or Los Angeles County, whenever possible (Policy 7F.P.41).

City of Upland

General Plan

No general plan goals, policies or programs specific to Paleontological Resources were identified. The discovery of such resources would be subject to the State CEQA Guidelines.

Zoning Code

The City's Zoning Code does not specifically address Paleontological Resources. The discovery of such resources would be subject to the State CEQA Guidelines.

County of Los Angeles

Goals and policies regarding Paleontological Resources are combined with Cultural Resources in the County's General Plan. Policies for the protection of resources are found in *Goals and Policies for Historic, Cultural, and Paleontological Resources*. Policy C/NR 14.1 and C/NR 14.6 which are paraphrased here to address only Paleontological Resources. These

are general in nature but require that to protect such resources project proponents shall mitigate all impacts from new development on or adjacent to paleontological resources to the greatest extent feasible (Policy C/NR 14.1) and ensure proper notification and recovery processes are carried out for development on or near paleontological resources (Policy C/NR 14.6). Such policies comply with the State requirements to minimize impacts on paleontological resources as set forth in the CEQA Guidelines.

County of San Bernardino

Programs in support of the implementation of the Countywide Plan are found in the General Plan Conservation Element – Cultural and Paleontological Resources Section. Such programs comply with the State requirements to minimize impacts on paleontological resources as set forth in the CEQA Guidelines.

Programs 1 through 3 are specifically related to archaeological resources.

4. In areas of potential but unknown sensitivity, field surveys prior to grading shall be required to establish the need for paleontological monitoring.
5. Projects requiring grading plans that are located in areas of known fossil occurrences or demonstrated in a field survey to have fossils present, shall have all rough grading (cuts greater than three feet) monitored by trained paleontological crews working under the direction of a qualified professional, in order that fossils exposed during grading can be recovered and preserved. Fossils include large and small vertebrate fossils; the latter recovered by screen washing of bulk samples.
6. A report of findings with an itemized accession inventory shall be prepared as evidence that monitoring has been successfully completed. A preliminary report shall be submitted and approved prior to granting of building permits, and a final report shall be submitted and approved prior to granting of occupancy permits. The adequacy of paleontological reports shall be determined in consultation with the Curator of Earth Science, San Bernardino County Museum.

Mineral Resources

Federal

There are no federal regulations, authorities, or administering agencies with authority over the implementation of the Strategic Plan as it relates to mineral resources.

State

Department of Conservation

The State's Surface Mining and Reclamation Act (SMARA) was adopted in 1975, to ensure adequate supplies of mineral resources important to California's economy and the reclamation of mined lands. The agencies responsible for administering this program at the State level are the California Geological Survey (CGS) and the State Mining and Geology Board (SMGB). Local government agencies are responsible for implementing the objectives of SMARA to ensure adequate supplies through land use decisions.

SMARA’s mineral resource conservation objective is achieved through a mineral inventory and land use planning process - classification/designation carried out by CGS, SMGB, and local governments. Information on the location of important mineral deposits is developed by CGS through a process of mineral land classification. The classification report is then used by SMGB in designating deposits that are of economic significance to a region, the state, or the nation. The classification report for the Claremont-Upland Production-Consumption Region was used in the preparation of the Mineral Resources Section.

The State classifies areas according to the presence or absence of significant nonfuel mineral resources deposits into Mineral Resource Zones (MRZs). These classifications indicate the potential for a specific area to contain significant mineral resources. The classification process involves the determination of Production-Consumption (P-C) Region boundaries, based on identification of active aggregate operations (production) and the market area served (consumption). The classification of these mineral resources is a joint effort of the State and local governments and is based on geologic factors and requires that the State Geologist to classify the mineral resources area as one of the four MRZs. These are as follows:

MRZ-1: Areas where available geologic information indicates there is little or no likelihood for presence of significant mineral resources.

MRZ-2: Areas where available geologic information indicates that significant measured or indicated resources are present or where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MRZ-3: Areas where available geologic information indicates known or inferred mineral occurrences of undetermined mineral

MRZ-4: Areas where available information is inadequate to assign any other classification.

The Six Basins area lies largely within a Mineral Resource Zone-2 (MRZ-2) as determined by CGS. Currently, Holliday Rock’s construction aggregate operations in the SASG supply the surrounding areas with aggregate material.

Local

Because the project area is largely urbanized and aggregate material has been covered by urban uses, this discussion is limited to the cities of Claremont and Upland where the relatively undeveloped areas within the TCSG and SASG are located. As described above, Article 5 of the California Government Code specifically exempts the proposed Strategic Plan projects from local planning and zoning requirements. However, because the cities of Claremont and Upland have adopted goals and policies for mineral resources consistent with SMARA, a discussion of local City requirements is included herein.

City of Claremont

General Plan

The City of Claremont recognizes the importance of mineral resources and recognizes its responsibilities to balance the value of these resources and consider their regional and statewide importance whenever it considers a project that would threaten their ability to be extracted. Aggregate mining operations in the Claremont-Upland Production region are all located in the City of Upland.

The following goals and policies contained in the City of Claremont’s General Plan provide guidance and standards for the use of mineral lands and to minimize impacts on those resources. It is the goal of the City of Claremont to:

Goal 5-17 Protect and conserve state-designated significant mineral resources from land uses that threaten their availability for future mining and require that any future mining of those resources will not adversely impact the environment or the livability of Claremont’s residential neighborhoods.

Policy 5.17.1 Protect mineral resource deposits in designated areas of regional significance in order that such deposits may be available for future use, excepting in already urbanized locations where development has already occurred or is planned.

Policy 5.17.2 Balance the regional need to produce mineral resources against other City goals set forth in this General Plan.

Policy 5.17.3 Balance the importance of mineral resources against alternative land uses and consider the value of minerals in their market region or to the state in reviewing any project involving mineral resources from areas designated regionally significant.

Policy 5.17-4 Prior to approval of any use that would threaten the potential to extract from any state-designated significant mineral resource, require that sufficient mitigation be provided to eliminate land use conflicts between the approved use and any future mining of the mineral resources.

Zoning Code

The Zoning Designation for areas where mineral resources are located is Parks/Resource Conservation (P/RC). The P/RC District is intended to assure open space areas for uses such as public parks, outdoor recreation, cemetery uses, protection of natural habitat, preservation of cultural resources, management of groundwater resources, **protection and conservation of mineral resources** (emphasis added), and the protection of the public health and safety due to hazardous or special conditions.

City of Upland

General Plan

The City of Upland is bounded on the west by SASG and on the east side by the Cucamonga Creek Wash. Both areas contain active aggregate mining operations. In the SASG, Holliday Rock conducts operations in several pits, on land owned by PVPA.

The following general plan goals and policies provide guidance and standards for mineral resources and to minimize impacts on those resources:

- Goal OSC-1 Upland’s natural resources such as open space, wildlife and vegetation, are protected and enjoyed as limited and valuable resources and integral parts of a sustainable environment.
- Policy OSC-1.3 Joint Use. Work with property owners and regional agencies to allow safe, joint use of open space areas that are used for other purposes such as flood control, groundwater recharge, utility corridors, and mining for passive recreational activities such as trails or view spots.
- Goal OSC-7 Mining activities in Upland are compatible with efforts for resource conservation, and with adjacent uses.
- Policy OSC-7.1 Resource Conservation. Conserve the last remaining areas identified as containing significant mineral deposit potential as mapped by the California Geological Survey.
- Policy OSC-7.2 Ongoing Extraction Activities. Support ongoing environmentally sensitive mineral extraction activities within the City until these resources are depleted or extraction is no longer economically viable.
- Policy OSC-7.3 Regulation and Management. Regulate and manage the extraction of mineral resources through the Surface Mine and Reclamation Act (SMARA).
- Policy OSC-7.4 Compatible Operations. Restrict permitted uses on lands containing and adjacent to important mineral resources to those compatible with mineral extraction, except in cases where such uses offer public benefits that outweigh those of resource extraction.
- Policy OSC-7.5 Protection of Adjacent Properties. Enforce established conditions and performance standards to protect properties adjacent to mining operations and ensure the public’s health, safety and welfare.
- Policy OSC-7.6 Reuse of Mined Land. Require mined property to be left in a condition suitable for reuse in conformance with the California Surface Mining and Reclamation Act (SMARA).

Policy OSC-7.7 Recycling Aggregate Material. Encourage the reuse and recycling of existing aggregate construction material for new residential, commercial, and industrial developments.

Zoning Code

Mining sites in the City of Upland are located within Special Purpose Zones. The intent of the Special Purpose Zone designation are:

1. Provide and protect areas and parcels within the City for special purposes, including Cable Airport; institutional uses involving schools and public health care facilities; park and recreational open space areas; **gravel mining activities** (emphasis added); and public utilities;
2. Reserve land for a range of public services in order to meet the needs of current and future residents; and
3. Apply appropriate administrative and development standards to provide uses that will complement the physical characteristics of surrounding residential, commercial, and industrial properties and avoid any negative impacts.

Additional purposes of Special Purpose Zone – Mining is as follows:

Mining (M). The M zone is intended to encourage the production and conservation of minerals while giving consideration to values relating to recreation, watershed, wildlife, range and forage, aesthetic enjoyment, and the continued well-being of the economy and the needs of society. The purpose of the M zone is to regulate all surface mining activity in Upland as authorized by the California Surface Mining and Reclamation Act of 1975 and to prevent or minimize the adverse effects of surface mining. It is also the intent of this zone to ensure that mined lands will be reclaimed to a useable condition that is readily adaptable for alternative land use. The M zone implements the Gravel Mine (GM) land use designation in the General Plan.

4.7.3 Project Impacts

Thresholds of Significance

Implementation of the Strategic Plan for the Six Basins would have a significant impact on Geology and Soils if it would result in any of the following:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Earthquake Hazard Fault Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, (ii) strong seismic ground shaking, (iii) seismic-related ground failure, including liquefaction, or (iv) landslides?
2. Result in substantial soil erosion or the loss of topsoil?

3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Implementation of the Strategic Plan for the Six Basins would have a significant impact on Paleontological Resources if it would result in the following:

6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Implementation of the Strategic Plan for the Six Basins would have a significant impact on Mineral Resources if it would result in the following:

7. Loss of availability of a known mineral resource that would be of value to the region and the residents of the State; or
8. Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Impact Evaluation

Geology and Soils

Impact 4.7-1

Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving (Threshold 1):

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?
- ii. Strong seismic ground shaking?
- iii. Seismic-related ground failure, including liquefaction?
- iv. Landslides?

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less than Significant Impact with Mitigation Incorporated.

Fault Rupture and Strong Seismic Groundshaking

The entire southern California region, including the Six Basins project area is potentially subject to some level of strong seismic ground shaking with potential levels being greatest at sites in close proximity to a known active fault or potentially active fault. The nearest fault delineated on the Alquist-Priolo Earthquake Fault Zoning Map to the Six Basins project area is the Cucamonga-Sierra Madre fault complex that traverses the cities of Upland and Claremont. In addition, other smaller faults, such as the San Jose fault, have the potential to adversely affect production wells and related infrastructure if these are located on or relatively near a fault. Impacts associated with fault rupture can be minimized by locating new wells and related treatment facilities away from active faults, but this does not eliminate impacts associated with strong seismic groundshaking.

Implementation of the projects in Project Category 1 would expose proposed improvements at existing facilities to strong seismic shaking. Groundshaking could result in structural damage to new facilities, which in turn could affect their operation and the operation of related, interconnected systems. Therefore, structural and mechanical failure of facilities that may be caused by strong groundshaking has the potential to adversely impact these facilities including shutting them down for repair after a seismic event.

The Strategic Plan identifies three types of treatment facilities that may be used. These include: (1) an ion exchange system; (2) a biological treatment system; and (3) a granular activated carbon system. All of these systems are self-contained units that are stand-alone units and not housed in habitable structures. However, buildings containing pumps and related testing and monitoring equipment would be habitable and therefore are subject to building restrictions as set forth in the CBC which restricts the development of habitable structures on a known earthquake fault. Although not specifically called out in the Strategic Plan, rehabilitation of wells may include new pumps and related monitoring equipment and may also include construction of new pumphouses to house the upgraded pumps and monitoring equipment.

Structural elements of each project would be evaluated through design-level geotechnical assessments prior to final design and construction as required by the CBC that require standard engineering practice and the appropriate standard of care for individual projects. Should a project site be located within a designated Alquist-Priolo Fault Zone, the Watermaster Party proposing the project shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific geotechnical investigation.

Compliance with CBC requirements and implementation of project-specific engineering design and construction measures, as approved by the respective cities in which Project Category 1 projects would be developed, would avoid the potential for adverse impacts associated with fault rupture and strong seismic groundshaking. Therefore, impacts related to fault rupture and strong seismic groundshaking can be reduced to a level that is less than significant based on site specific geotechnical investigations that would set forth the

requirements for site development and long-term operation. Location within a designated Alquist-Priolo Fault Zone is addressed in mitigation measure GEO-1 (see Section 4.7.4 below for a list of measures). Impacts associated with strong seismic groundshaking are addressed in mitigation measure GEO-2. With implementation of these measures, impacts would be considered to be less than significant.

Seismic-related Ground Failure Including Liquefaction

According to the Six Basins Strategic Plan, there are areas within the project area that are known to experience high groundwater levels. Figure 2-18 in Chapter 2 shows the historical areas of rising groundwater in the Six Basins project area. These areas are generally along the Indian Hill fault southeast of the Pedley Spreading Grounds; south of the Indian Hills fault and west of the Intermediate fault and a small area between the Intermediate and San Jose faults; and a large area adjacent to the San Jose Hills and west of the San Jose fault. Historically in these areas, depth to groundwater ranges between 50 and 100 feet below ground surface. The City of Pomona and Golden State Water Company have existing production wells within these areas of high groundwater in the Pomona and Upper Claremont basins, and the Reservoir 5 site is located in an area of high groundwater.

There is a potential for the proposed new facilities to be adversely affected during a seismic event in areas. As discussed under *Fault Rupture and Strong Seismic Groundshaking* above, impacts associated with *Seismic-related Ground Failure Including Liquefaction* can be reduced to a level that is less than significant based on site specific geotechnical investigations that would set forth the requirements for site development and long-term operation. This is identified in mitigation measure GEO-1 (see Section 4.7.4 below for a list of measures)

Landslides

Steep slopes in the San Gabriel Mountains and related foothills that delineate the northerly boundary of the Six Basins project area, can be characterized as landslide-susceptible areas. Landslides and mudflow hazards exist on steep hillsides and in the creek and streambed areas such as SASG and TCSG. Though these areas may be susceptible to landslides, there are no Project Category 1 projects identified in these areas. Therefore, no impacts related to landslides are expected to occur.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact with Mitigation Incorporated.

These projects would occur in four locations: 1) SASG; 2) TCSG; Pedley Spreading Grounds (PSG); and 4) the LA County Fairplex site.

Fault Rupture and Strong Seismic Ground Shaking

There are no habitable structures associated with Project Category 2 water recharge projects. These projects consist of developing water recharge basins by excavating areas

within the SASG (up to 50 acres to a depth of up to 200 feet) and TCSG (up to 25 acres to a depth of up to 20 feet), creating earthen berms around the basins. Likewise, recharge basins at the PSG site would be widened and deepened to allow for an increase in the amount of water that can be detained and percolated. Associated with these improvements is a storm drain system to convey stormwater from the existing urban area around the site to the spreading grounds. Finally, the proposed improvements at the Fairplex site are to develop an underground infiltration gallery beneath soccer fields that are currently being developed on the site of the former horse racing track.

Similar to Project Category 1 projects, Project Category 2 projects would be designed based on geotechnical studies that determine how the sites should be developed to withstand strong seismic groundshaking to prevent damage to the basins. For the SASG recharge basin, the proposed operator – Holliday Rock – will prepare a plan of operation and a reclamation plan per SMARA, that shows how the site would be stabilized during excavation (maximum slopes ratios) and how the site would be reclaimed. Therefore, this impact would be less than significant with the implementation of mitigation measures GEO-1 and GEO-2.

Seismic-related Ground Failure Including Liquefaction

Potential impacts and mitigation would be the same for *Strong Seismic Groundshaking* addressed in Project Category 1. There are no habitable structures associated with Project Category 2 projects. Instead, the impact would be related to the potential for berms surrounding recharged basins to slump or breach, causing water to be released, if basins are full. However, both the new TCSG and SASG recharge basins are located in areas adjacent to vacant land so it is likely that water released would spread in their respective washes rather than flooding urban areas. Regarding the PSG site, this site is relatively flat and is located on a large uninhabited site so that the potential for a breached berm to cause significant flooding in the surrounding urban area would be less than significant. Finally, regarding the underground infiltration gallery at the LA Fairplex site, seismic-related ground failure of the underground gallery may result in flooding, however, the site of the new gallery is located within the larger Fairplex site so that flooding would not significantly affect any habitable structures.

Similar to Project Category 1 projects, Project Category 2 projects would be designed based on geotechnical studies, and for the SASG recharge basin, in accordance with SMARA requirements, that determine how the sites should be developed to withstand strong seismic groundshaking to prevent damage to the basins. Therefore, this impact would be less than significant with mitigation incorporated. See mitigation measures GEO-1 and GEO-2.

Landslides

Similar to Project Category 1 projects, Project Category 2 projects would not be developed in areas susceptible to landslides. Because the recharge basins berms (sidewalls) would be earthen, there is a potential for slumping to occur during a seismic event. However, this would likely occur in the interior of the basins so that the likelihood that recharge water

could be released downstream is minimal. Regardless, all new recharge basins shall be designed in accordance with mitigation measures GEO-1 and GEO-2 resulting in a less than significant impact.

Project Category 3: Temporary Surplus

Determination: Less than Significant Impact with Mitigation Incorporated.

The projects consist of the (1) rehabilitation of the P-20 well head; (2) development of new production wells and a new treatment facility interconnected to the new wells; (3) development of up to three new monitoring wells in the Pomona Basin; and (4) construction of interconnections (underground pipelines) between new production wells and the new treatment facility, between the Pomona WRP and the new SASG recharge basin, and between the P-20 well site and the TVMWD WTP.

Fault Rupture and Strong Seismic Ground Shaking

Improvements to Pomona's P-20 well would be similar to those identified for projects evaluated under Project Category 1.

For new production and monitoring wells that may be located on existing project sites operated by a Watermaster Party, impacts would be similar to those addressed under Project Category 1 projects and subject to the requirements of mitigation measure GEO-1.

For new projects production and monitoring wells that would be located on new sites, impacts may be the same as for Project Category 1 projects for sites not located within an Alquist-Priolo Fault Zone. However, should a new project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the Watermaster Party proposing the project shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation. See mitigation measures GEO-1 and GEO-2.

Seismic-related Ground Failure Including Liquefaction

Specifically, regarding the new production wells and related treatment facilities, or monitoring wells that are proposed for development in the areas of historically high groundwater there is a potential for the proposed new facilities to be adversely affected during a seismic event. As discussed under *Fault Rupture and Strong Seismic Groundshaking* above, impacts associated with *Seismic-related Ground Failure Including Liquefaction* can be reduced to a level that is less than significant based on site specific geotechnical investigations that would set forth the requirements for site development and long-term operation. This is identified in mitigation measure GEO-1 (see Section 4.7.4 below for a list of measures)

Landslides

Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to their own subsequent environmental review. The Strategic Plan included the development of new multi-depth clustered monitoring wells within the areas of historical high groundwater in the cities of Pomona and Claremont as part of Project Category 4. These projects are evaluated under Project Category 3 where new production well projects are evaluated because both types of well projects are similar. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.7-2

Result in substantial soil erosion or the loss of topsoil? (*Threshold 2*):

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction activities for proposed projects such as excavation and grading may result in soil erosion during rain or high wind events. Such construction activities must comply with SCAQMD Rule 403 for dust control that would ensure the prevention and/or management of wind erosion and subsequent topsoil loss. A discussion of the potential for soil erosion to occur due to high wind events is provided in Section 4.3, *Air Quality/Greenhouse Gas/Global Climate Change*. Compliance with SCAQMD Rule 403 (see mitigation measure AQ-1) would ensure that construction activities that could cause wind related soil erosion are reduced to less than significant levels and no additional mitigation measures have been identified.

Soil erosion associated with stormwater runoff is evaluated in Section 4.9, *Hydrology and Water Quality*. To prevent erosion associated with stormwater runoff from construction sites that are one-acre or larger in size, construction contractors at each site would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the Statewide Construction General Permit (SWRCB

Water Quality Order 2009-0009-DWQ). A SWPPP identifies best management practices (BMPs) to control erosion, sedimentation, and hazardous materials potentially released from construction sites into surface waters. Compliance with the Construction General Permit, site-specific SWPPP, and identified BMPs would ensure soil erosion and loss of topsoil impacts can be reduced to less than significant levels at each construction site.

For sites that are less than one-acre in size, the Statewide Construction General Permit does not apply. However, a construction contractor is still required to comply with minimum BMPs, as specified by the Municipal Separate Storm Sewer System (MS4) permit for each county. Each of the cities within the counties of Los Angeles and San Bernardino are co-permittees to the respective county MS4 permits. Each city has a list of minimum BMPs that must be employed to control runoff from construction sites. Watermaster Parties proposing construction projects must comply with these requirements and ensure that their respective construction contractors are implementing the required BMPs during all construction activities. Therefore, with compliance with the Statewide Construction General Permit and/or requirements under MS4 for the control of stormwater runoff from construction sites, this impact would be less than significant, and no mitigation measures are required. The requirement for implementation of BMPs is set forth in mitigation measures HWQ-1 in Section 4.9.

Post construction of Strategic Plan projects would also be subject to MS4 requirements related to the control of on-site hydrology during storm events. All sites must retain stormwater flows on site and treat stormwater in accordance with an approved Water Quality Management Plan (WQMP) that incorporates Low Impact Development (LID) BMPs.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as for Project Category 1 projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. The proposed groundwater monitoring wells that are identified in the Strategic Plan to be developed as

part of the Monitoring Program have been evaluated under Project Category 3 as impacts associated with the development and operation of these wells would be similar to proposed groundwater production wells. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.7-3

Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse? (*Threshold 3*):

Substantiation

This category of impacts is related to non-seismically induced geologic hazards caused by unstable soils or geologic units.

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Rehabilitation of existing facilities or construction of additional facilities on existing sites would not cause subsidence, settlement, lateral spreading, slope failure including landslides. However, where these types of unstable conditions may occur, existing and proposed facilities could be adversely affected. There is potential for damage to facilities on site to occur, however, because there are no employees associated with these projects (except for site inspections and periodic maintenance activities), impacts associated with unstable soil conditions on humans would be minimal. However, mitigation measure GEO-2 would still apply to projects that may be undertaken in areas susceptible to non-seismically induced geologic hazards. With implementation of GEO-2, this impact can be reduced to a less than significant level.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-2 is required.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-2 is required.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.7-4

Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? (*Threshold 4*):

Determination: Less Than Significant Impact with Mitigation Incorporated.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

As discussed in the Environmental Setting section above, the soils in the Six Basins project area are predominantly alluvial material within the valley area on top of bedrock. The NRCS provides information on soils and their characteristics, highlighting limitations that could affect land use decisions. Predominant soils in the Six Basins project area are classified as Urban Land, defined as discontinuous human-transported material over alluvium derived from granite and/or sedimentary rock, ranging from 0 to 9 percent slope. Underlying soils are well drained to excessively drained sands, loams and gravelly sands typical of alluvial material, down to bedrock. In the SASG, where the mine pits are located, soils (sediments?) are a combination of sands, loams, gravels and larger cobbles and boulders.

There are some locations within the project area that contain clay loams to sandy clay loams that have the highest shrink/swell potential. These tend to be fill materials transported during construction to sites from other locations and are not indigenous to the area. Should any of the future project sites, not specifically identified in the Project Description (see Chapter 3) contain such fill material, there is a potential for subsidence, lateral spreading or other non-seismically induced geologic hazards associated with expansive soils. Typical construction techniques to address expansive soils if they are encountered on a project site is to remove the material and replace with a more suitable soil; or over excavate and recompact in place. The particular technique would be identified in a project's geotechnical investigation as identified in mitigation measure GEO-1. Therefore, if expansive soils are encountered on a project site, they can be mitigated to a less than significant level with implementation of mitigation measure GEO-1.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-2 is required.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-2 is required.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.7-5

Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (Threshold 5)

Substantiation

Determination: No Impact – all Project Categories.

Implementation of the Strategic Plan and its related projects does not include facilities that would require the use of septic systems. There is no planned use of a project site that would require employees to be on-site for extended periods that would require the use of restroom facilities and none are planned at any of the sites. Therefore, no impact would occur relative to soil suitability for septic tanks or alternative wastewater disposal systems

Paleontological Resources

Impact 4.7-6

Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Threshold 6)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

The general plans for the cities and the two counties within the Six Basins project area indicate that the potential for paleontological resources to occur is unknown or unlikely to occur due to the relatively young age of the alluvial material overlaying the Six Basins.

Because this EIR evaluates the Strategic Plan and related projects at a programmatic level, specific project design elements have not been finalized. However, as project construction is undertaken, excavation at some sites may be required. Using the results of the City of La Verne's *Cultural and Paleontological Resources Assessment* prepared for that city's general plan update, the area has the potential to contain paleontological resources at depths that reach into the older alluvium. Previously unknown and unrecorded paleontological resources may be unearthed. Therefore, the potential impacts to paleontological resources are considered significant.

Examples of how local agencies address this issue in compliance with the State CEQA Guidelines are summarized herein (see the Environmental Setting – Paleontological Resources Section above for a more in-depth discussion of general plan policies and programs).

- The City of La Verne, in its assessment of paleontological resources has identified a mitigation measure (MMPAL-1) that would require future projects that would excavate a site to depths greater than 5 feet below ground surface to complete a technical paleontological assessment prior to commencement of a project.
- The City of Pomona in its General Plan Policy 7F.P40 requires a qualified paleontologist/archeologist to monitor all grading and/or excavation where there is a potential to affect cultural, archeological or paleontological resources.
- The County of San Bernardino, *General Plan Conservation Element – Cultural and Paleontological Resources Section* includes Policy Program 5 where projects requiring grading plans that are located in areas of known fossil occurrences or demonstrated in a field survey to have fossils present, shall have all rough grading (cuts greater than three feet) monitored by trained paleontological crews working under the direction of a qualified professional, in order that fossils exposed during grading can be recovered and preserved.

Therefore, mitigation measure GEO-3 has been identified and will apply to all projects that require excavation. This measure requires that at the project level where ground disturbance would occur at depths greater than three feet, a qualified paleontologist must be retained to determine if a study of the project area for paleontological resources should be undertaken. If the paleontologist determines this to be the case, he/she will conduct a paleontological resources assessment designed to identify potentially significant resources. The assessment would consist of: (1) a paleontological resource records search to be conducted at the Los Angeles County Natural History Museum and/or other appropriate facilities; (2) a field survey or monitoring during excavation (or both) if deemed appropriate by the paleontologist; and (3) recordation of all identified paleontological resources.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-3 is required.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Impacts would be the same as Project Category 1, and implementation of mitigation measure GEO-3 is required.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Mineral Resources

Impact 4.7-7

Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State; or loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? (Thresholds 7 and 8)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less than Significant Impact.

The Environmental Setting Section defined the majority of the Six Basins project area as designated by the State as MRZ-2 which indicates that the area contains potentially significant sand and gravel deposits that are to be conserved and any proposed development plan must consider access to the deposits for purposes of extraction. However, all of the project sites in Project Category 1 are relatively small in size, and are already developed with a combination of wells, treatment facilities and pipelines. In addition, these sites are all surrounded by urban uses. In summary, there are no available mineral resources that would be affected by the implementation of the proposed Strategic Plan within the cities of La Verne

or Pomona, or within the portion of the Los Angeles County East San Gabriel planning area that overlays the Six Basins project area. Likewise, development of projects in the Six Basins project area would not affect mineral resources in unincorporated areas of San Bernardino or Los Angeles counties; available resources within the Six Basins project area are all located within the cities of Claremont and Upland. Therefore, projects in this category would not prevent the future availability of aggregate material (the known resources in the region) to be mined in other areas of the Six Basins project area such as in the SASG. Therefore, this impact would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact.

Projects identified in Project Category 2 that may affect mineral resources are associated with new recharge basins in the SASG and TCSG.

San Antonio Spreading Grounds

As described in the Strategic Plan, the recharge capacity at the SASG under existing conditions of unlined channels, berms, recharge basins, mining pits and unimproved land is unknown. The first step in the development of projects to enhance recharge capacity is to implement a monitoring program to better characterize the water available for diversion and the factors that limit recharge capacity (development of a monitoring program is part of Project Category 4). PVPA has explored some options for increasing groundwater recharge activities in the SASG. As described in Chapter 3, *Project Description*, a new recharge basin would be developed by excavating the aggregate material available in the SASG.

Figure 3-7, *Facilities Map for San Antonio Spreading Grounds*, identifies an area below the existing LACFCD recharge basins for development of a new recharge basin. Initially, the Strategic Plan identified the development of a series of cascading basins located on the Los Angeles County side of the SASG generally between the existing recharge basins and a point north of E. Pomello Drive. Subsequently, a second option is being considered instead of the cascading basins. This project would provide recharge capacity within an approximately 50-acre area to a depth of 150-200 feet. The excavated material would be crushed on-site then conveyed across the SASG to the existing Holliday Rock conveyor system located on the east side of the San Antonio Channel (see Figure 3-7). It is estimated that approximately 20 million tons of aggregate material would be excavated with typical aggregate mining equipment (dozers, scrapers) and hauled to a portable crusher within the excavation area over a five-year period (2.5 million tons per year). Excavation can be completed within three to five years at which time the crusher and conveyor system would be removed and the basin would become operational. Therefore, the development of a new recharge basin and related infrastructure in the SASG would result in an opportunity to recover available aggregate material resources.

Operation of the new SASG recharge basin would not preclude extraction of additional aggregate material during maintenance of the basins over time. Therefore, at the new SASG site, there would be a less than significant impact on mineral resources.

Thompson Creek Spreading Grounds

Figure 3-8 in Chapter 3, *Project Description*, shows the proposed enhancements in the TCSG. The entire PVPA site is approximately 140 acres and the proposed new basins would encompass approximately 25 acres in the area lying south of the dam and north of the channel. Development of this project would require the extraction of aggregate material to a depth to be determined during final design of the project. For the purposes of the Air Quality Analysis, an area of approximately 25 acres to a depth of up to 20 feet was assumed. Operation of these basins would not preclude extraction of additional aggregate material during maintenance of the basins over time. Therefore, at the Thompson Creek Spreading Grounds, there would be a less than significant impact on mineral resources.

Specifically, regarding the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, as discussed in the Environmental Setting Section above, no available mineral resources would be affected by the implementation of the proposed Strategic Plan within the cities of La Verne or Pomona, or within the portion of the Los Angeles County East San Gabriel planning area that overlays the Six Basins project area. Likewise, the Six Basins projects would not affect mineral resources in unincorporated areas of San Bernardino County.

Available resources within the Six Basins project area are all located within the cities of Claremont and Upland. Both cities acknowledge the importance of mineral resources, specifically aggregate material, in their general plans and have established goals and policies for the protection of these resources. However, the both the TCSG and SASG project sites are located in the City of Claremont, therefore, only the City of Claremont is discussed herein.

General Plan

The general plan land use designation for the SASG and TCSG sites is Park and Resource Conservation. The Open Space, Parkland, Conservation and Air Quality Element includes goals and policies for the protection and conservation of State-designated mineral resources. Goal 5-17 states:

Protect and conserve state-designated significant mineral resources from land uses that threaten their availability for future mining and require that any future mining of those resources will not adversely impact the environment or the livability of Claremont's residential neighborhoods.

Policies developed to ensure that mineral resources would be protected from land uses that threaten their availability include the protection of mineral resource deposits in designated areas of regional significance (Policy 5.17-1); balancing the regional need to produce mineral resources against other City goals (Policy 5.17-2); balancing the importance of mineral

resources against alternative land uses and consider the value of minerals in their market region or to the State (Policy 5.17-3); and require that sufficient mitigation be provided to eliminate land use conflicts between an approved non-mining use and any future mining of the mineral resources (Policy 5.17-4).

Zoning

The SASG and TCSG sites are located in Parks/Resource Conservation (P/RC) zoning district. The P/RC district is intended to assure open space areas for a variety of uses including for the protection and conservation of mineral resources.

The City of Claremont has adequately addressed the issue of mineral resources within its corporate boundaries through the development of general plan goals and policies as well as designating areas where mineral resources are known to ensure conservation and protection of the resources. Therefore, this impact would be less than significant.

Project Category 3: Temporary Surplus Projects

Determination: Less than Significant Impact.

Impacts would be the same as Project Category 1 which were found to be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.7.4 Cumulative Impacts

Geology and Soils

Future cumulative development in the Six Basins project area may experience significant impacts associated with fault rupture and strong seismic groundshaking, that could in turn trigger seismic-related geological hazards such as liquefaction and landslides. Future projects including those proposed by the Six Basins Watermaster Parties, when combined with other projects envisioned in the cities' and counties' general plan land use and population projections would subject new residents and habitable structures to seismic-related hazards. Therefore, this impact is considered to be cumulatively significant before mitigation measures are implemented.

Paleontological Resources

In addition to proposed Strategic Plan projects, projected growth in residential, commercial, and industrial land uses are anticipated to occur in the Six Basins project area. The project area may contain significant paleontological resources, however, at this time, this is unknown. Therefore, there is the potential for construction of future development projects, including the Six Basins Strategic Plan projects, to adversely impact known or unknown paleontological resource sites.

The potential construction impacts of the Six Basins projects, in combination with other projects as a result of growth in the area, could contribute to a cumulatively significant impact on paleontological. Therefore, the project's cumulative effects to paleontological resources would be cumulatively considerable and cumulative impacts would be potentially significant before mitigation measures are implemented.

Mineral Resources

In 2007, the California Geological Survey, Department of Conservation published an update of the Mineral Land Classification for Portland Cement Concrete (PCC) Grade Aggregate in the Claremont-Upland Production-Consumption Region. The conclusions reached were:

1. As of January 2006, four mines were producing PCC-grade aggregate in the region.
2. The anticipated consumption of aggregate in the region through 2056 is estimated to be 240 million tons of which 169 million tons must be PCC quality.
3. Since 1984, permitted PCC-grade aggregate reserves have increased from 55 million tons to 121 million tons extending the projected depletion date from 1991 to 2034.
4. About 19 percent or 821 acres of the 4,310 acres of lands designated in 1987 has been lost to land uses incompatible with mining. This equates to 110 million tons of PCC-grade aggregate resources lost.

Implementation of the Strategic Plan and projects developed to enhance stormwater and supplemental water recharge at the SASG and TCSG would not result in a loss of aggregate resources because these projects do not include the development of permanent buildings or other improvements that would preclude the extraction of aggregate resources in the future. Therefore, the project would not contribute to a cumulative impact to mineral resources.

4.7.5 Mitigation Measures

Geology and Soils

On a project-by-project basis, in order to reduce the potential impacts from strong seismic groundshaking and non-seismically induced geologic hazards, the following mitigation measure shall be implemented:

- GEO-1 Should a project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the project proponent shall consider relocating the

project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation.

- GEO-2 Prior to construction of a project, a design-level geotechnical investigation shall be completed. The investigation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, and potential for subsidence to occur. The geotechnical investigation shall recommend site-specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of individual projects.

Paleontological Resources

- GEO-3 For project-level development involving ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If deemed necessary, the paleontologist shall conduct a paleontological resources inventory designed to identify potentially significant resources. The paleontological resources inventory would consist of: a paleontological resource records search to be conducted at the San Bernardino County Museum and/or other appropriate facilities; a field survey or monitoring where deemed appropriate by the paleontologist; and recordation of all identified paleontological resources.

Mineral Resources

Implementation of the Six Basins Strategic Plan and related projects in the TCSG and SASG would not have a significant impact because the proposed improvements to the spreading grounds in particular do not include the development of any permanent urban structures.

4.7.6 Level of Significance After Implementation

Geology and Soils

Implementation of mitigation measure GEO-1 would require the relocation of a proposed project whose site may be within an Alquist-Priolo Fault Zone. If relocation is not feasible, then the Watermaster Party proposing a project must ensure that a project is designed and constructed in accordance with a project specific geotechnical investigation (GEO-2). Implementation of mitigation measures GEO-2 would require a design level geotechnical investigation to be completed that would identify potential geologic hazards. Adherence to recommendations set forth in the geotechnical investigation would reduce the risk from geologic hazards to less than significant levels.

Paleontological Resources

As outlined in the Regulatory Setting Section above, most of the agencies in the Six Basins project area have addressed the potential for paleontological resources to be adversely affected during construction of proposed projects and have established general plan policies and programs that address the potential impacts to unknown paleontological resources. For those cities that have not specifically addressed these resources, the CEQA Guidelines require paleontological resources to be addressed in CEQA documents. Therefore, with implementation of mitigation measures as set forth in respective general plans and/or general plan program EIRs, and mitigation measure GEO-3 in this Six Basins Strategic Plan Program EIR, impacts on paleontological resources would be less than significant on a project level and on a cumulative level.

Mineral Resources

Implementation of the Six Basins Strategic Plan and related projects would not have a significant impact on mineral resources because the proposed improvements to the TCSG and SASG do not include the development of any permanent urban structures. On a cumulative level, because Strategic Plan projects would not contribute to the severity of a cumulative impact, implementation of the Strategic Plan would be less than cumulative significant.

4.7.7 References

Geology and Soils

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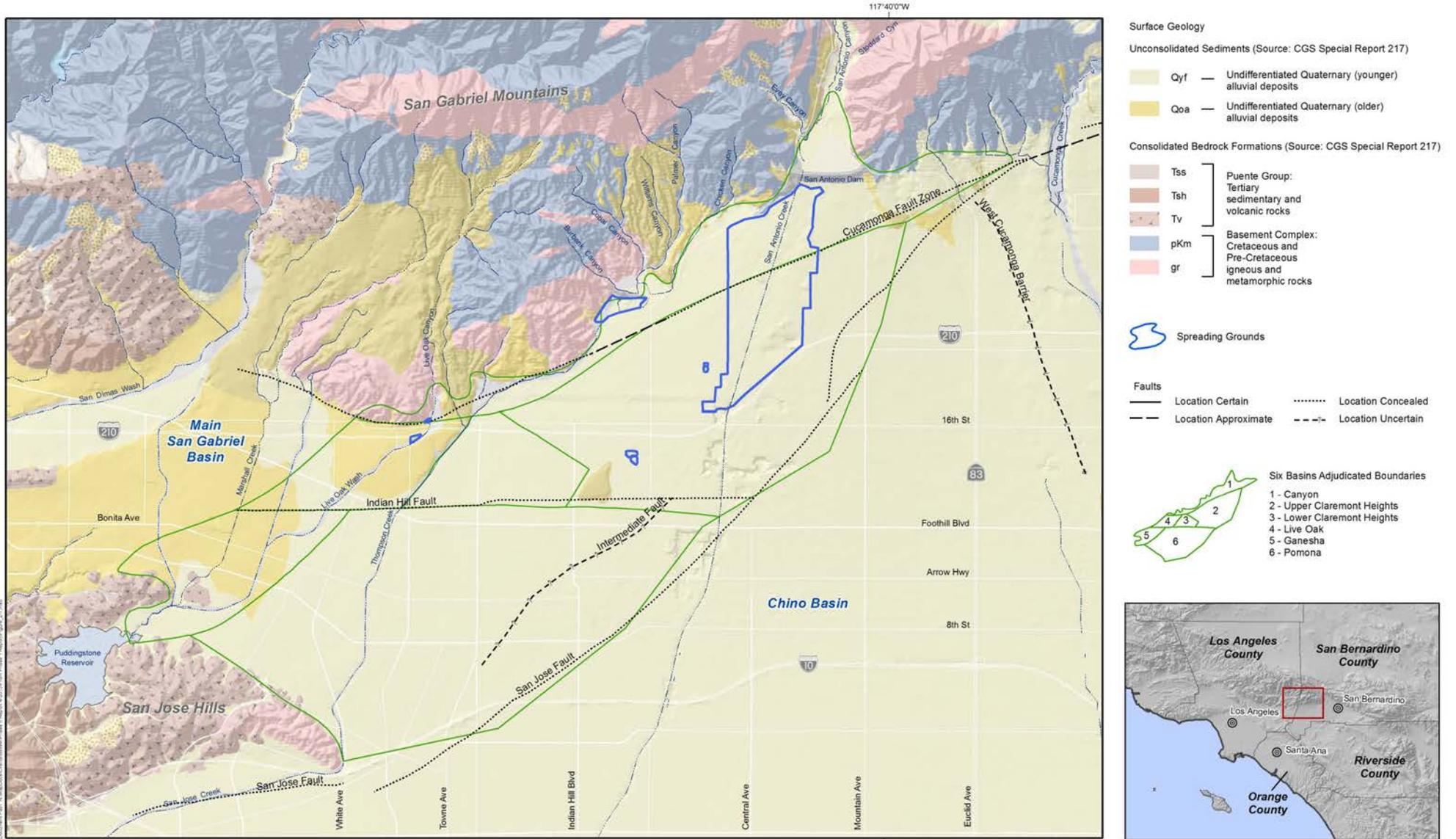
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Source: WEI Figure 2-7



Figure 4.7-1
Geologic Map of the Six Basins Project Area

6 Basins
Strategic Plan - Program EIR

4.8 Hazards and Hazardous Materials/Airport Safety/Wildfire Hazards

4.8.1 Introduction

This section addresses issues related to hazards and hazardous materials within the Six Basins project area; describes the physical and regulatory settings, the baseline for determining environmental impacts, the criteria used for determining the significance of environmental impacts, and the potential impacts associated with implementation of the Strategic Plan and related projects.

This section also addresses airport safety zones and the requirements for the development of projects within those zones as established in an airport's *Airport Land Use Compatibility Plan*.

In addition, this section addresses issues related to wildfires and the proximity of future Strategic Plan projects to be located within State designated Fire Hazard Severity Zones.

Finally, this section addresses existing conditions regarding groundwater in the basins that have been adversely affected by past industrial uses on sites overlying the Six Basins project area. Groundwater quality, point source contamination, and Six Basins Watermaster Parties' efforts to pump and treat groundwater are also described and evaluated in Section 4.9, *Hydrology and Water Quality*.

4.8.2 Environmental Setting

Hazardous Materials

Definition of Hazardous Materials

Hazardous materials, as defined by the State Department of Toxic Substances Control (DTSC) in the California Code of Regulations (CCR, Title 22, Division 4.5), are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed of, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic (causes human health effects);
- Ignitable (has the ability to burn);
- Corrosive (causes severe burns or damage to materials); and
- Reactive (causes explosions or generates toxic gases).

The State Health and Safety Code Chapter 6.95, Section 25501(p) defines a “hazardous material” as any material that, because of quantity, concentration, or physical or chemical

characteristics, poses a significant present or potential future hazard to human health and safety or to the environment if released into the workplace or the environment.

Further, a hazardous waste is defined as any hazardous material that is discarded, abandoned, or slated to be recycled. If not properly handled, hazardous materials and hazardous waste can result in public health hazards if released into the groundwater or through airborne releases as vapors, fumes, or particulates (dust). Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer.

Individuals are typically exposed to hazardous materials through inhalation or bodily contact. Exposure can come as a result of an accidental release during transport, storage, or handling of hazardous materials or hazardous wastes. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transport of soils contaminated by hazardous materials from previous spills or leaks. Likewise, hazardous materials such as asbestos or lead-based paints may be present in building materials and released during demolition. If not properly handled, hazardous materials can cause health hazards when released to the soil, groundwater, or air.

Six Basins Project Area

Types of Hazardous Materials that may be Associated with Strategic Plan Projects

Hazardous materials, such as asbestos-containing materials, lead-based paint, and polychlorinated biphenyls (PCBs), may be contained in existing buildings/structures, particularly if existing facilities proposed for rehabilitation were constructed prior to 1980. The use of such building materials in new construction was phased out by the early 1980s.

Asbestos

Asbestos is a naturally-occurring fibrous material that was used as a fireproofing and as an insulating agent in building construction before such uses were banned by the EPA in the 1970's. The presence of asbestos can be found in such materials as ducting insulation, wallboard, roofing shingles, ceiling tiles, floor tiles, insulation, plaster, floor backing, and many other building materials. Such materials are considered both a hazardous air pollutant and a human health hazard. The risk to human health is from inhalation of airborne asbestos, which commonly occurs when asbestos containing materials are disturbed during demolition and/or renovation activities. Based on the age of some of the facilities, asbestos containing materials may be found in some of the well pump buildings that would undergo rehabilitation.

PCBs

PCBs are organic oils that were used in some types of electrical equipment, such as transformers and capacitors, primarily as electrical insulators. They may also be found in hydraulic fluids. Exposure to PCBs may cause various health effects and were found to be highly persistent in the environment. Therefore, the EPA listed PCBs as carcinogens and banned them from use in electrical capacitors, electrical transformers, vacuum pumps, and

gas turbines in 1979. PCBs may be present in some of the electrical rooms within well pump buildings.

Lead-based Paint

Lead -based paint was specifically outlawed by the US Consumer Product Safety Commission due to the hazard it poses when it chips or is otherwise disturbed. Of particular concern is dust particles that result during paint removal (e.g., sanding and scraping) that can create dust. Lead-based paint may be present in structures that were build prior to 1978.

Hazardous Materials in Soil and Groundwater

Historically, the Six Basins project area included agricultural uses where pesticides and herbicides were likely used over several years and may have resulted in contaminated soil. More recently, some urban uses in the project area have resulted in soil and groundwater contamination including gas stations and other fueling stations located at industrial facilities (e.g., airports, corporate yards, trucking facilities) that have resulted in contamination of groundwater. Groundwater contamination is known to occur in the Six Basins project area in the cities of Pomona and La Verne specifically related to long term industrial uses. This is discussed in detail in Chapter 2, *Existing Conditions*.

California Government Code Section 65962.5 requires State and local agencies to compile and update, at least annually, lists of hazardous waste sites and facilities. The list referred to in this Code section is known as the Cortese List, that is actually a series of lists maintained by DTSC in its databases. For example, EnviroStor was created by DTSC and provides access to detailed information on hazardous waste permitted and corrective action taken at facilities, as well as existing site cleanup information. In addition, the State Water Resources Control Board (SWRCB) maintains the GeoTracker database. Geotracker was created to manage data for sites that may impact groundwater; such as sites with underground storage tanks (USTs), Department of Defense sites, and permitted facilities such as landfills. Others include the List of Active Water Board Cease and Desist Orders or Clean up and Abatement Orders and the List of Hazardous Waste Facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code identified by DTSC. Searches of these databases, including review of RWQCB cleanup and abatement orders, and groundwater monitoring reports specific to the three large contributors to groundwater contamination in the Six Basins project area, were conducted during the preparation of the Strategic Plan, and during the preparation of this Program EIR. The three large contributors are the Xerox site in the City of Pomona, and the Victor Graphics and the United Production Service sites in the City of La Verne. Results are described in detail in Chapter 2, *Existing Conditions*.

Hazardous Waste Generators

There are many types of businesses that use hazardous materials or produce hazardous waste. Small businesses such as dry cleaners, auto repair shops, medical facilities or hospitals, and metal-plating shops are typical users of hazardous materials or that generate small quantities of hazardous waste. The EPA defines small-quantity generators as facilities that produce between 100 and 1,000 kilograms (kg) of hazardous waste per month

(approximately equivalent to between 220 and 2,200 pounds, or between 27 and 275 gallons). Larger businesses such as chemical manufacturers, large electroplating facilities, and petroleum refineries, can generate large quantities of hazardous waste. The EPA defines a large-quantity generator as a facility that produces over 1,000 kg (2,200 pounds or about 275 gallons) of hazardous waste per month. Both small and large quantity generators must be fully regulated under the Resources Conservation and Recovery Act of 1976 (RCRA), described below under “Regulatory Setting” below.

Leaking Underground Storage Tanks

LUSTs are one of the greatest environmental threats because of the numbers that are commonly found in urban areas like the Six Basins project area. As an example, the City of Pomona, in its General Plan Update Program EIR, identified through database searches conducted in 2014, that there were 152 underground storage tank leaks. At the time of the preparation of the Program EIR the status of 113 of the sites was “completed case closed”, meaning that a closure letter or other formal closure decision document has been issued for the site by the State Water Resource Control Board. The remaining 39 cases were still open and in various stages of assessment, remediation, or monitoring. However, in the intervening five years, many of these cases may be further along in the assessment and remediation process or may have already been resolved and closed. The assessment of LUSTs is an on-going process as older tanks start to leak, are identified, and remediation is completed.

Schools

There a number of schools ranging from elementary schools to universities located within the Six Basins project area. Some are located in proximity to Strategic Plan project sites, these are listed in Table 4.8-1, *Schools Located Proximate to Six Basins Project Sites*. The CEQA threshold is whether a site is located within $\frac{1}{4}$ mile from a school, and whether that site emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within $\frac{1}{4}$ mile of an existing or proposed school. Table 4.8-1 shows that a third of the existing sites lie within $\frac{1}{4}$ mile of a school.

Airports

There are two general aviation airports within the Six Basins project area, Brackett Field in the City of La Verne and Cable Airport in the City of Upland. The Ontario International Airport is located approximately 8 miles southeast of the southerly boundary of the Six Basins project area. However, even at that distance, the project area largely falls within that airport’s Airport Influence Area (AIA).

Table 4.8-1 Schools Located Proximate to Six Basins Project Sites

Project Site	School	Location	Distance from site	Direction
Lincoln Mills Site	J. Marion Roynon Elementary School	2715 E Street, La Verne	0.38 mile	Northwest
	Bonita High School	3102 D Street, La Verne	0.58 Mile	Northwest
	La Verne University	1950 3 rd Street La Verne	0.69 mile	Southwest
Reservoir 5 Site	Barfield Elementary School	2181 N San Antonio Ave, Pomona	0.25 mile	Northeast
	Pomona High School	475 Bangor St Pomona	0.35 mile	North
	Pacific Baptist College	395 San Bernardino Ave, Pomona	0.19 mile	South
	Palomares Academy of Health Science	2211 N Orange Grove Ave, Pomona	0.48 mile	Northwest
	Emerson Middle School	635 Lincoln Ave, Pomona	0.58 mile	Southwest
	Yorba Elementary School	250 W La Verne, Pomona	0.73 mile	Northwest
Durward Site	J Marion Roynon Elementary School	2715 E Street, La Verne	0.66 mile	North
	La Verne University	1950 3 rd Street La Verne	0.34 mile	Northwest
Del Monte Site	Claremont Colleges	747 N Dartmouth Ave, Claremont	0.16 mile	North
	Oakmont Elementary School	120 W Green St, Claremont	0.12 mile	Southwest
	San Antonio High School	125 W San Jose Ave, Claremont	0.67 mile	Southwest
Thompson Creek Spreading Grounds	No Schools in proximity	--	--	--
San Antonio Spreading Grounds	No Schools in proximity	--	--	--
Pedley Spreading Grounds	Chaparral Elementary School	451 Chaparral Dr. Claremont, CA	0.1 mile	Northwest
Fairplex	No Schools in proximity			
P20 Well Site	Claremont High School	1601 N Indian Hill Blvd, Claremont	0.08 mile	Northeast

Source: Google Earth Search conducted August 1, 2019.

Regulatory Setting

Federal

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate destination for disposal. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from underground storage tanks (USTs). The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. All USTs must meet performance standards to ensure that the stored substances will not corrode the tanks and require correct filling practices. In addition, owners and operators must report the existence of new UST systems, suspected releases and UST system closures; and keep records of operation and maintenance.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 introduced active federal involvement with emergency response, site remediation, and spill prevention, most notably through the Superfund program. The act was intended to be comprehensive and encompass both the prevention of, and response to, uncontrolled hazardous substances release. The act includes environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it is also designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

State

California Health and Safety Code

The California Environmental Protection Agency (CalEPA) has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Sections 25531, et. seq. incorporates the requirements of Superfund Amendments and Reauthorization Act, and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 requires facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP). The RMP must be submitted to the appropriate local authorities, the designated local administering agency, and the CalEPA for review and approval.

Department of Water Resources (DWR)

DWR maintains a database (Geotracker) of Leaking Underground Storage Tank (LUST) sites that have resulted in the release of petroleum hydrocarbons such as diesel fuel, gasoline, motor oil and waste oil. Some sites may be listed because of releases of dry-cleaning solvents. Open cases may be in the site assessment phase to investigate the extent of known releases or undergoing active remediation of groundwater contamination. As described in Chapter 2, *Existing Conditions*, DWR's GeoTracker database was searched as part of research conducted during preparation of the Strategic Plan. See Section 2.7, *Groundwater Treatment*, for a discussion hazardous waste generators and groundwater contamination.

California Environmental Protection Agency Unified Program

CalEPA administers the Unified Program that consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. State agencies responsible for these programs set the standards for their program while local governments implement the standards. CalEPA oversees the statewide implementation of the Unified Program and the certified local government agencies, known as Certified Unified Program Agencies (CUPAs), which apply regulatory standards established by five different state agencies. Within the Six Basins project area, the CUPAs are the Los Angeles County Fire Department, Health and Hazardous Materials Division (HHMD) and the San Bernardino County Fire Department Hazardous Materials Division. CUPAs are responsible for carrying out enforcement activities for the following environmental and emergency management programs:

- Hazardous Waste
- Hazardous Materials Business Plan
- California Accidental Release Prevention Program
- Underground Hazardous Materials Storage Tanks
- Aboveground Petroleum Storage Tanks / Spill Prevention Control & Countermeasure Plans
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment (tiered permitting) Programs

The following State agencies are involved with the Unified Program:

Department of Toxic Substances Control (DTSC)

DTSC provides technical assistance and evaluation for the hazardous waste generator program including onsite treatment (tiered permitting). DTSC keeps a database (EnviroStor) of facilities where hazardous material/waste may have been released and oversees cleanup at facilities with environmental concerns related to hazardous materials/waste. DTSC also monitors facilities that require further investigation based on past or present uses where hazardous materials/wastes releases may have occurred.

Governor's Office of Emergency Services (OES)

The Governor's Office of Emergency Services is responsible for providing technical assistance and evaluation of the Hazardous Material Release Response Plan (Business Plan) Program and the California Accidental Release Response Plan (CalARP) Programs.

Office of the State Fire Marshal (OSFM)

The Office of the State Fire Marshal is responsible for ensuring the implementation of the Hazardous Material Management Plans and the Hazardous Material Inventory Statement Programs. These programs tie in closely with the Business Plan Program.

State Water Resources Control Board (SWRCB)

The State Water Resources Control Board provides technical assistance and evaluation for the UST program in addition to handling the oversight and enforcement for the aboveground storage tank program.

Airport Land Use Compatibility

As described above, Brackett Field in the City of La Verne and Cable Airport in the City of Upland are located within the Six Basins project area. The Ontario International Airport is located approximately 8 miles southeast of the southerly boundary of the Six Basins project area. Table 4.8-2, *Strategic Plan Sites and Proximity to Airports*, shows the distance between each of the Strategic Plan project sites and the three airports.

Table 4.8-2 Strategic Plan Sites and Proximity to Airports

Project Site	Distance from Brackett Field		Distance from Cable Airport		Distance from Ontario International Airport	
	Distance in miles	Direction	Distance in miles	Direction	Distance in miles	Direction
Reservoir 5	1.90	E	3.50	SW	7.00	NW
Durward 2	0.32	NE	4.50	SW	8.80	NW
Lincoln Mills		N	4.00	SW	8.5	NW
Old Baldy	0.75	N	1.65	SW	9.00	NW
Del Monte 4	3.40	E	1.65	SW	5.75	NW
San Antonio Spreading Grounds	5.75	NE	2.30	NW	7.40	NW
Thompson Creek Spreading Grounds	5.00	NE	1.90	NW	7.25	NW
Pedley Spreading Grounds	4.00	NE	0.95	NW	6.25	NW
Los Angeles County Fairplex	0.50	SE	4.75	SW	8.50	NW
P-20 Well	3.25	NE	1.85	NW	7.00	NW

Source: Google Earth Search conducted August 12, 2019.

Airport Land Use Compatibility Plans (ALUCP) prepared for each of these airports include policies that set limits on future land uses and development near an airport in response to noise, safety, airspace protection, and overflight impacts of current and future airport

activity. The types of land uses are generally those that would result in the presence of residents or employees on-site for extended periods of each day (houses, office buildings, commercial centers, etc.). The geographic extent of each of these impacts differ with the size and location of the airport. An ALUCP sets forth land use compatibility policies that are intended to ensure that future land uses in the surrounding area will be compatible with potential long-range aircraft activities at the airport, and that the public's exposure to airport safety hazards and noise impacts are minimized. An ALUCP provides the basis by which the Airport Land Use Commission (ALUC) and local agencies located within the AIA carry out land use development review responsibilities in accordance with State law. The ALUC in each county retains land use development review of applicable projects until the affected local agencies' general and specific plans have been deemed consistent with the ALUCP.

Brackett Field Airport

Brackett Field Airport is a Los Angeles County-owned/operated general aviation airport located at 1615 McKinley Avenue, within the City of La Verne. The *Brackett Field ALUCP* was adopted by the County of Los Angeles ALUC in 2015. A portion of the City of La Verne is located within the Brackett Field AIA and development within this area would therefore be subject to the ALUCP.

The ALUCP divides the AIA into seven different zones and provides guidelines on issues such as land use and building height. There are three general categories—normally compatible, conditional, or incompatible—to indicate the recommendations for a stated issue based on a site's proximity to the airport. Most of the City of La Verne falls into Zone D or Zone E which have the fewest restrictions and are categorized as having “normally compatible” or “conditional” land use acceptability across most categories. For example, the zone closest to the runway should not have buildings over three stories tall, trees higher than 35 feet, or serve as an attraction for birds or other wildlife. None of the projects identified in the Strategic Plan include habitable structures or buildings/structures of significant height that would interfere with the operation of the Brackett Field Airport.

Cable Airport

Cable Airport is a private general aviation airport located at 1749 W. 13th Street in the City of Upland. The Draft *Cable Airport ALUCP* was prepared in 2014 in conjunction with efforts by the City of Upland to update its general plan. The Final ALUCP was adopted in 2015. Guidance contained in the plan was incorporated into the general plan to help ensure that future land use development projects around the airport are compatible with airport activity. The ALUCP and Use Compatibility Map (<https://www.uplandca.gov/cable-airport-land-use-comp-plan>) shows that the more restrictive zones are located in close proximity to the airport runway. The AIA for Cable Airport extends to a point west of Indian Hill Blvd, south to the I-10 Freeway and north of the 210 Freeway. With the exception of the City of Upland, most of the Six Basins project area lies within Zone D and Zone E, the least restrictive zones where there is no limit on the number of people that may occupy the site; maximum

lot coverage may reach 100 percent; and structures and trees may reach heights of 100 feet above the ground surface. Conditional uses include any use having the potential to cause an increase in the attraction of birds or other wildlife.

Ontario Airport

Ontario International Airport is located at 2500 East Airport Drive in the City of Ontario. The Ontario ALUCP was adopted by the City of Ontario in 2011. The Six Basins project area is within the AIA for the airport and includes portions of the cities of Claremont, Pomona, and Upland, as well as the unincorporated area of Los Angeles and San Bernardino counties that are surrounded by these cities. A review of the Ontario Airport Policy maps concluded that some policies would apply to future Strategic Plan projects. This is discussed further in Section 4.8.2, *Project Impacts*, under Impact 4.8-4, *Airport Compatibility*.

Wildland Fire Hazards

California Department of Forestry and Fire Protection (CAL FIRE) maps the Fire Hazard Severity Zones (FHSZ) for the region, including the cities within the Six Basins project area. The FHSZ are based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance, and fire history. The area contains moderate, high, and very high fire severity zones as shown on *Figure 4.8-1, CalFire Fire Hazard Severity Zones in the Project Area*. The Six Basins project area is located in proximity to the San Gabriel mountains and projects such as new recharge basins in the SASG and TCSG fall within a FHSZ.

California Building Code and Fire Code

Chapter 7A of the California Building Code (CBC), *Materials and Methods for Exterior Wildfire Exposure*, prescribes building materials and construction methods for new buildings in a fire hazard severity zone. The chapter contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures.

Chapter 49 of the California Fire Code (CFC), *Requirements for Wildland-Urban Interface Fire Areas*, prescribes construction materials and methods in fire hazard severity zones; requirements generally parallel CBC Chapter 7A. Under both Fire Code chapters, the intent is to protect habitable structures such as residences, office buildings, schools, hospitals, etc. The Strategic Plan projects do not include habitable structures.

California Public Resources Code

Defensible Space Regulations

Public Resources Code (PRC) Sections 4291 et seq. require that brush, flammable vegetation, or combustible growth within 100 feet of buildings be removed. This requirement does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other

nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the immediate 30 feet around the structure.

State Responsibility Area (SRA) Fire Safe Regulations

SRA Fire Safe Regulations outline basic wildland fire protection standards. These regulations can decrease the risk of wildfire events in the wildland-urban interface. SRA Fire Safe Regulations do not supersede local regulations that equal or exceed minimum State regulations. Requirements in PRC, Section 4290 include information on:

- Road standards for fire equipment access
- Standards for signs identifying streets, roads, and buildings
- Minimum private water supply reserves for emergency fire use
- Fuel breaks and greenbelts

Los Angeles County Fire Hazard Reduction Programs

To reduce the threat of wildfires, the Los Angeles County Fire Department, Forestry Division implements a number of Fire Hazard Reduction Programs. According to the web site one of these programs is the Brush Clearance Program, a joint effort between the County of Los Angeles Fire Department and the County of Los Angeles Department of Agricultural Commissioner/Weights and Measures, Weed Hazard and Pest Abatement (Weed Abatement Division). This program allows the County to legally declare both improved and unimproved properties a public nuisance, and where necessary, require the clearance of hazardous vegetation. The result is the creation of “defensible space” for effective fire protection of property, life and the environment. In addition, and specific to improved properties, the Fire Department’s Brush Clearance Unit enforces the Fire Code as it relates to brush clearance, coordinates inspections and compliance efforts with fire station personnel, and provides annual brush clearance training to fire station personnel.

San Bernardino County Fire Hazard Abatement Program

To reduce the threat of wildfires, the San Bernardino County Fire Department’s Fire Hazard Abatement (FHA) program enforces the fire hazard requirements in San Bernardino County Code Sections 23.0301 through 23.0319. The FHA program establishes the requirements for creating defensible space and the reduction and/or removal of flammable materials on properties. Through the FHA program, the Fire Department conducts surveys to identify fire hazards throughout the year, and when hazards are identified, sends notices to property owners to abate the hazard(s). Upon receipt of the notice to abate, property owners have 30 days to abate the hazard(s). Failure to abate may result in citations, penalties, and/or fees. Through the FHA program, the San Bernardino County Fire Department responds to complaints year-round in the unincorporated areas and contracting cities and fire districts. In the Six Basins project area the unincorporated community of San Antonio Heights and the City of Upland would fall under the requirements of the San Bernardino County FHA program.

Local Planning Efforts

The Six Basins underlay all or portions of the cities of Claremont, La Verne, Pomona and Upland. The easterly extension of the Canyon Basin underlays a portion of the unincorporated residential community of San Antonio Heights in San Bernardino County. In addition, there are a few small unincorporated Los Angeles County islands in the cities of Claremont, La Verne and Pomona.

Article 5 of the California Government Code entitled *Regulation of Local Agencies by Counties and Cities*, sets forth the requirements for compliance with applicable county and city building and zoning ordinances. Watermaster Parties that will be responsible for the construction, operation and maintenance of new projects under the Strategic Plans are specifically exempt from such ordinances under Section 53091(d) and (e) which specify that “(d) building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency, and (e) zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities ...”

Even though Strategic Plan projects are not directly affected by city ordinances, they would still be subject to the following requirements:

- Compliance with the California Building Code (CBC) as administered by local agencies.
- If a project would handle more than a specified amount of hazardous materials, a project proponent (Watermaster Party) is required to submit a business plan to a regulating agency. In the Six Basins project area, the regulatory agencies would be the Counties of Los Angeles and San Bernardino.
- If a project site is located within the boundary of an Airport Land Use Plan, the project would be subject to compliance with a relevant Airport Land Use Plans for land use restrictions due to proximity of a project site to an airport runway.
- If a project site is located in a high fire hazard area, the project would be subject to requirements of the CBC and any Natural Hazards Mitigation Plan developed by the relevant city within the project area.

Sensitive Receptors

Facilities occupied by sensitive receptors include hospitals, convalescent/nursing homes, daycare centers and preschools, and schools. These facilities are occupied by children and older adults that are more adversely affected by exposure to toxic chemicals and other hazardous materials. There are numerous sensitive receptors located within the Six Basins project area and there is the potential for them to be located within 1/4 mile of existing and proposed production/monitoring wells and water treatment facilities.

4.8.3 Project Impacts

Thresholds of Significance

Implementation of the Strategic Plan for the Six Basins would have a significant impact on the environment for Hazards and Hazardous Materials, Airport Land Use Compatibility, and Wildfire, if it would result in any of the following:

Hazardous Materials

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Airport Land Use Compatibility

5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Wildfire Hazards

6. Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?
7. Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Note: this statement is a combination of Hazards and Hazardous Material threshold 6 and Wildfire threshold 1 of the CEQA Appendix G checklist)
8. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?
9. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

10. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Impact Evaluation

Hazardous Materials

Impact 4.8-1

Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Threshold 1); and

Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Threshold 2)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells; (2) increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or (3) expanding the existing air stripping facility or constructing a granular activated carbon (GAC) facility to remove constituents.

Construction

Construction activities associated with the installation of proposed improvements to sites in this project category include drilling, trenching, excavation or other ground disturbing activities to upgrade existing production wells and related pumps, meters, etc.; and new treatment facilities (ion exchange, biological treatment, or GAC). Construction activities may require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, and other similarly related materials; generally, in support of heavy equipment use and drilling operations. In addition, other materials such as paints, adhesives, solvents, and other substances typically used in construction may also be used on-site during construction. Improper use, storage, or transport of hazardous materials could result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction projects, and there would be no greater risk for improper handling, transport, or spills associated with any of the Project Category 1 projects than would occur on any other similar construction site.

Construction contractors employed by the Six Basins Watermaster Party responsible for the development of a Project Category 1 project would be required to comply with all applicable federal, State, and local laws and regulations pertaining to the transport, use, disposal and storage of hazardous construction-related materials or waste during construction. These include but are not limited to requirements imposed by the EPA, DTSC, and the Santa Ana or Los Angeles RWQCBs. For example, The State’s Construction General Permit, implemented through the National Pollutant Discharge Elimination System (NPDES) requires that for construction sites that would disturb one acre or greater, a project proponent must develop and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include specific Best Management Practices (BMP) to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. For construction sites that disturb less than one acre, BMPs are still required to be implemented although not through the formal SWPPP process but through the County’s municipal separate storm sewer system (MS4) permit. Essentially, the MS4 permit is a SWPPP for a local jurisdiction responsible for conveying stormwater through its storm drain system. Mitigation measure HWQ-2 in Section 4.9, *Hydrology and Water Quality*, sets forth the requirement to implement BMPs during project construction.

For any project, regardless of the size of the area of disturbance, good housekeeping during construction would include, but not be limited to the following:

- Storage of any material or substance that may be considered hazardous, in an enclosed area, to keep it away from the elements
- Install perimeter controls to prevent the potential for pollutants to drain off-site during a storm event, or during well drilling, if well rehabilitation requires drilling.
- Keep lids on containers and clean up spills immediately.

Additional BMPs can be found in EPA’s *National Menu of Stormwater Best Management Practices* (<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu>)

Therefore, with implementation of BMPs, potential impacts associated with the construction of Project Category 1 projects would be less than significant and no mitigation is required.

Operation

Treatment facilities

The Strategic Plan described a series of contaminants known from groundwater monitoring/testing, including the following:

- Constituents associated with salt and nutrient management planning, which are primarily Total Dissolved Solids and nitrate.
- Other constituents where a primary or secondary Maximum Contaminant Level (MCL) was exceeded in five or more wells from 2007 to 2011, which include TDS, nitrate, and perchlorate.

- Constituents associated with known point-source contamination sites, which include trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), and hexavalent chromium (Cr-6).
- Constituents for which the Department of Water Resources Division of Drinking Water (DDW) is in the process of developing an MCL that may impact future beneficial use of groundwater, which include hexavalent chromium and 1,2,3- trichloropropane (1,2,3-TCP).

In addition, the Strategic Plan provided maps (see Program EIR Appendix E) that show the areal distribution of groundwater quality for the constituents of potential concern (COPCs) listed above. The maximum concentration measured at each well from 2007 to 2011 is displayed by circle size and color. Table 4.8-3, *Groundwater Constituents of Potential Concern and Treatment Facilities*, lists the contaminants known to occur in the Six Basins, the current treatment methods, and proposed additional treatment methods.

Table 4.8-3 Groundwater Constituents of Potential Concern and Treatment Facilities

Site	Known Constituents of Potential Concern	Current Treatment	Proposed Additional Treatment
Reservoir 5	Concentrations of DCE Chromium-6 Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove Cr-6, nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove DCE
Lincoln/Mills	Concentrations of TCE Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove TCE
Del Monte 4	Concentrations of TCE, Arsenic	GAC system	(1) construct an arsenic treatment system
Durward 2	Concentrations TCE Nitrate Perchlorate	No facilities, well has been removed	(1) construct new well; (2) construct new air stripping, GAC; IX and/or biological treatment facilities at the new well to treat TCE, nitrate, perchlorate
Old Baldy Well	Concentrations of Nitrate Perchlorate	Well has been inactive since 2002 due to high	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate
P-20 Well ¹	Concentrations of Nitrate	Well has been inactive since 2002 due to high nitrate concentrations	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate

Source: Strategic Plan for the Six Basins, WEL, 2017, Section 2.6.3.

Notes:

1. The City of Pomona’s P-20 well site is listed under Project Category 3, Temporary Surplus Project, however, because this project is similar in type and scope to the Pump and Treat projects, it is included in this table and related discussion.

The use of hazardous materials and substances associated with the rehabilitation of existing wells and treatment facilities; and/ or the operation of certain types of treatment facilities may be subject to federal, State, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, summarized in the Regulatory Framework section above.

It is anticipated that during long-term operation of production wells (and related infrastructure) and water treatment facilities, hazardous materials (e.g., architectural coatings, lubricants, cleaning chemicals) could be used during the course of normal operations at any of the sites identified in Project Category 1. Good housekeeping practices and compliance with applicable laws governing the routine transport, storage, and use of hazardous materials would minimize the potential impacts to the public or environment.

Mitigation measure HWQ-3 in Section 4.9 sets forth the requirement for implementing site-specific drainage plans for the control of stormwater flows exiting a site, including control of pollutants through stormwater treatment. Therefore, potential impacts associated with the operation of Project Category 1 projects would be less than significant with implementation of mitigation measure HWQ-3.

South Coast Air Quality Management District

Depending on the type of stationary equipment that could be installed as part of a Pump and Treat project, permits from SCAQMD may be required. SCAQMD rules that may apply to an individual project include:

- Rule 201: *Permit to Construct*. A Permit to Construct may be required if the operation of a new treatment facility would result in the release of air contaminants, or the use of which may eliminate, reduce or control the issuance of air contaminants.
- Rule 203: *Permit to Operate*. If a Permit to Construct is required, operation of a new treatment facility would also require a Permit to Operate, with the Permit to Construct acting as the temporary permit for operation of equipment.
- Rule 219: *Equipment Not Requiring a Written Permit Pursuant to SCAQMD Regulation II*. The purpose of this rule is to identify equipment, processes, or operations that emit small amounts of air contaminants that shall not require written permits. There are exceptions to this rule which would be considered when a site-specific treatment facility is proposed.
- Rule 402: *Nuisance*. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of

persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The need to obtain a Permit to Construct/Operate would be considered on a project-by-project basis as new projects are proposed as set forth in mitigation measure HAZ-1 (see Section 4.8.4, *Mitigation Measures*, at the end of this section).

Department of Water Resources Division of Drinking Water

For Pump and Treat projects where wells have not been in operation for several years (e.g., Durward 2, Old Baldy, P-20), new groundwater monitoring and reporting will be required by DDW and LARWQCB. In addition, because each of these sites includes new treatment facilities in addition to well rehabilitation, Watermaster Parties that are proposing these upgrades/new facilities will be required to obtain permits from the DDW to treat and serve water from an impaired source.

CUPA Oversight

Proposed Strategic Plan projects would not include the handling or storage of substantial quantities of hazardous materials (as defined in California Health and Safety Code, Division 20, Chapter 6.95). Therefore, it is unlikely that the preparation and implementation of a Hazardous Materials Business Emergency Plan (HMBEP) would be required by a CUPA. As described in the Environmental Setting section above, within the Six Basins project area, the CUPAs are the Los Angeles County Fire Department Health and Hazardous Materials Division (HHMD) and the San Bernardino County Fire Department Hazardous Materials Division.

However, because it is likely that routine maintenance of production wells and treatment facilities may include the use of small quantities of hazardous substances (solvents, oils, cleaning fluids), a Spill Prevention Control and Countermeasure Plan (SPCCP) must be prepared and implemented at each site; a Watermaster Party's existing SPCCP may be amended to include new facilities. Because the proposed Strategic Plan Project Category 1 projects are all located at existing facilities, amending a SPCCP would be appropriate, rather than preparing a new plan. For future projects (e.g., projects in Category 3) new SPCCPs may be required depending on the type of hazardous substances that may be used. Therefore, compliance with applicable requirements for the transport, use, storage and disposal of hazardous materials associated with the operation of pump and treat projects, would result in a less than significant impact on the environment.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken in the SASG and TCSG to develop new spreading grounds to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the Pedley Spreading Grounds; to create an area for the recharge of stormwater and supplemental water at the LA

County Fairplex; and to identify opportunities for stormwater recharge through compliance with the County of Los Angeles MS4 permit. The Pedley Spreading Grounds project and the LA County Fairplex project are examples of MS4 projects.

Construction

Project Category 2 projects are all stormwater recharge and supplemental water recharge projects and do not include the development or operation of production wells or treatment facilities. Construction activities would require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, and other similarly related materials, generally in support of heavy equipment (e.g., dozer, excavator, backhoe, water truck) operation. Construction of Project Category 2 projects includes grading, excavation, and trenching to create water recharge basins and related infrastructure.

Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction projects, and there would be no greater risk for improper handling, transportation, or spills associated with any of the Project Category 2 projects than would occur on any other similar construction site.

Similar to Project Category 1, where mandatory compliance with applicable hazardous materials regulations is assumed, construction of new or expansion of existing basins for groundwater recharge would not create significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or waste during the construction phase. Therefore, a less than significant impact on the environment would occur.

All of the projects in this category would result in the disturbance of more than one acre of a site. Therefore, the Watermaster Party proposing a project would be subject to the same federal and State regulations regarding the development and implementation of a SWPPP. Therefore, with implementation of BMPs as set forth in a project specific SWPPP, development of recharge basins would not result in significant impacts related to pollutant runoff from a site during construction. Mitigation measure HWQ-2 in Section 4.9, *Hydrology and Water Quality*, sets forth the requirement to implement BMPs during project construction.

For the new recharge basin in the SASG, development of the basin will require a Local Mining Permit (generally a Conditional Use Permit), an approved Reclamation Plan and a Financial Assurance statement for the excavation of the approximately 50-acre site to a depth of up to 200 feet below grade. As part of the CUP application and draft Reclamation Plan, Holliday Rock (the proposed operator for the mining portion of the project), will be required to implement a drainage plan and a SWPPP on-going through the proposed five-year excavation period.

Operation

Operation of the new or expanded recharge basins at the SASG, TCSG, and PSG, would generally consist of monitoring the facilities and conducting routine maintenance. Maintenance would consist of vegetation removal, inspection and repair of sidewalls and periodically grading the bottom of basins to remove built up silts and debris to ensure maximum percolation. As such, operation activities at these sites would be similar to construction activities. With regard to the Los Angeles County Fairplex site, a new underground infiltration gallery is proposed to be developed beneath a series of soccer fields. Therefore, on-going maintenance would not include site disturbing activities such as vegetation removal or desilting (grading).

Therefore, Project Category 2 projects would not pose a significant hazard to the public or the environment through the routine transport, use, storage, emission, or disposal of hazardous materials, nor would a project increase the potential for accident conditions which could result in the release of hazardous materials into the environment. This is because, under normal conditions, no human site disturbing activities would occur; and periodic maintenance would be subject to similar requirements as under construction activities and require the implementation of mitigation measure HWQ-2 regarding control of stormwater runoff during construction. Based on this information, potential impacts associated with the construction and operation of Project Category 2 projects would be less than significant with implementation of BMPs as set forth in a project specific SWPPP (mitigation measure HWQ-2).

Vector Control

Not related to hazardous materials, but may be considered a public health issue, are that proposed new recharge basins or the expansion of existing recharge basins would create new standing pools of water that may attract insects. If insects such as midges or mosquitoes use the water as a breeding area, standing pools of water could be considered a nuisance or a health threat to the surrounding community. When midges hatch they can emerge in huge numbers, resulting in swarms of midges that can create nuisance problems. Unlike mosquitoes, midges do not bite or sting and do not carry infectious diseases, they are just a nuisance (<https://www.wvmvcd.org/>) In the Six Basins project area there are two vector control agencies: (1) West Valley Mosquito and Vector Control District that covers the San Bernardino side of the project area (Upland and San Antonio Heights); and (2) San Gabriel Valley Mosquito and Vector Control District covering the San Gabriel Valley (Claremont, La Verne and Pomona). Both districts have had reports of mosquitoes carrying West Nile virus. Watermaster Parties that operate spreading grounds where these recharges basins are located, work with the vector control districts to prevent nuisances or health hazards or control them once identified. Mitigation measure HAZ-2 requires that Watermaster Parties proposing new recharge basins or expanding existing recharge basins prepare and implement a vector control plan that would be reviewed and approved by one of the two Vector Control Districts. Implementation of mitigation measure HAZ-2 will ensure that impacts associated with mosquitoes, midges or other vectors would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: 1) rehabilitating Pomona’s P-20 wellhead treatment facility, 2) constructing new production wells and monitoring wells; and 3) constructing new underground pipelines to interconnect well sites and treatment facilities; to connect the Pomona WRP with the new SASG site; or to connect the P-20 site with TVMWD’s Miramar WTP. Note: The rehabilitation of Pomona’s P-20 wellhead treatment facility would have similar impacts as Project Category 1 projects because the construction and operation of proposed improvements at this site would be similar to those conducted at other well sites in Project Category 1.

Construction

Construction activities associated with development and operation include drilling, trenching, excavation or other ground disturbing activities to develop a well site and - for production wells - related pipelines to interconnect with existing pipelines or to treatment facilities. Construction activities would require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, and other similarly related materials generally in support of heavy equipment (e.g., drilling rig, dozer, paver) operation. In addition, other materials such as paints, adhesives, solvents, and other substances typically used in construction may also be used on-site during construction. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction projects, and there would be no greater risk associated with new well for improper handling, transportation, or spills associated with the project than would occur on any other similar well construction site. As such, the proposed project must comply with the statutory requirements regarding the transport, use, generation and disposal of hazardous materials. Any hazardous material to be used on site would be routinely transported, used, and disposed of in accordance with all applicable laws and regulations intended to protect people and the environment.

Well Development

The following information was taken from the Initial Study prepared for the TVMWD Miragrand Well and Pipeline project prepared in 2019. Development of a new well will typically require equipment including a drilling rig, pipe truck, driller’s trailer (doghouse), and settling tanks for the water (or approved drilling fluid) used as the circulating medium in the drilling process. The discharge water is piped to holding tanks on site where the suspended sediments (sand and silt) are allowed to settle to the bottom. After testing to verify the clarity and quality of the water, the water can be released either into an on-site basin, or discharged into the storm drain system, pending approval of release by the local agency. Development of new wells will require a permit under the State’s Dewatering General Permit as set forth in mitigation measure HWQ-4 (see Section 4.9, *Hydrology and Water Quality*, Impact 4.9-4 for discussion).

Once drilling is completed, construction activities would switch from well drilling to site development. Typically, site development would include a pump house containing the pump, electrical supply, monitoring equipment, a paved parking area, a perimeter wall or fence, and landscaping. Construction would also include a pipeline between a new production well and an existing pipeline interconnect to convey the untreated water from the well to a treatment facility. Activities associated with this phase of construction may include grading, trenching, and paving; as well as building the pump house and perimeter wall and gate.

With regard to monitoring wells, well development would be similar with the exception of pipeline construction. There would be no connection to a treatment facility because these wells would not produce water, only monitor groundwater quality.

With the exception of improvements to the City of Pomona P-20 well site, there are no water treatment activities associated with projects in Project Category 3, only the development of production wells and pumping of groundwater and conveyance of that water to a treatment facility; or the development of monitoring wells. Compliance with all applicable laws and regulations would reduce the potential impact associated with the routine transport, use, storage, or disposal of hazardous materials to a less than significant level. Therefore, a less than significant impact on the environment would occur.

Operation

Operation of production and monitoring wells would not require the use of acutely hazardous materials. Hazardous materials that may be utilized include diesel fuel (if a backup generator is proposed at a site), lubricants and solvents typically associated with the maintenance of well pumps. All materials would be routinely transported, used, and disposed of in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers. The Watermaster Parties who would be developing and operating production and monitoring wells all have plans in place to address accidents such as spills. For example, Three Valleys Municipal Water District currently has a Spill Prevention Control and Countermeasures Plan (SPCC), which helps to minimize occurrences and effects of hazardous or toxic spills and leaks during water treatment activities. No water treatment activities are associated with this category of projects; either production or monitoring wells. Under this category of projects, production wells would be connected via new pipeline, to existing pipelines conveying untreated water to treatment plants. Once a new well site is constructed, the Watermaster Party responsible for that well would update the SPCC to include a site-specific plan for each well. Compliance with all applicable laws and regulations would reduce the potential impact associated with the routine transport, use, storage, or disposal of hazardous materials to a less than significant level.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts to Aesthetics - Scenic Vistas. The Strategic Plan included the development of new multi-depth clustered monitoring wells within the areas of historical high groundwater in the cities of Pomona and Claremont as part of Project Category 4. These projects are evaluated under Project Category 3 where new production well projects are evaluated because both types of well projects are similar. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.8-2

Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Table 4.8-4, *Project Sites within One-Quarter Mile of a School*, lists the project sites where improvements are proposed by Watermaster Parties. There are 5 project sites that are not located within ¼ mile of a school site. Three of the 4 remaining sites: (1) Reservoir 5 Site; (2) Del Monte Site; and (3) P-20 Well Site are discussed herein.

The remaining site, Pedley Spreading Grounds, is a Project Category 2 project and therefore, this discussion does not apply to that site (see discussion under Project Category 2 below).

As discussed under Impact 4.8-1, improvements to these project sites consist of rehabilitation of existing production wells, upgrades to existing treatment facilities, or the addition of new treatment facilities for specific constituents known to be in the groundwater. None of the construction or operation activities, would result in the transport, use, storage or disposal of substantial amounts of hazardous materials/wastes; only small quantities of fuels, solvents, oils, etc., related to construction and maintenance at the existing facilities.

As shown in Table 4.8-4, two existing sites, Reservoir 5 and Lincoln/Mills both use air stripping as the current treatment of groundwater to remove DCE. However, only Reservoir 5 is located in close proximity to a school site.

Table 4.8-4 Project Sites within One-Quarter Mile of a School

Project Site	School	Location	Distance from site	Direction
Lincoln/Mills Site	No schools within .25 mile of the project site			
Reservoir 5 Site	Barfield Elementary School	2181 N San Antonio Ave, Pomona	0.25 mile	Northeast
	Pacific Baptist College	395 San Bernardino Ave, Pomona	0.19 mile	South
Durward Site	No schools within .25 mile of the project site			
Del Monte Site	Claremont Colleges	747 N Dartmouth Ave, Claremont	0.16 mile	North
	Oakmont Elementary School	120 W Green St, Claremont	0.12 mile	Southwest
Thompson Creek SG	No schools within .25 mile of the project site			
San Antonio SG	No schools within .25 mile of the project site			
Pedley SG	Chaparral Elementary School	451 Chaparral Dr. Claremont, CA	0.1 mile	Northwest
Fairplex	No schools within .25 mile of the project site			
P-20 Well Site	Claremont High School	1601 N Indian Hill Blvd, Claremont	0.08 mile	Northeast

Source: Six Basins Strategic Plan, 2017; Google Earth search, September 12, 2019.

Typically, air stripping is conducted in an enclosed tank where groundwater is pumped above ground and into the tank where it is aerated to evaporate the volatile organic compounds (VOC) found in the groundwater. After treating the water, the air and the vapors are either removed or, if the VOCs are low enough to meet SCAQMD Air Quality standards, they may be vented to the atmosphere.

As part of the Strategic Plan, the air stripping facility would continue to operate at Reservoir 5 and may be expanded. If necessary, the City of Pomona, the owner of Reservoir 5, would apply for permits to construct/operate a new air stripping facility from SCAQMD.

Proposed additional treatment at Reservoir 5 includes expanding the existing air stripping facility or constructing a granular activated carbon facility to remove DCE. In addition to air stripping at Reservoir 5, the City of Pomona is also proposing the addition of an ion exchange (IX) or biological treatment facility to remove Cr-6, nitrate and perchlorate. Ion exchange (IX) processes are reversible chemical reactions for removing dissolved ions from solution and replacing them with other similarly charged ions. In water treatment, it is primarily used for softening where calcium and magnesium ions are removed from water; however, it is being used more frequently for the removal of other dissolved ionic species, such as those known to occur in the groundwater in the Six Basins.

Mitigation measure HAZ-1 requires that prior to construction of a new air stripping or other treatment facility, or the rehabilitation/upgrade of existing treatment facilities, the Watermaster Party proposing new facilities to obtain a Permit to Construct from SCAQMD. Once completed, the Watermaster Party must apply for a Permit to Operate. Implementation of this measure will ensure that operation of new or rehabilitated treatments facilities will result in less than significant impacts to the environment.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

None of the Strategic Plan sites where stormwater and supplemental water recharge will be expanded, or in the case of the Fairplex site, constructed, are located within ¼ mile of a school site with the exception of the Pedley Spreading Grounds site. As described for Project Category 2 projects for Impact 4.8-1, construction activities would require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, and other similarly related materials, generally in support of heavy equipment (e.g., dozer, excavator, backhoe, water truck) operation. Construction would include grading, excavation, and trenching to create water recharge basins and related infrastructure.

Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction projects, and there would be no greater risk for improper handling, transportation, or spills associated with any of the Project Category 2 projects than would occur on any other similar construction site.

Where mandatory compliance with applicable hazardous materials regulations is assumed, construction of new or expansion of existing basins for groundwater recharge would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or waste during the construction phase. Therefore, a less than significant impact on the environment would occur.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

The rehabilitation of Pomona’s P-20 wellhead treatment facility would be similar to projects in Project Category 1 because the construction and operation of proposed improvements at this site would be similar to those conducted at other well sites in Project Category 1. Therefore, this section focuses on constructing new production wells and monitoring wells; and constructing new underground pipelines to interconnect well sites and treatment facilities; to connect the Pomona WRP with the new SASG site; or to connect the P-20 site with TVMWD’s Miramar WTP.

Sites of future production and/or monitoring wells are unknown at this time, as are the potential pipeline routes. Under this category of projects, it is possible that contaminated

soils could be inadvertently encountered during well development and development of related treatment facilities, and pipeline construction, thereby posing a potential threat to construction workers, the public and the environment.

Construction activities and the operation of new wells and treatment facilities would be similar to those undertaken for projects in Project Category 1. This is because, construction activities would require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, and other similarly related materials, generally in support of heavy equipment (e.g., dozer, excavator, backhoe, water truck) operation. For this category of projects, a drill rig would also be used on a new well site. Construction would include grading, drilling, and trenching to develop new wells and related infrastructure (e.g. treatment facilities and pipelines).

Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction projects, and there would be no greater risk for improper handling, transportation, or spills associated with any of the Project Category 1 projects than would occur on any other similar construction site.

Mitigation measure HAZ-1 requires that prior to construction of a new air stripping or other treatment facility, or the rehabilitation/upgrade of existing treatment facilities, the Watermaster Party proposing new facilities to obtain a Permit to Construct from SCAQMD. Once completed, the Watermaster Party must apply for a Permit to Operate. Implementation of this measure will ensure that operation of new or rehabilitated treatments facilities will result in less than significant impacts to the environment.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.8-3

Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Threshold 4)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

A review of the databases including EnviroStor and GeoTracker showed that none of the projects in Project Category 1 are listed as a hazardous materials site pursuant to Government Code Section 65962.5. Therefore, there is no impact.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

A review of the EnviroStor and GeoTracker databases showed that none of the projects in Project Category 2 are listed as a hazardous materials site pursuant to Government Code Section 65962.5. Therefore, there is no environmental impact.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

The analysis of Hazards and Hazardous materials included a records search on the SWRCB GeoTracker and the DTSC EnviroStor databases. Although, none of the projects identified in the Strategic Plan were found in these databases, there were numerous sites within the Six Basins project area that were found.

Sites of future production and/or monitoring wells are unknown at this time, as are the potential pipeline routes. Under this category of projects, it is possible that contaminated soils could be inadvertently encountered during well development and pipeline construction, thereby posing a potential threat to construction workers, the public and the environment.

Mitigation measure HAZ 3 requires the preparation of a Phase I Environmental Site Assessment (ESA) unless the Watermaster Party proposing a Project Category 3 project can show that a proposed site does not contain contaminated soil. When a Phase I ESA is conducted and, if findings are positive for soil contamination, a Phase II ESA that sets forth a plan for handling and disposing of contaminated soil and/or groundwater. Therefore, with implementation of mitigation measure HAZ-3, impacts associated with contaminated soil during construction, can be reduced to a less than significant level.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the

Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Airport Land Use Compatibility

Impact 4.8-4

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (Threshold 5)

Substantiation

Project Category 1: Pump and Treat Projects in the Pomona Basin

Determination: Less Than Significant Impact.

As described in the Airport Land Use Compatibility section of the Environmental Setting (Section 4-8.1), there are two general aviation airports within the Six Basins project area, Brackett Field in the City of La Verne and Cable Airport in the City of Upland. The Ontario International Airport is located approximately 8 miles southeast of the southerly boundary of the Six Basins project area. However, even at that distance, the project area largely falls within the airport's Airport Influence Area (AIA).

Ontario Airport

Airport policy maps for the Ontario Airport are summarized in Table 4.8-5, *Ontario Airport Compatibility Policies*. As indicated in Table 4.8-5, due to the nature of the Six Basins projects as water supply and treatment type projects where no permanent or long-term human activity (residents or employees) would occur, the proposed projects would not conflict with the Ontario Airport Land Use Compatibility Plan. Therefore, regarding the Ontario International Airport, there would be no impact on Airport Compatibility associated with *Pump and Treat Projects in the Pomona Basin*.

Brackett Field

The Brackett Field ALUCP divides the AIA into seven different zones and gives guidelines on issues such as land use and building height. There are three general categories—normally compatible, conditional, or incompatible—to indicate its recommendations for the stated issue and its proximity to the airport.

Most of the City of La Verne falls into Zone D or Zone E which have the fewest restrictions and are categorized as having “normally compatible” or “conditional” land use acceptability across most categories. In addition, none of the projects identified in the Strategic Plan include habitable structures or buildings/structures of significant height that would interfere with the operation of the Brackett Field Airport. For example, the zone closest to the runway should not have buildings over three stories tall, trees higher than 35 feet, or serve as an attraction for birds or other wildlife. None of the proposed projects in Category 1 include new buildings or other occupiable structures where large numbers of people would be in residence. Therefore, regarding Brackett Field, there would be no impact on Airport Compatibility associated with *Pump and Treat Groundwater in the Pomona Basin*.

Table 4.8-5 Ontario Airport Compatibility Policies

Policy Map No.	Issue	Applicable to Six Basins Projects
2-1	Airport Influence Area	Proposed projects are water supply and treatment type projects where no permanent or long-term human activity (residents or employees) would occur. Future projects would not be affected by airport activities and proposed projects being underground or reaching heights of less than 40 feet above ground surface, would not affect the airport’s ability to operate.
2-2	Airport Safety Zones	The Six Basins project area is outside this zone.
2-3	Noise Impact Zones	The Six Basins project area is outside this zone.
2-4	Airspace Protection Zones	The easterly portion of the City of Pomona is located within this zone but in the least restrictive height limitation of allowable heights greater than 200 feet. None of the proposed projects would be constructed to this height.
2-5	Overflight Notification Zones	Large areas of the cities of Claremont, Pomona and Upland are limitedly affected. Notification is only required for real estate transactions. The real estate transaction disclosure policy applies to the entire AIA for the airport. This policy may apply to new projects that have not been identified in the Strategic Plan, however, because the projects do not include permanent residents or employees, and structure heights would not approach the limits identified in the ALUCP, there would be no conflict.

Source: City of Ontario, 2011, *LA/Ontario International Airport Land Use Compatibility Plan*.

Cable Airport

The ALUCP and Use Compatibility Map (<https://www.uplandca.gov/cable-airport-land-use-comp-plan>) shows that the more restrictive zones are located in close proximity to the airport runway. The AIA for Cable Airport extends to a point west of Indian Hill Blvd, south to the I-10 Freeway and north of the 210 Freeway.

With the exception of the City of Upland, most of the Six Basins project area lies within Zone D and Zone E, the least restrictive zones where there is no limit on the number of people that may occupy the site; maximum lot coverage may reach 100 percent; and structures and trees may reach heights of 100 feet above the ground surface. Conditional uses include any use having the potential to cause an increase in the attraction of birds or other wildlife. There are no project Category 1 projects located in the City of Upland. Therefore, regarding Cable Airport, there would be no impact on Airport Compatibility associated with *Pump and Treat Projects in the Pomona Basin*.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

There are no buildings of any height or trees associated with the proposed *Stormwater and Supplemental Water Recharge Projects* in the SASG, TCSG, PSG or at the Los Angeles County Fairplex. All water recharge activities will occur at or below ground surface in order to percolate stormwater and supplemental water into the groundwater basins. With regard to the potential for such recharge projects to attract birds or other wildlife, with the exception of the Fairplex site, stormwater and supplemental recharge occurs under existing conditions. Proposed Strategic Plan projects would increase the size of existing basins or add new basins. This activity may result in an increase in bird or other wildlife populations.

When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards by creating new opportunities for movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or air operations area (AOA).

The FAA identifies Water Management Facilities, including drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife as those that attract wildlife. The Strategic Plan *Stormwater and Supplemental Water Recharge* projects fall into this category.

For airports serving piston powered aircraft such as Brackett Field and Cable Airport, the FAA recommends a minimum separation criteria based on (1) flight patterns of piston powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board (NTSB) recommendations. The recommended separation distance is 5,000 feet (.95 mile) at these airports for any of the hazardous wildlife attractant land uses. Distances between Brackett Field runways and proposed spreading grounds and between Cable Airport runways and proposed spreading grounds exceed this distance as shown herein:

	Brackett Field	Cable Airport
<i>San Antonio Spreading Grounds</i>	>5 miles	1.75 miles
<i>Thompson Creek Spreading Grounds</i>	>5 miles	2.25 miles
<i>Pedley Spreading Grounds</i>	>4 miles	1.1 miles

For airports serving turbine powered aircraft such as the Ontario International Airport, the FAA recommends a separation distance of 10,000 feet (1.89 miles) at these airports for any land uses that are considered hazardous wildlife attractants mentioned. This distance is to be maintained between an airport’s Airport Operations Area and the hazardous wildlife attractant. Distances between spreading grounds and this airport runway is as follows:

<i>San Antonio Spreading Grounds</i>	>6.5 miles
<i>Thompson Creek Spreading Grounds</i>	>7.5 miles
<i>Pedley Spreading Grounds</i>	>6.4 miles

Finally, for all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport’s Airport Operations Area and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace. A review of ALUCP maps for the three airports and the area proposed for new or expanded spreading grounds concluded that none of the spreading grounds are located within the approach or departure airspace of an airport. Therefore, regarding the potential for new or expanded spreading grounds to adversely impact airport operations would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

The category of projects consists of the development of new production and monitoring wells, and related treatment facilities that would be similar in size and function as those projects identified in Project Category 1. No structures or trees greater than 35 feet would be developed/grown on site, and no spreading grounds or other water retention basin would be developed. Therefore, regarding the potential for new production or monitoring wells or treatment facilities to adversely impact airport operations would be less than significant.

This category of projects also includes pipelines and interconnects between wells and treatment facilities. Once constructed these facilities would be underground. Therefore, regarding the potential for new pipelines and interconnects to adversely impact airport operations would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project

Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Wildfire

Impact 4.8-5

Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires? (Threshold 6)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

As shown in Figure 4.8-1 designated Fire Severity Safety Zones are located in the foothills of the San Gabriel Mountains and along the SASG, and not located within proximity to the Pomona Basin, where *Project Category 1* projects are located. Likewise, the City of Pomona's P-20 well site is located in the City of Claremont in an urban area outside a Fire Severity Safety Zone.

In addition, as described previously in this Program EIR, none of the *Project Category 1* projects include a residential component or provide a location for employees to work. The only habitable structure that may be located at one or more of the sites in this project category are pump houses or small storage structures, that would only be entered intermittently during site inspections or routine maintenance of the wells and/or treatment facilities. Therefore, people and structures would not be directly or indirectly exposed to injury or death involving a wildland fire. Because the location of the sites where Pump and Treat projects are not within an area where wildland fires occur, but are generally located within the urban portion of the Six Basins project area, the potential for project sites identified in *Project Category 1* to be adversely impacted by wildland fires would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

As shown on Figure 4.8-1, most of the Fire Hazard Severity Zones are generally outside the Six Basins project area boundary with the exception of the SASG area in both the cities of Upland and Claremont (Canyon and Upper Claremont Heights Basins), and the area along

the foothills within the Canyon Basin (northerly portions of San Antonio Heights, Claremont and La Verne). The areas proposed for new recharge basins in the SASG and TCSG are located within the Fire Hazard Severity Zone; the PSG site and the Fairplex site are not.

Construction

As described in Section 4.8-1 above, the State’s Fire Hazard Severity Zone mapping system is based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance and fire history. As shown in Figure 4.1-6 in Section 4.1, *Aesthetics*, under existing conditions, recharge in the SASG is conducted in a series of earthen-bottom cascading basins connected by riprapped channels that convey water from each basin consecutively. There are no residences or other habitable structures, or flammable building materials associated with the spreading grounds or their expansion.

Figure 3-7, *Facilities Map for San Antonio Spreading Grounds*, identifies an area below the existing LACFCD recharge basins for development of a new recharge basin. Initially, the Strategic Plan identified the development of a series of cascading basins located on the Los Angeles County side of the SASG generally between the existing recharge basins and a point north of E. Pomello Drive. Subsequently, a second option is being considered instead of the cascading basins. This project would provide recharge capacity within an approximately 50-acre area to a depth of up to 200 feet. The excavated material would be crushed on-site then conveyed across the SASG to the existing Holliday Rock conveyor system located on the east side of the San Antonio Channel (see Figure 3-7). It is estimated that approximately 20 million tons of aggregate material would be excavated with typical aggregate mining equipment (dozers, scrapers) and hauled to a portable crusher within the excavation area over a five-year period (2.5 million tons per year). Excavation can be completed within three to five years at which time the crusher and conveyor system would be removed and the basin would become operational.

The new recharge basin would allow PVPA to increase the amount of stormwater and/or supplemental water (imported water and recycled water) that can be captured to maximize percolation especially during storm events. The basin would be maintained to minimizing vegetation from growing in the basin (brush clearance) and impeding the ability to maximize percolation. With development of the basin (excavation) and routine maintenance (vegetation removal) fuels (vegetation); topography (grading and excavation to maximize percolation and weather (relatively dry conditions and wind that affect vegetation) would not be a factor with regard to the new recharge basin in the SASG.

The proposed basins in the TCSG site are an expansion of the existing recharge pits located directly south of the dam. Construction would be similar to construction of the new SASG recharge basin (except for the depth), excavating to create the two new basins, and grading the bottom of the basins to maximize percolation. The basins would be maintained to minimizing vegetation (brush clearance) from growing and impeding their ability to maximize percolation.

Both the SASG and TCSG are located in areas where vegetation is natural and considered a fuel for wildfires. However, development of the new recharge basins would not exacerbate this existing condition, instead, once developed, the basins would be maintained relative free of vegetation to maximize percolation potential. Therefore, development and operation of the new or expanded recharge basins in the SASG and TCSG would not expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.

As stated above, there are no buildings or residents/employees associated with the proposed *Stormwater and Supplemental Water Recharge Projects* in SASG or TCSG. This also applies to the proposed expansion of the PSG recharge basin and the new underground infiltration gallery proposed to be developed at the Los Angeles County Fairplex. All water recharge activities will occur at or below ground surface in order to percolate stormwater and supplemental water into the groundwater basins. Employees of Watermaster Parties responsible for water recharge projects would only be on site occasionally during maintenance and therefore would not be exposed to wildfires. In addition, there are no habitable structures associated with this category of projects. Therefore, there is no impact associated with development and operation of water recharge projects at the PSG site or Fairplex site.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

It is unknown at this time where new production and/or monitoring wells would be constructed. Likewise, because the specific location of any of these wells is unknown, the specific route of new pipelines and interconnects is also unknown. However, what is known is that the intent of additional production and monitoring wells is to monitor and control high groundwater problems generally known in the southern portion of the Upper Claremont Heights Basin, the Lower Claremont Heights Basin and the Pomona Basin and to increase the reliability of local water resources in the future; by systematically drawing from groundwater production wells. The Pomona Basin and Lower Claremont Heights Basin underly a largely urbanized area so that exposure to wildland fires would be minimal. However, for future wells that may be developed in the Upper Claremont Heights basin, exposure to wildland fires is a possibility.

None of the production and/or monitoring wells include a residential component or provide a location for employees to work. The only habitable structure that may be located at one or more of the sites in this Project Category are pump houses or small storage structures, that would only be occupied intermittently during routine maintenance of the wells and/or treatment facilities. Therefore, people would not be directly or indirectly exposed to injury or death involving a wildland fire. However, Watermaster Parties that may propose well sites within Fire Hazard Severity Zones would be required to meet the site development standards set forth by the State and local cities. These may include defining a defensible

space of a 30-foot non-combustible buffer area around a structure; reducing flammable vegetation, trees and brush from around a structure; regularly abating weeds; and installing fire resistant roofing material. For Project Category 3 projects, structures would be limited to pump houses and/or small storage buildings; not designed to be habitable structures (e.g., dwelling unit) and could be built with concrete block and fire-resistant roofing material. Examples of existing buildings at well sites are shown in Figures 4.1-1 through 4.1-5 and Figure 4.1-10 in Section 4.1, *Aesthetics*. Therefore, compliance with applicable development standards for sites in Fire Hazard Severity Zones as set forth in mitigation measures HAZ-5 and HAZ-6, this impact would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.8-6

Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Threshold 7)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction

Construction of proposed improvements to existing well sites within the Pomona Basin and the City of Pomona's P-20 well site in the Lower Claremont Heights Basin, that are identified in this category of projects would not impair implementation of or physically interfere with adopted emergency response plans or emergency evacuation plans. Construction activities at existing well sites would consist of the rehabilitation of production wells and expansion of wellhead treatment facilities, or the construction of new wellhead treatment facilities. Treatment facilities are small structures located on existing sites as shown in Figures 4.1-1 through 4.1-5, and Figure 4.1-10 in Section 4.1, *Aesthetics*. There would be no installation of pipelines or other facilities within rights-of-way adjacent to existing sites that would cause

a road closure, lane closure or traffic detour; potentially affecting emergency access to an area or an evacuation route. During construction, haul trucks would be used to transport construction material to the site and remove any demolition debris associated with well or treatment facility rehabilitation or construction. This is considered to be a short-term or intermittent impact and only when a haul truck is transporting material to the site; or accessing/leaving a site. If construction would impact a road, the Watermaster Party proposing a project would be required to develop and implement a Traffic Control Plan prior to initiating construction. Such a plan shall be consistent with the appropriate city or county Emergency Response Plan as set forth in mitigation measures HAZ-7 through HAZ-9. Implementation of a Traffic Control Plan would ensure that impacts associated with the interruption of traffic would be less than significant.

The exception to this analysis is the rehabilitation of the City of Pomona P-20 well and wellhead treatment facility. Although this project was identified in the Strategic Plan as a Project Category 3 project and is located in the Lower Claremont Heights Basin (currently the only well located in this basin), adjacent to the Pomona Basin, it has been evaluated under this category of projects because it is similar to proposed upgrades to other well sites in the Pomona Basin. In addition to well rehabilitation to increase groundwater production, the City intends to construct new treatment facilities to reduce nitrate concentrations. However, as an alternative, the City may construct a pipeline between the P-20 well site located near the intersection of Oxford Avenue and Hood Drive and the Three Valleys Municipal Water District's Miramar water treatment facility located at the intersection of Miramar and Padua Avenues in the City of Claremont, a distance of approximately 2.25 miles. The construction of new pipelines and interconnects between well sites and treatment facilities are also evaluated in Project Category 3, *Temporary Surplus Projects*. Where projects in either Project Category 1 or Project Category 3 include a pipeline component that would result in impacts to roads, implementation of a Traffic Control Plan would ensure that impacts associated with the interruption of traffic would be less than significant.

Operation

Operation of the proposed facilities in this category of projects would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The facilities consist of operation of production wells and groundwater treatment prior to being released into existing pipelines in adjacent streets, that, during operation, would not interfere with traffic flows. However, these facilities will require periodic maintenance; but such activities would be intermittent and require minimal trips that would not significantly impact the roadway network. Therefore, impacts to an adopted emergency plan would be less than significant during long-term operation.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

Construction

The proposed Water Recharge projects would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because construction activities would all occur within a project site, with no associated off-site improvements such as a new pipeline. The intent of this category of project is to expand existing facilities (TCSG and PSG), create a new recharge basin (SASG); or create a new underground infiltration gallery within the Los Angeles County Fairplex site. In addition to stormwater recharge, supplemental water – either recycled water or imported water - would be piped from off-site. The construction of new pipelines is addressed in Project Category 3, *Temporary Surplus Projects*, so there would be no trenching/excavation in existing public rights-of-way (roads or road shoulders) that would require land closures or detours that might interfere with an adopted emergency response plan or emergency evacuation plan associated with the development of new spreading ground recharge basins.

For the TCSG and PSG sites, stormwater recharge already occurs, and basins would be expanded to increase capacity; or a new basin would be developed (SASG) to supplement the capacity in existing basins. Deepening and/or widening existing basins and creation of new recharge basins in spreading grounds would require truck haul trips to transport construction equipment and materials to the project sites and may include export of some surplus soil off-site (TCSG or PSG). This material could be transported to nearby aggregate mine sites or to be used on other construction where fill material is required. These truck trips would occur on existing roadways but may result in the temporary slowing of traffic, however, no road closures or detours would be required. Excavated material from the SASG recharge basin would be conveyed from that site to Holliday Rock’s existing mine pits on the east side of the San Antonio Creek channel for stockpiling and processing. No on-road trips are associated with this project. All project construction activities would be contained within the boundaries of the project sites, and project-related vehicles would not block existing street access to the sites. Therefore, no impacts related to an emergency evacuation plan would occur from the construction of *Water Recharge Projects*.

Operation

Operation of the proposed expanded or new basins in spreading grounds or at the Fairplex site would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. This category of projects consists of groundwater recharge basins that do not generate traffic. The basins would be maintained to minimizing vegetation from growing in the basins (brush clearance) and impeding their ability to maximize infiltration. Vegetation removal and treatment of the basins floors to ensure adequate infiltration would require the use of heavy equipment (e.g., scraper, backhoe, dump truck) that would be brought on site occasionally. This represents one trip to bring the equipment onto a site and a second trip once maintenance work has been completed. A small number of passenger vehicles (e.g., pickup trucks) would also access the site during maintenance activities. Therefore, long-term operation of Water Recharge projects would not interfere

with the implementation of an adopted emergency plan or emergency evacuation plan; and the impact is considered to be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include the construction of new production wells and monitoring wells and the construction of new underground pipelines to interconnect some sites. These include connecting new production wells to existing treatment facilities and conveying recycled water or imported water to spreading grounds; as well as the proposed pipeline element of the City of Pomona’s P-20 well to connect groundwater from this site to the TVMWD Miramar Water Treatment Plant.

Construction of new wells and related infrastructure on a project site would not impair implementation of or physically interfere with adopted emergency response plans or emergency evacuation plans. During construction, haul trucks would be used to transport construction material to the site and remove any demolition debris associated with construction. This is considered to be a short-term or intermittent impact and only when a haul truck is transporting material to the site; or accessing/leaving a site. If construction would impact a road, the Watermaster Party proposing a project would be required to develop and implement a Traffic Control Plan prior to initiating construction. Such a plan shall be consistent with the appropriate city or county Emergency Response Plan as set forth in mitigation measures HAZ-7 through HAZ-9. Implementation of a Traffic Control Plan would ensure that impacts associated with the interruption of traffic during well construction and development would be less than significant.

Pipeline projects in this category consist of constructing pipelines to: (1) interconnect production wells to treatment facilities; (2) convey recycled water from water reclamation plants or imported water between the MWDSC’s Rialto Feeder Pipeline and the spreading grounds; and (3) convey treated wastewater (recycled) between the Pomona Water Reclamation Plant and the San Antonio Spreading Grounds. For the purposes of this analysis, it was assumed that new pipelines would be constructed within existing roadways. Removal of asphalt, trenching, stockpiling soil, staging equipment, and repaving would likely require temporary lane closures on streets where construction would occur. This activity has the potential to impair or physically interfere with an adopted emergency response plan or a local, State or federal agency’s emergency evacuation plan. Temporary lane closures and/or detours have the potential to slow traffic and thus impede emergency vehicles should there be an emergency in the vicinity of a project under construction. Therefore, a Watermaster Party proposing a new pipeline project shall develop and implement a Traffic Control Plan as set forth in mitigation measure HAZ-6. The plan must be coordinated with a City’s Public Works, Police and Fire Departments to ensure that emergency response personnel are aware of the construction work and that emergency vehicles can respond to emergencies through or around a construction zone. As applicable, traffic detour plans would address emergency

response and/or emergency evacuation for implementation during construction. Therefore, with implementation of mitigation measure HAZ-6, this impact would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.8-7

Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire? (Threshold 8)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

There are no occupants (residents or employees) associated with the proposed projects in this category. In addition, Pump and Treat projects are all located on sites within the urban areas of the Six Basins project area, and not within a High Fire Severity Zone where wildfire risk is greatest (see Figure 4.8-1), due to a combination of steep topography, dry vegetation (fuel) and wind factors (e.g., Santa Ana wind conditions). Therefore, there is a less than significant impact associated with the rehabilitation of existing wells and treatment facilities, and the development of new treatment facilities at existing sites. Construction and operational activities would not exacerbate wildfire risk such as pollutant concentrations or uncontrolled spread of wildfire.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction

There are no occupants (residents or employees) associated with the proposed projects in this category. In addition, the proposed underground infiltration gallery to be developed at the Fairplex is located in a developed area near the center of the site. Therefore, there is no risk of wildfire associated with the Fairplex project.

The PSG site is located in suburban area surrounded on three sides by residential neighborhoods and an elementary school. To the west is a small rural residential area and to the west and southwest is the Rancho Santa Ana Botanical Gardens, an approximately 85-acre undeveloped site. Although, the Pedley Spreading Grounds site is not located within a designated High Fire Severity Zone where wildfire risk is greatest, due to a combination of steep topography, dry vegetation (fuel) and wind factors (e.g., Santa Ana wind conditions). However, the project site and adjacent open space associated with the Botanical Gardens have the potential to burn under ideal fire conditions (dry vegetation, high wind conditions, source of ignition). This is a potentially significant impact. Therefore, mitigation measures HAZ-5 and HAZ-6 shall be implemented prior to initiation of construction or maintenance activities at the Pedley Spreading Grounds. This measure requires the preparation and implementation of a Fire Management Plan that identifies fire hazard reduction measures including: (1) clearing staging or welding areas of dried vegetation or any ignitable material; (2) equipment with spark arrestors shall be inspected to ensure that the equipment is in good working order; and (3) all vehicles and workers shall have access to functional fire extinguishers. Finally, when welding activities occur, a spotter shall be nearby to watch for sparks that could potentially ignite vegetation. Implementation of a Fire Management Plan will ensure that this impact is less than significant.

Both the SASG and TCSG project areas are located within a designated High Fire Severity Zone. Therefore, mitigation measures HAZ-5 and HAZ-6 shall be implemented prior to initiation of construction or operational maintenance activities at the SASG and TCSG. Implementation of a Fire Management Plan as set forth in mitigation measure HAZ-5 will ensure that this impact is less than significant.

Operation

Operation of spreading grounds is a relatively passive activity where a water supply (stormwater, supplemental water, recycled water) fills the basins and is allowed to percolate. Intermittently, maintenance must be performed to keep the basins free of vegetation and to remove silt built up on basin floors. For general operation of the spreading grounds, no mitigation is required. However, when maintenance is being performed using equipment to clear brush and remove silt, implementation of a Fire Management Plan as described in mitigation measure HAZ-5, will ensure that this impact is less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction

Future sites of the proposed new production wells are not known at this time. However, some new wells could be developed in the Upper Claremont Heights Basin or the Canyon Basin, the upper parts of which are located within the High Fire Severity Zone. This is a potentially significant impact. For future well development projects that may be located in a High Fire Severity Zone, or otherwise is within an area where the combination of steep slopes and vegetation may increase the risk of fire when combined with high winds and a source of ignition, mitigation measure HAZ-5 shall be implemented. Implementation of a Fire Management Plan as set forth in mitigation measure HAZ-5 will ensure that this impact is less than significant.

Likewise, although proposed pipelines and ancillary facilities (e.g., lift stations) would be constructed primarily within paved roadway rights-of-way and on disturbed open space (road shoulders), pipelines to connect new production wells to treatment facilities, or the proposed recycled water pipeline between the Pomona Water Reclamation Plant and the San Antonio Spreading Grounds, creates a potential for facilities to be located within or near wildland areas with high fire risk. The use of spark-producing construction machinery within a fire risk area could create hazardous fire conditions and expose construction workers to wildfire risks. This is a potentially significant impact that can be reduced to a less than significant level with the implementation of a fire management plan as set forth in mitigation measure HAZ-5. With implementation of mitigation measure HAZ-5, the impact is less than significant.

Operation

Once new wells and pipelines are in place, maintenance would be limited to periodic inspections and housekeeping activities (maintenance of facilities). These activities are not anticipated to cause a fire risk as maintenance activities (pump and treatment facility testing and maintenance, landscape maintenance). However, should such activities require the use of equipment that could cause sparking or otherwise have the potential to start a fire, implementation of a Fire Management Plan as set forth in mitigation measures HAZ-5 and HAZ-6 would be required to ensure that this impact is less than significant. This would be considered by the Watermaster Party responsible for individual projects, on a project-by-project basis, to ensure that impacts would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the

Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.8-8

Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (Threshold 9)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

All Pump and Treat projects are located on sites within the urban areas of the Six Basins project area, accessible by existing roads and supplied by existing utilities. Therefore, there is no impact associated with improvements to existing well sites in the Pomona Basin or the P-20 well site located in the Lower Claremont Basin.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction and Operation

Access to the PSG and Fairplex sites is available from existing roads into and around these sites. Likewise, all utilities are available to these sites. Therefore, there is no impact associated with the development of Water Recharge projects at these sites.

Access to the TCSG site is available from Thompson Creek Road either at the intersection with Mills Avenue on the east side of the site, or from E. Pomelo Drive at the southwest corner of the site. This road is gated for limited access to the site, including hikers using the Thompson Creek Trail. The proposed project includes grading and excavation of the site to increase the size of the basin for groundwater percolation. This will require vegetation removal and maintenance to desilt the basins floors and keep the basins vegetation free. There are no habitable structures associated with this project that would introduce new flammable materials. Maintenance activities are described above in Impact 4.8-7 and would require the implementation of a fire management plan as set forth in mitigation measure HAZ-5. Therefore, the development and operation of the Thompson Creek Spreading Grounds would not exacerbate fire risk or result in temporary or ongoing impacts to the environment regarding increased risk of fire with implementation of mitigation.

The exact location of the new recharge basin at the SASG is unknown but for the purposes of this Program EIR, it is assumed to be in the area of the SASG south of the existing spreading grounds (see Figure 4.1-6 in Section 4.1, *Aesthetics*, for the larger area). Access to the existing spreading grounds is from Mt. Baldy Road via a paved service road. This road could likely be extended southerly of the existing basins to the new recharge. A second access road exists at the terminus of Miramar Avenue at the southeast corner of the TVMWD water treatment plant. The road is an unpaved access road that is gated and locked on the south end. Access along the west side of the SASG is available from this point northerly to its terminus at Mt. Baldy Road with another locked gate. Using either access road would limit the amount of road grading required to that area between the existing access road and recharge basin. Grading an extension to the new approximately 50-acre SASG recharge basin could be done at the same time as the excavation is underway using the same equipment. This is a potentially significant impact for fire risk that can be reduced to a less than significant level with the implementation of a fire management plan as set forth in mitigation measures HAZ-5 and HAZ-6. With implementation of mitigation measures HAZ-5 and HAZ-6, the development and operation of the new recharge basin in the SASG would not exacerbate fire risk or result in temporary or ongoing impacts to the environment regarding increased risk of fire.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction and Operation

Production and Monitoring Wells

As discussed previously, the location of new production and monitoring wells is unknown at this time. However, the Strategic Plan states that new wells could be constructed in the Upper Claremont Heights Basin that includes portions of the SASG, and an area along Padua Avenue above the 210 Freeway. The area that overlies the Upper Claremont Heights Basin is relatively built out with urban uses (mainly residential) so that roads and utilities already exist. Therefore, the construction and operation of new production wells in the Upper Claremont Heights Basin would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

Pipelines and Interconnects

Pipelines and interconnects would be developed as new production wells are developed, or where existing wells may be connected to water treatment facilities such as the City of Pomona's P-20 well site in Lower Claremont Heights Basin that may be connected via pipeline to the TVMWD Miramar Water Treatment Plant and would be constructed along existing roads in the City of Claremont. Therefore, new pipelines and interconnects would not require the installation or maintenance of associated infrastructure (such as roads, fuel

breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The new pipeline proposed to connect the Pomona Water Reclamation Plant to the new San Antonio Heights Spreading Grounds would generally be constructed in existing roadways through urban areas with the exception of the pipeline and interconnection as it enters the SASG. Similar to the road grading in the SASG discussed immediately above, there is a potentially significant impact for fire risk that can be reduced to a less than significant level with the implementation of a fire management plan as set forth in mitigation measures HAZ-5 and HAZ-6. With implementation of mitigation measures HAZ-5 and HAZ-6, the construction and operation of the new recycled water pipeline into the SASG would not exacerbate fire risk or result in temporary or ongoing impacts to the environment regarding increased risk of fire.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with the transport, use, storage, or disposal of hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 3.8-9

Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (Threshold 10)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

There are no occupants (residents or employees) associated with the proposed projects in this category. All Pump and Treat projects are located on sites within the urban areas of the Six Basins project area, accessible by existing roads and supplied by existing utilities. Therefore, there is no impact associated with improvements to existing well sites in the Pomona Basin or the P-20 well site located in the Lower Claremont Basin that would expose

people or structures to significant risk of flooding or landslides due to post-fire slope instability or drainage changes.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

There are no occupants (residents or employees) associated with the proposed projects in this category.

The PSG site is located in suburban area surrounded on three sides by residential neighborhoods and an elementary school. To the west is a small rural residential area and to the west and southwest is the Rancho Santa Ana Botanical Gardens, an approximately 85-acre undeveloped site. The area can be characterized as being developed on a gently sloping alluvial fan. There are no hillsides or other slopes in the area that would be affected by fire resulting in post fire slope instability. Nor is there an opportunity for landslides to occur on or in the vicinity of the project site. Therefore, there would be no impact.

The Fairplex water recharge project site is located near the center of the larger Los Angeles County Fairplex site that is fully developed with paved parking lots and buildings. The Fairplex is surrounded by commercial, industrial and residential uses and is not located near the foothills. There are no hillsides or other slopes in the area that would be affected by fire resulting in post fire slope instability. Nor is there an opportunity for landslides to occur on or in the vicinity of the project site because there are no hillsides or other slopes at the site. Therefore, there would be no impact.

There are no occupants (residents or employees) associated with the proposed SASG and TCSG projects. Both spreading grounds sites will be developed with recharge basins that will be constructed below grade and be kept relatively free of vegetation that could burn during a wildfire event. Therefore, should a wildfire occur in the vicinity of the spreading grounds at either site, the water recharge basins would be minimally impacted and thus would not contribute to flooding or landslides or other post fire slope instability issues. Therefore, this impact would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

Production Wells

There are no occupants (residents or employees) associated with the proposed projects in this category. As described in the Strategic Plan, development of new production wells would occur within the Upper Claremont Heights Basin, an area that is largely developed with urban uses. Two recent examples for this type of project are the two production wells being developed by TVMWD in the City of Claremont, that will be connected via pipeline to its Miramar Water Treatment Plant. The first is being developed at the terminus of Grand Avenue, south of Baseline Road adjacent to the 210 Freeway. The area is developed with a

mix of single family and multi-family neighborhoods and is located approximately 1.5 miles south of the San Gabriel mountains. The second site is at the northwest corner of Grand Avenue and Miramar Avenue in an established single-family neighborhood approximately southeast of the San Gabriel mountains. It is anticipated that new production wells in Project Category 3 would be developed in similar areas of the Upper Claremont Heights Basin. Therefore, the construction and operation of new production wells would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Pipelines and Interconnects

Pipelines and interconnects would be developed as new production wells are developed, or where existing wells may be connected to water treatment facilities such as the City of Pomona's P-20 well site in Lower Claremont Heights Basin that may be connected via pipeline to the TVMWD Miramar Water Treatment Plant and would be constructed along existing roads in the City of Claremont. Because pipelines and interconnects are directly linked to new production wells in urban locations, the construction and operation of these new facilities would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The new pipeline proposed to connect the Pomona Water Reclamation Plant to the new recharge basin at the SASG would generally be constructed in existing roadways through urban areas with the exception of the pipeline and interconnection as it enters the SASG. The pipeline alignment represents a narrow area of disturbance that would be revegetated once the trench is backfilled. This new vegetation could burn in a wildfire and contribute to the risk of post-fire instability. However, the SASG is located at an elevation below the surrounding neighborhoods along the west side of the SASG, and on the east side of the SASG are established aggregate mining pits. Therefore, this project's contribution to post-fire slope instability and related landslides or changes in drainage represents a less than significant impact.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with the transport, use, storage, or disposal of

hazardous materials/wastes. Therefore, there are no environmental impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.8.4 Cumulative Impacts

Hazards and Hazardous Materials

The Six Basins project area is largely urbanized with residential, commercial and industrial uses. As the project area continues to develop, the addition of more similar land uses could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. All new projects proposed within the Six Basins project area would be subject to federal, State, and local regulations related to the routine transportation, use, storage, and disposal of hazardous materials. Since the proposed Strategic Plan and related projects would result in less than significant impacts related to the routine handling, use or disposal of hazardous materials, the projects' contributions to such impacts would be less than cumulatively considerable with mitigation incorporated, and therefore, would result in a less than significant cumulative impact. Mitigation measures have been identified where a project would require permits to construct/operate from SCAQMD, or where Vector Control measures are required (recharge basins).

Proximity to School Sites

The Six Basins project area is largely urbanized with residential, commercial and industrial development. As the project area continues to develop, there is the potential for some of these projects to emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. All cumulative development would be subject to federal, State, and local regulations related to the routine transportation, use, storage, and disposal of hazardous materials. Since the proposed Strategic Plan and related projects would not result in potentially significant impacts related to releasing hazardous emissions or materials within one-quarter mile of a school, the projects' contributions to such impacts would be less than cumulatively considerable and therefore, would result in a less than significant cumulative impact.

Hazardous Materials Site Pursuant to Government Code Section 65962.5

The Six Basins project area is largely urbanized with residential, commercial and industrial development. As the project area continues to develop, there is the potential for some of these projects to emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. All cumulative development would be subject to federal, State, and local regulations related to the routine transportation, use, storage, and disposal of hazardous materials. Since the proposed Strategic Plan and related projects could be constructed on current hazardous material sites, impacts would be cumulatively considerable and therefore, would result in a potentially

significant cumulative impact. However, with implementation of mitigation measure HAZ-3 to complete an Environmental Site Assessment on a project-by-project basis, this impact can be reduced to a less than significant level.

Airport Land Use Compatibility

The Six Basins project area is largely urbanized with residential, commercial and industrial development. As the project area continues to develop, the addition of more projects could be located within an airport land use plan which could result in a safety hazard for people residing or working in the project area. Since the proposed Strategic Plan projects do not include new residents or employees at project sites or structures exceeding height requirements, implementation of the Strategic Plan would not contribute to a significant cumulative impact regarding human health and safety. Some new projects could be constructed within an airport land use plan however, implementation of mitigation measure HAZ-4 would ensure that a Watermaster Party whose project falls within the plan boundary would comply with the guidelines of the relevant airport land use plan.

Wildfire Hazards

The Six Basins project area is largely urbanized with residential, commercial and industrial development. As the project area continues to develop, the addition of more urban uses in Fire Hazard Severity Zones could expose new people or structures to a significant risk of loss, injury or death involving wildland fires. Two projects in Project Category 2 – new recharge basin in the SASG and TCSG would be located in a Fire Hazard Severity Zone and there is a potential for future projects in Project Category 3 (e.g., new production wells and the pipeline between the Pomona WRP and the SASG) to be located nearby. Impacts could be cumulatively considerable and therefore, would result in a potentially significant cumulative impact. However, mitigation measures HAZ-5 and HAZ-6 have been identified that would require a Watermaster Party proposing a project within a Fire Hazard Severity Zone to develop and implement a Fire Management Plan, thus reducing the potential to contribute to the severity of this cumulative impact.

Emergency Planning

The Six Basins project area is largely urbanized with residential, commercial and industrial development. As the project area continues to develop, the addition of more projects could be located within an airport land use plan which could impair implementation of or physically interfere with an adopted emergency response plans or emergency evacuation plans during construction of facilities, particularly new pipelines and interconnects between wells and treatment facilities, or between the Pomona WRP and the new SASG recharge basin. Since the proposed pipelines would be constructed within public rights-of-way, impacts would be cumulatively considerable and therefore, would result in a potentially significant cumulative impact resulting in a safety hazard for people residing or working in the project area. However, implementation of mitigation measures TR-1 through TR-3 (see

Section 4.14, *Transportation*) would ensure that a Watermaster Party whose project would affect public right-of-way would implement a Traffic Control Plan in coordination with the local jurisdiction (Police and Fire departments). Therefore, with implementation of mitigation measures TR-1 through TR-3 implementation of the Strategic Plan and related projects would not contribute to a significant cumulative impact regarding emergency planning.

4.8.5 Mitigation Measures

Hazards/Emissions

HAZ-1 Permits. Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, the Watermaster Party responsible for a project site where treatment facilities are located, or a diesel operated back-up generator is proposed, shall obtain a Permit to Construct from SCAQMD. Once a piece of equipment is installed, modified and/or operated, SCAQMD will process the application for a Permit to Operate.

Hazards/Vector Control

HAZ-2 Prior to the initial use of new or expanded recharge basins within spreading grounds, Watermaster Parties proposing new recharge basins or expansion of existing recharge basins in spreading grounds shall coordinate with the local vector control agencies (West Valley MVCD or SGVMVCD) to develop a strategy/plan to minimize occurrence of vectors, such as midges and mosquitos; and to establish protocols for monitoring and eradicating vectors should they be found when basins are in use (filled with water). Monitoring to determine presence/absence of vectors during periods when recharge basins are holding water shall be the responsibility of the individual Watermaster Party to engage the services of a vector control professional. Should monitoring have positive results, the vector control professional shall work with the Vector Control District to implement control measures as set forth in the approved strategy/plan. The strategy/plan shall be prepared and available to be implemented prior to initiating the use of a new recharge basins or expansion area of an existing recharge basins.

Hazards/Contamination

HAZ-3 Prior to the commencement of any construction that would require ground-disturbing activities, a project proponent shall undertake a Phase I Environmental Site Assessments (ESA) to determine the presence/absence of soil and/or groundwater contamination at or in the vicinity of a project site. Recommendations identified in the ESA shall be implemented to the satisfaction of applicable agencies prior to and during construction. If the Phase I ESA finds the potential for hazardous concentrations of contaminated soil or groundwater to occur within the project site, a Phase II ESA shall be completed before construction begins.

If the Phase II ESA determines that the site has contaminated soil and/or groundwater, a Soil and Groundwater Management Plan that specifies the method for handling and disposing of contaminated soil and groundwater prior to demolition, excavation, and construction activities shall be prepared and implemented. A Phase II ESA shall include soil and/or groundwater sampling and analysis for anticipated contaminants. Such sampling is intended to identify how contaminated soil and/or groundwater shall be disposed of, and to determine if construction workers would need special personal protective gear and/or equipment.

Airport Safety

HAZ-4 For future projects that may be developed on sites within an airport safety zone, the Watermaster Party responsible for project development shall comply with the guidelines of the appropriate Airport Land Use Compatibility Plan (ALUCP). Project design plans for sites within an ALUCP shall be submitted to the appropriate Airport Management agencies for review and comment prior to implementation.

Wildland Fire

HAZ-5 During construction of facilities (new production wells, pipeline interconnects and related facilities) located in areas designated as Fire Hazard Severity Zones by CAL FIRE, fire hazard reduction measures shall be implemented and incorporated into a fire management plan. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

HAZ-6 Then, during long term operation of facilities located in Fire Hazard Severity Zones, the Watermaster Party conducting operations/maintenance activities of such activities (spreading ground desilting and vegetation removal, maintenance of well sites, etc.) shall ensure that a fire management plan shall be included in the maintenance plans for each facility.

Emergency Planning

TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical,

construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.

Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.

Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.

TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.

TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:

$$50 \text{ PCE truck trips} / 3.0 \text{ PCE factor} = 16 \text{ total trucks during the peak hour}$$

4.8.6 Level of Significance After Implementation

Implementation of mitigation measures HAZ-1 through HAZ-6 and TR-1 through TR-3 would ensure that individual projects and the contribution to cumulative impacts associated with the implementation of the Six Basins Strategic Plan and related projects can be reduced to less than significant levels.

4.8.7 References

WEI, Inc., 2017, Final Strategic Plan for the Six Basins.

Hazardous Materials

California Department of Water Resources Geotracker.

<https://www.waterboards.ca.gov/ust/>, and <http://geotracker.waterboards.ca.gov/>

California Department of Toxic substances Control Envirostor Database. The following

Lists were reviewed on February 20, 2019 at

<https://www.envirostor.dtsc.ca.gov/public/>,

- Hazardous Waste and Substances Site List (Cortese)
- List of Enforcement Sites
- List of Corrective Action Sites
- List of Permitted Hazardous Waste Facilities
- List of Facilities with Pending Permits
- List of Orphan Funded Sites
- List of Responsible Party Funded Sites
- List of Other Funded Sites
- List of Voluntary Cleanup Sites
- List of Statewide Evaluation Sites
- List of Schools Division Cleanup Sites
- List of Schools Division Evaluation Sites
- List of CalMortgage Sites
- List of Corrective Action Sites
- List of Completed Sites

US EPA <https://www.epa.gov/superfund>

CalEPA

CalEPA Executive Officer Reports regarding Victor Graphics and United Production

Los Angeles Regional Water Quality Control Board

https://www.waterboards.ca.gov/losangeles/board_info/eo_reports/past_eo_report/2013/eorpt06nov.pdf

https://www.waterboards.ca.gov/losangeles/board_info/eo_reports/past_eo_report/2014/eorpt10apr2014.pdf

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https://www.waterboards.ca.gov/losangeles/board_info/eo_reports/past_eo_report/2016/Sept9-FINAL.pdf

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City of Upland, 2015, *General Plan Land Use Element and Map*.

Federal Aviation Administration (FAA) *Advisory Circular 150-5200-33, Hazardous Attractants on or Near Airports*, August 2007
https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentnumber/150_5200-33

Los Angeles County Department of Airports, 2015, *Brackett Field Airport Land Use Compatibility Plan*,
http://planning.lacounty.gov/assets/upl/project/brackett_alucp_final.pdf

Los Angeles County Department of Regional Planning. 2018. LA County GIS.
<http://planning.lacounty.gov/assets/obj/anet/Main.html>

Mead and Hunt, 2014, *Cable Airport Land Use Compatibility Plan*.

National Transportation Safety Board. 2017. Available at:
<https://www.nts.gov/layouts/nts.aviation/Results.aspx?queryId=63ed4779-8da1-4e22-9648-8211bd4d1221>

Wildfire

CalFire, Very High Fire Hazard Severity Zone Maps for the cities of:

Claremont https://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/los_angeles/Claremont.pdf

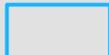
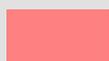
LaVerne https://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/los_angeles/La_Verne.pdf

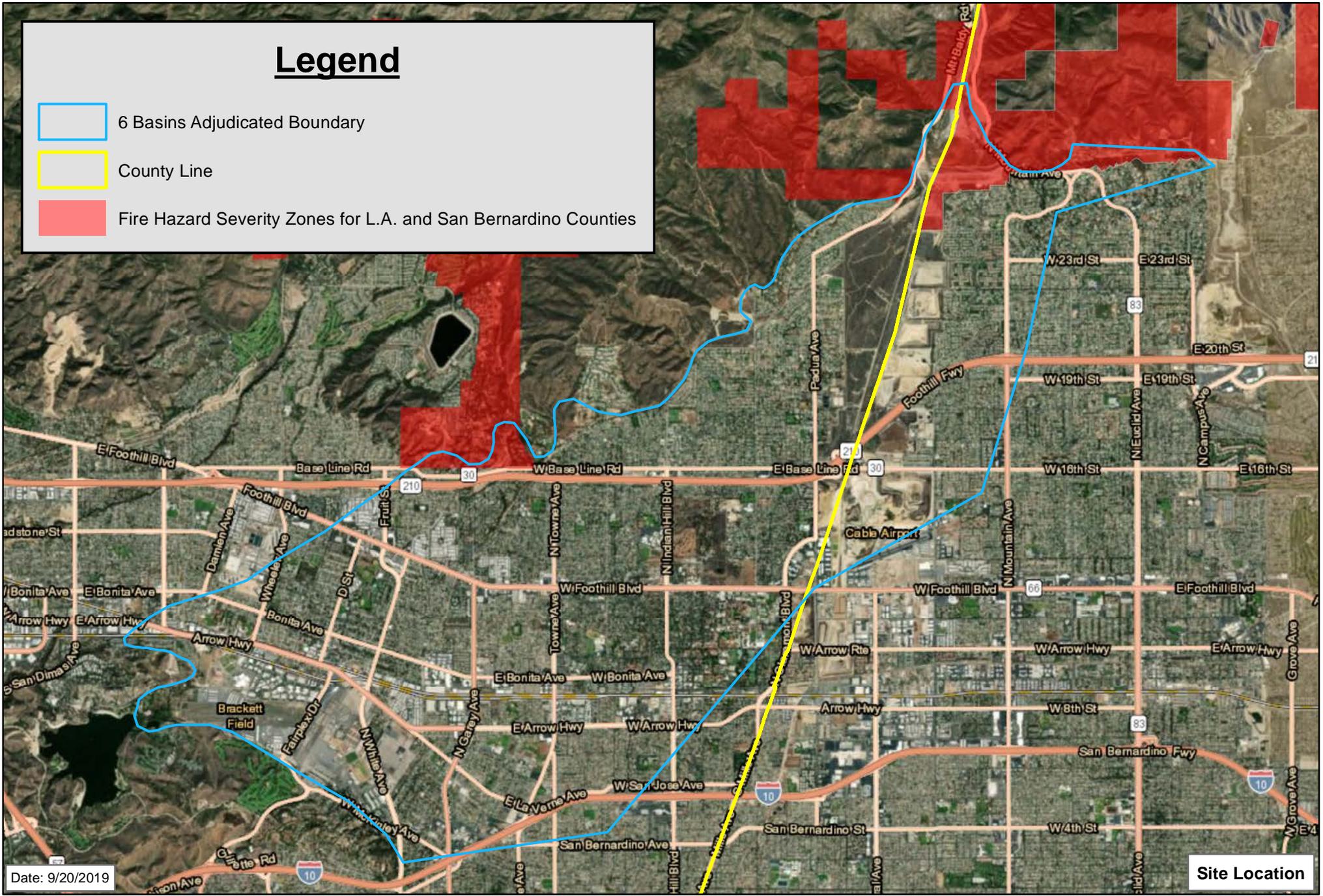
Pomona https://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/los_angeles/Pomona.pdf

Upland https://www.fire.ca.gov/fire_prevention/fhsz_maps/FHSZ/san_bernardino/Upland.pdf

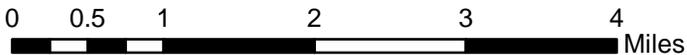
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Legend

-  6 Basins Adjudicated Boundary
-  County Line
-  Fire Hazard Severity Zones for L.A. and San Bernardino Counties



Date: 9/20/2019



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Fire Hazard Severity Zones Los Angeles and San Bernardino Counties

6 Basins
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4.9 Hydrology/Water Quality

4.9.1 Introduction

This section describes the environmental and regulatory setting for Hydrology and Water Quality and evaluates the potential significant impacts associated with implementation of the proposed Strategic Plan and related projects. The Environmental Setting Section below is a summary of information included in Chapter 2, *Hydrology and Water Quality Existing Conditions*.

4.9.2 Environmental Setting

Regional Setting

Surface Water

Capture and Loss of Surface Water

Figure 2-1, in Chapter 2, *Existing Conditions*, shows the three primary watersheds that are tributary to the Six Basins. From west to east, these watersheds are Live Oak Wash, Thompson Creek, and San Antonio Creek. These watersheds originate in the San Gabriel Mountains and generally flow from north to south across the Six Basins project area. The Live Oak Wash and Thompson Creek wash are part of the San Gabriel River watershed; while the San Antonio Creek wash is part of the Santa Ana River watershed.

All three creeks are dammed for flood-control and water-conservation purposes; and spreading grounds have been constructed downstream of each dam to recharge water released from the dams. All three creek systems included a concrete-lined channel for their entire course across the Six Basins project area. Thus, any surface-water discharge that bypasses the spreading grounds is a water resource that is lost from the Six Basins.

Surface-water runoff generated in the three watersheds described above is diverted and used in the Six Basins for two purposes: (1) direct potable and non-potable uses; and (2) groundwater recharge. Figures 2-4 through 2-9 in Chapter 2, show the facilities used to control, divert, and monitor the surface-water discharge on Live Oak Wash, Thompson Creek, and San Antonio Creek. The Surface Water Runoff calculations shown in Figures 2-5, 2-7 and 2-9 represent a 15-year study period. There have been no changes in the diversion systems in any of these washes, therefore, this study period was used to show that between 50 percent and 100 percent of the surface water in any given year is not captured and used to recharge of the six basins.

Live Oak Wash

Figure 2-4 in Chapter 2 shows the facilities in Live Oak Wash used for flood control, monitoring of surface-water discharge, and diversion of surface water for recharge. The Live Oak dam is owned and operated by Los Angeles County Flood Control District (LACFCD) for flood control purposes. The total storage capacity behind the dam is about 250 acre-ft. when

present, runoff generated in Live Oak Canyon is captured behind the dam then released by LACFCD to an unlined portion of Live Oak Wash. Water released from the dam flows down the wash and into the Live Oak Debris Basin to capture sediment and debris. The debris basin is located above the Live Oak Spreading Grounds (LOSG). The debris basin and the LOSG are maintained and operated by LACFCD. Water that flows out of the debris basin is either diverted into the LOSG and recharged into the Live Oak groundwater basin or is discharged to the concrete-lined Live Oak Wash Channel and subsequently flows to Puddingstone Reservoir to the southwest without recharging the Six Basins. In addition to recharging native water, TVMWD periodically uses the LOSG to spread imported water as part of its conjunctive use program with Metropolitan Water District of Southern California (MWDSC). There are no Strategic Plan projects proposed in the Live Oak Wash, therefore, this area is not discussed further.

Thompson Creek

Figure 2-6 in Chapter 2, shows the facilities on Thompson Creek used for flood control, monitoring of surface-water discharge, and diversion of surface water for recharge. The Thompson Creek project area is owned by the Pomona Valley Protective Association (PVPA) while LACFCD has an easement from PVPA for the Thompson Creek dam.

Runoff generated above the dam, with the exception of flows from Chicken Creek, enters the PVPA property at the diversion structure at the north end of the property. This structure, operated by LACFCD in cooperation with PVPA, controls where the surface water is directed; either behind the dam and/or to PVPA's conveyance ditch. Runoff that is diverted at the diversion structure to the PVPA conveyance ditch, or enters the ditch from Chicken Creek, flows south into a tunnel under the dam and is discharged into two recharge pits located just south of the dam: East Pit and West Pit. In the interest of flood protection, LACFCD controls the diversion structure such that during storms the majority of the runoff is diverted to behind the dam rather than to the PVPA conveyance ditch. This prevents overflow of the pits if the flow in the conveyance ditch is too high. The result is that water discharged to the wasteway channel flows into the concrete-lined Thompson Creek Channel where it eventually flows to San Jose Creek without recharging the Six Basins.

San Antonio Creek

Figure 2-8 in Chapter 2 shows the facilities in the San Antonio Creek wash used for flood control, monitoring of surface water discharge, and diversion of surface water for recharge. Surface water rights in San Antonio Canyon belong to SAWCo and the City of Pomona in a 60/40 split, with 60 percent of the flow diverted by SAWCo and 40 percent of the flow diverted by the City of Pomona (diverted to the Pedley Water Treatment Plant). Any flows not diverted by either party is available to PVPA for diversion and recharge at the existing San Antonio Spreading Grounds (SASG).

San Antonio Water Company

Water diverted by SAWCo is either delivered to its shareholders for potable and non-potable uses or is used for recharge at the SASG and/or at spreading grounds in the Cucamonga

Basin, the adjacent groundwater basin to the east/southeast. Surface flows diverted at the 60/40 splitter box are directed to the San Antonio Tunnel Ponds (see Figure 2-8) or south of the dam to SAWCo's or City of Upland's distribution systems. The City of Upland is a major shareholder in SAWCo. Water diverted to the Tunnel Ponds percolates into underground "tunnels" that direct flow under the dam to discharge into SAWCo's potable distribution system. Surface flows that bypass the Tunnel Ponds are either sent to SAWCo's non-potable distribution system or to the San Antonio Canyon Treatment Plant where flows are treated before entering the City of Upland's potable distribution system. Backwash from this treatment plant can be diverted to SAWCo's Reservoir 9, where it is combined with excess water from the non-potable system and then discharged to the existing SASG basins for recharge.

City of Pomona

Water diverted by the City of Pomona at the 60/40 splitter box, combined with surface-water flows diverted from Evey Canyon above the dam, flows by gravity in a shallow underground pipeline called the Canon Pipeline. The Canon Pipeline conveys the water to the City of Pomona's Pedley Water Treatment Plant (WTP) (See Figure 4.1-8 in Section 4.1, *Aesthetics* for location) where the water is treated and served for direct potable use. The Pedley WTP is located adjacent to the Pedley Spreading Grounds (PSG) shown in Figure 2-3 in Chapter 2. The surface water diverted to the Canon Pipeline generally exceeds the treatment capacity of the Pedley Treatment Plant. Under such conditions surplus water is conveyed to existing SASG or PSG recharge basins. The location of the City's turnout to the SASG is shown on Figure 2-8. At the end of the Canon Pipeline, water can be spread at the PSG either before it enters the WTP or as backwash.

Pomona Valley Protective Association

Runoff from the San Antonio Creek watershed that is in excess of what can be used by SAWCo and the City of Pomona is captured behind the San Antonio dam. PVPA works with the US Army Corps of Engineers (USACE) to coordinate releases from the dam for diversion and recharge in the SASG. Under existing conditions recharge in the SASG occurs at two sites, on the east side of the SASG, spreading occurs in cascading recharge basins operated by PVPA, and on the west side of in cascading recharge basins operated by LACFCD. Release gates at the dam discharge water to a large concrete chamber beneath the dam. USACE computes daily outflow from the dam based on the position of the release gates and the water surface elevation of the reservoir behind the dam.

Figure 2-8 shows how water is diverted and spread in the SASG recharge basins. Currently, on the Los Angeles County side of the SASG, water is diverted to either a series of five basins located at the northern boundary of the SASG and/or to an unlined channel that runs parallel to the west side of the San Antonio Creek Channel. The five basins were re-constructed in the fall of 2008 to increase the amount of water that could be recharged in the northern portion of the SASG. Water on the Los Angeles County side is preferentially diverted to these LACFCD basins.

Water discharged to the San Bernardino County side of the SASG is first discharged to the Hog Wallow basin just south of the dam. There are two gates to release water from Hog Wallow to the SASG. The western gate discharges water to a series of three large berms. The berms were constructed in the fall of 2009 to increase the amount of water that could be recharged in the northern portion of the SASG. The eastern gate directs water around the berms where it flows south across the spreading grounds. Flow is generally only diverted around the berms when they are filled to capacity. During periods of high flow, water that flows south of the berms can be diverted into Holliday Rock's aggregate pits No. 5 and No. 6 (see Figure 2-8 for location of these pits).

Water discharged to the concrete-lined San Antonio Creek Channel has one more opportunity to be diverted to the SASG via the Lower San Bernardino Turnout. The turnout is a drop-inlet structure that diverts water to the San Bernardino County side of the SASG.

Surface Water Quality

Surface water quality is affected by point source and non-point source pollutants. Point sources are specific to a site such as a wastewater treatment plant sewer outfall. Non-point source pollutants include urban runoff from sites that drain into storm drain systems, or agricultural runoff (fertilizers, pesticides that may drain into agricultural drains or into adjacent streams. As shown in Figure 2-1 in Chapter 2, the watershed areas above the six basins are within the San Gabriel mountains with no urban development. Therefore, the quality of the surface water entering the spreading grounds associated with the Live Oak, Thompson and San Antonio creeks from these watersheds is good.

Imported Water

Imported water is available to the Six Basins Parties from TVMWD and Inland Empire Utilities Agency (IEUA); both member agencies of the MWDSC. MWDSC is a consortium of 26 cities and water districts that provide drinking water to approximately 19 million people in parts of Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties; a service area of about 5,200 square miles. MWD currently delivers about 2 million acre-ft/yr of imported water to its entire service area from the State Water Project (SWP) and the Colorado River.

Weymouth Water Treatment Plant

MWDSC treats imported water at its F.E. Weymouth Water Treatment Plant (Weymouth WTP) located in the City of La Verne. The Weymouth WTP has a treatment capacity of 520 million gallons per day. Most of this water originates from the Colorado River, with a small amount originating from the SWP. The City of Pomona is the only Six Basins Party that receives treated water directly from the Weymouth WTP.

Miramar Water Treatment Plant

TVMWD is a wholesale water agency that delivers water to its member agencies from either MWDSC's Weymouth WTP, or from its own Miramar Water Treatment Plant (Miramar WTP), located in the City of Claremont. The Miramar WTP receives 100 percent untreated SWP water from MWDSC's Foothill Feeder and treats it for potable use. Water deliveries from the Miramar WTP are supplemented with Six Basins groundwater produced by TVMWD. Currently, groundwater makes up only a minimal amount (approximately 4 percent) of the total deliveries from TVMWD's Miramar system. The City of La Verne and Golden State Water Company (for their Claremont and San Dimas systems) have a 50/50 share of the available water from the Miramar WTP, but they currently do not utilize the total water available. Excess water can be delivered to the City of Pomona, or other water districts outside the Six Basins project area (e.g., Walnut Valley Water District, and Rowland Water District) on an interruptible basis.

Agua de Lejos Water Treatment Plant

IEUA treats SWP water at the Water Facilities Authority's (WFA), Agua de Lejos Water Treatment Plant, located in the City of Upland. The City of Upland is the only Six Basins Party that purchases imported water from IEUA. The WFA is a Joint Powers Authority governed by its member agencies: the cities of Chino, Chino Hills, Ontario, Upland, and the Monte Vista Water District. Its service area covers approximately 135 square miles within the upper Santa Ana River watershed. This treatment plant treats and disinfects imported water supplies, primarily SWP water, purchased from MWDSC to supplement local groundwater supplies.

Recycled Water

City of Pomona

According to the City's general plan, the city receives recycled water from the County Sanitation Districts of Los Angeles County (CSDLAC) Pomona Water Reclamation Plant (WRP) located at 295 Humane Way. The City's recycled water distribution system was built to serve customers both inside and outside of the City's service area and also serves the non-potable supply pumped by the city from Spadra Basin located adjacent to the south of the Pomona Basin. According to the City's 2015 Urban Water Management Plan (UWMP), since that time, most of the recycled water customers within the City's service area have left. However, in 2008, the Robertson's Ready Mix concrete plant was added. The city prepared the *Recycled Water Management Plan* (RWMP) in November 2009 to evaluate potential new recycled water customers to be added to the City's existing recycled water system, and to determine future system expansions. According to the 2015 UWMP, since preparation of the RWMP, some of those potential customers have also left the area. However, the City continues to identify potential users of recycled water and there are two Strategic Plan projects that may be developed to take in recycled water for groundwater recharge. These include the use of some recycled water in the proposed underground infiltration gallery at the LA County Fairplex site and constructing a pipeline between the Pomona WRP and the

new SASG recharge basin, both identified under Strategic Plan Project Category 2, *Stormwater and Supplemental Water Recharge*.

City of Upland

IEUA provides recycled water to the City of Upland from its WRP No. 4 (RP-4) located in the city of Rancho Cucamonga and at times from RP-5 located in the city of Chino. Upland provides 636 acre-ft/yr in the southeastern sector of the city that is mostly used for large landscape irrigation areas, such as the Upland Hill Country Club golf course, city parks, several school grounds and the Euclid Avenue median. The city of Upland anticipates increasing that amount to 800 acre-ft/yr by 2030.

Groundwater

The Six Basins are part of a large broad alluvial plain located along the southerly extent of the mountains that sits atop a depression known as the Chino Plain, also known as the Perris Block. As described in Section 4.7, *Geology/Soils/Paleontological Resources/Mineral Resources*, soil deposits in the Six Basins project area are the result of deposition associated with sediments washing down from the San Gabriel Mountains along numerous drainages over time, coalescing and building to form the water bearing sediments that sit atop the bedrock.

The USGS has characterized the San Gabriel Mountains as being “traversed by deep, steep-sided canyons cut into highly fractured crystalline basement rocks that form the bedrock underpinnings of the mountains. The sides of most canyons are blanketed by unstable hill-slope rock debris that is constantly being stripped away by slope failures and by runoff and washed out to the mountain front, where sediment is deposited on surfaces and channels of alluvial fans.” Over time, these sediments were transported from the canyons by flooding and deposited atop the consolidated bedrock formations as interbedded, discontinuous layers of gravel, sand, silt, and clay to form the water-bearing sediments of the Six Basins. Sediments are continuously eroding from the mountains and are transported into the area through the various creeks that emanate from the mountains including San Antonio Creek, Thompson Creek, and Live Oak Creek. These sediments are divided into two classes - older alluvium and younger alluvium.

The Strategic Plan describes the stratigraphy (rock layering) of the Six Basins as being divided into two natural divisions: (1) pervious formations that comprise the groundwater reservoir are termed “water-bearing sediments”; and (2) impermeable formations that bound the groundwater reservoirs in places are termed “consolidated bedrock.” Water-bearing sediments overlie consolidated bedrock, with bedrock formations coming to the surface in the surrounding hills and mountains. These geologic formations are described below in stratigraphic order, beginning with the oldest formations.

Geologic cross sections of the Six Basins were presented in Chapter 2, *Existing Conditions* as Figure 2-12, *Elevations of the Bottom of the Aquifer and the Location of Geologic Cross Sections*; Figure 2-13, *Cross Section A-A'*, Figure 2-14, *Cross Section B-B'*, Figure 2-15, *Cross Section C-*

C', and Figure -16, *Cross Section D-D'*. The figures depict data from various monitoring and production wells within the Six Basins that show the depth of the water bearing sediments relative to the ground surface and the consolidated bedrock. The composition of the water bearing sediments include gravel, sand, silt and clay that are derived from granite, decomposed granite and cobbles/boulders. Other data shown on these figures summarize the maximum concentrations of chemical constituents that adversely affect water quality measured in the wells. These data are further described and evaluated in Section 4.8, *Hazards/ Hazardous Materials/Wildfire Hazards*.

Consolidated Bedrock

The consolidated bedrock formations that flank and underlie the Six Basins consist of very old crystalline rocks of the Basement Complex and younger sedimentary and volcanic rocks of the Puente Group. The Basement Complex consists of deformed and recrystallized metamorphic rocks (*e.g.*, banded gneisses) that have been intruded by masses of igneous rocks (*e.g.*, granite). As shown in Figure 4.7-1 in Section 4.7, *Geology/Soils, Paleontological Resources/Mineral Resources*, the Basement Complex outcrops in the San Gabriel Mountains along the northerly boundary of the Six Basins and in the eastern San Jose Hills along the southerly boundary of the Six Basins. Weathering and erosion of the Basement Complex in the San Gabriel Mountains is the major sediment source for the younger sedimentary formations, in particular the water bearing sediments of the Six Basins.

Water Bearing Sediments

Water bearing sediments daylight along the northern and southern Six Basin boundaries at the surface contact with the consolidated bedrock. They are typically composed of gneissic and granitic debris from the mountains and can be differentiated into the older alluvium of Pleistocene age and younger alluvium of Holocene age. The Strategic Plan characterized these formations from driller's logs and surface outcrops within the Six Basins.

The older alluvium has been deposited over the bedrock formations under conditions similar to existing conditions in the area where runoff carries sediment and debris in the washes emanating from the mountains. Typically, the older alluvium is thicker than the younger alluvium, especially in the central and deeper portions of the Six Basins. This alluvial material is the main source of groundwater for the groundwater production wells, and most wells in the Six Basins have their screens completed within the water bearing sediments. Some of these wells can pump over 1,000 gallons per minute (gpm).

The younger alluvium was deposited on top of the older alluvium after a period of weathering and erosion of the older alluvium. The younger alluvium is typically a fresh, un-weathered, grey or brown color, and occupies stream beds, washes, and other areas of recent sedimentation. The younger alluvium is absent in places and is typically thin compared to the older alluvium; generally, less than 150 feet thick. Where it exists, it is commonly unsaturated and lies above the regional water table.

The younger alluvium is typically more permeable than the older alluvium allowing surface water to percolate readily. Figure 2-11, *Hydrologic Soil Types*, in Chapter 2, *Existing Conditions*, shows the hydrologic soils types across the Six Basins as mapped by the federal Natural Resources Conservation Service (NRCS). When reviewed with Figure 4.7-1, one can see that the soils mapped as having moderate to high infiltration rates coincide with the younger alluvium, and that soils mapped as having slow infiltration rates coincide with the older alluvium on the Figure 4.7-1. Also, the spreading grounds in the Six Basins are located in areas that overlie the younger alluvium and, in the case of the SASG, soils/sediments with relatively high infiltration rates.

Groundwater Quality

Historically, the Six Basins project area included agricultural uses where pesticides and herbicides were likely used over several years and may have resulted in contaminated soil. More recently, some urban uses in the project area have resulted in soil and groundwater contamination including gas stations and other fueling stations located at industrial facilities (e.g., airports, corporate yards, trucking facilities) that have resulted in contamination of groundwater. Groundwater contamination is known to occur in the Six Basins project area in the cities of Pomona and La Verne specifically related to long term industrial uses. This is discussed in detail in Chapter 2, *Existing Conditions*.

The Strategic Plan described a number of contaminants known from groundwater monitoring/testing in the Six Basins project area, including the following:

- Constituents associated with salt and nutrient management planning, which are primarily Total Dissolved Solids and nitrate.
- Other constituents where a primary or secondary Maximum Contaminant Level (MCL) was exceeded in five or more wells from 2007 to 2011, which include TDS, nitrate, and perchlorate.
- Constituents associated with known point-source contamination sites, which include trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), and hexavalent chromium (Cr-6).
- Constituents for which the Department of Water Resources Division of Drinking Water (DDW) is in the process of developing an MCL that may impact future beneficial use of groundwater, which include hexavalent chromium and 1,2,3- trichloropropane (1,2,3-TCP).

The Strategic Plan provided a series maps (Figures 2-35 through 2-41) that show the areal distribution of groundwater quality for the constituents of potential concern (COPCs) listed above. The maximum concentration measured at each well from 2007 to 2011 is displayed by circle size and color. These maps have not been reproduced here but are included in Program EIR Appendix F, *Selected Figures from The Six Basins Strategic Plan*.

Table 4.9-1, *Groundwater Constituents of Potential Concern and Treatment Facilities*, lists the contaminants known to occur in the Six Basins, the current treatment methods, and proposed additional treatment methods. These well sites are all located in the Pomona Basin with the exception of the P-20 site which is located in the LCHB. Proposed treatment methods are discussed in Section 4.9.2, *Project Impacts*.

Table 4.9-1 Groundwater Constituents of Potential Concern and Treatment Facilities

Site	Known Constituents of Potential Concern	Current Treatment	Proposed Additional Treatment
Reservoir 5	Concentrations of DCE Chromium-6 Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove Cr-6, nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove DCE
Lincoln/Mills	Concentrations of TCE Nitrate Perchlorate	Air stripping system	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate; and (2) expand existing air stripping facility or construct a GAC facility to remove TCE
Del Monte 4	Concentrations of TCE, Arsenic	GAC system	(1) construct an arsenic treatment system
Durward 2	Concentrations of TCE Nitrate Perchlorate	No facilities, well has been removed	(1) construct new well; (2) construct new air stripping, GAC; IX and/or biological treatment facilities at the new well to treat TCE, nitrate, perchlorate
Old Baldy Well	Concentrations of Nitrate Perchlorate	Well has been inactive since 2002 due to high	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate and perchlorate
P-20 Well ¹	Concentrations of Nitrate	Well has been inactive since 2002 due to high nitrate concentrations	(1) construct ion exchange (IX) or biological treatment facility to remove nitrate

Source: *Strategic Plan for the Six Basins, WEI, 2017, Section 2.6.3.*

Notes:

- The City of Pomona's P-20 well site is listed under Project Category 3, Temporary Surplus Project, however, because this project is similar in type and scope to the Project Category 1, Pump and Treat projects, it is included in this table.

Flood Hazards

Figure 2-1 in Chapter 2 identifies the three primary watersheds that are tributary to the Six Basins. From west to east, these watersheds are Live Oak Wash, Thompson Creek, and San Antonio Creek. They generally flow from north to south across the Six Basins. The Live Oak Wash and Thompson Creek are part of the San Gabriel watershed and the San Antonio Creek is part of the Santa Ana River watershed. All three creeks are dammed for flood-control and water-conservation purposes. Spreading grounds have been constructed downstream of each dam to recharge water released from the dams. Surface waters that have not infiltrated or been diverted for use in the Six Basins exit the Six Basins in the stream channels; all of which were concrete-lined for flood-control purposes in the late-1950s and early-1960s. In addition, as the project area converted from citrus to urban land uses, the imperviousness urbanized areas were connected to the storm-drain systems to export runoff from the area.

Live Oak Wash

There are no Strategic Plan projects associated with the Live Oak Wash that would be affected by or cause an increase in the potential for flooding to occur. Therefore, further discussion of flood hazards focuses on Thompson Creek and San Antonio Creek.

Thompson Creek

Since 1931, the Thompson Creek dam and reservoir have been operated and maintained by LACFCD through easements from PVPA for flood control purposes. Currently, LACFCD's standard operating procedure is to store the water behind the dam up to a water surface elevation (WSE) of 1,620 feet and allow it to percolate or evaporate. The reservoir storage behind the dam at a WSE of 1,620 feet is about 217 acre-ft. When the WSE behind the dam exceeds 1,620 feet, water is released to the wasteway channel that flows into the concrete-lined Thompson Creek Channel where it eventually flows to San Jose Creek without recharging the Six Basins.

Flows emanating from the San Gabriel Mountains into Thompson Creek do not occur year-round but instead are dependent on snowmelt and rainfall that generally occur during winter/spring months. The remainder of the year, the area behind the dam is dry. However, during periods of heavy rain or snowmelt, failure or rupture of the Thompson Creek dam could release waters that result in flooding the area south of the dam if there is water retained behind the dam.

San Antonio Creek

The San Antonio dam and reservoir is operated and maintained by USACE. The dam primarily serves as a major flood control channel and therefore does not store large quantities of water except during periods of heavy rain. However, when full, failure or rupture of the San Antonio dam could release waters and result in the flooding of areas south of the dam if there is water retained behind the dam. USACE has developed a dam safety program for this facility. The primary objective of the Dam Safety Program is to maintain public safety by making sure the dams owned and operated by USACE are safe, and risks to the public are minimized.

Regulatory Setting

Federal

Clean Water Act

The objective of the federal Clean Water Act (CWA) is to “*restore and maintain the chemical, physical and biological integrity of the Nation’s waters,*” in order to make waters of the United States “*fishable and swimmable.*” The CWA serves as the primary federal law protecting the quality of waters of the United States (US), including lakes, rivers, and coastal wetlands. The CWA requires that states adopt water quality standards, including standards for toxic substances, and to implement a continuing planning process, which includes public hearings at least once every three years to review the water quality standards and revise them if necessary.

CWA Section 402

Under the CWA, EPA has implemented a number of pollution control programs such as setting wastewater standards for industry. For example, CWA made it unlawful to discharge any pollutant from a point source into navigable water without a permit. A point source is defined as any discrete conveyance such as a pipe or ditch used by an industrial land use (e.g., manufacturing or mining) or municipal facility (e.g., wastewater treatment plant). These types of users must obtain permits if their discharges go directly to surface waters. Other uses such as residential or commercial uses that are connected to a municipal system, septic system or otherwise do not have a surface discharge, are not subject to the CWA.

CWA Section 402 also regulates storm water discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) permit program. In California, the EPA has authorized the SWRCB to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs). The RWQCBs, under EPA guidance, issue NPDES permits to any construction project over one acre that are not covered by an individual NPDES permit. NPDES programs applicable to projects within the Six Basins project area are described further under the State’s requirements below.

CWA Section 303(d)

CWA Section 303(d) requires each state to develop a list of water bodies that will not attain water quality standards after implementation of technology-based effluent limitations by point-source dischargers. These water bodies, referred to as "water quality limited segments," do not meet water quality standards even after discharges of wastes from point sources have been treated by the minimum required levels of pollution control technology. Section 303(d) requires a state to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of pollutant loading that the water body can receive and still meet water quality standards.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) has mapped most of the flood risk in the country through the National Flood Insurance Program and has produced Flood Insurance Rate Maps (FIRM) for areas that fall within a flood zone. FEMA's flood zones are geographic areas that are defined according to varying levels of flood risk. FEMA uses specific designations to define areas of Low Risk, High Risk and Undetermined Risk. Because the project area is highly urbanized, surface water runoff from rain and snow originating in the San Gabriel Mountains moves through the San Gabriel River watershed in a series of drainages that become concrete lined channels through the urbanized areas. In the Six Basins project area these include Live Oak Creek and Thompson Creek. San Antonio Creek, south of the dam, is a concrete lined channel that drains the Santa Ana River watershed. As shown in Figure 4.9-1, *FEMA Flood Hazard Areas*, the entire Six Basins project area is in an area of minimal flooding hazard due to the control of flood waters behind dams, and into concrete lined channels that convey stormwater and other surface flows (e.g., irrigation water) into the San Gabriel or Santa Ana rivers.

State*Porter-Cologne Water Quality Act*

The Porter-Cologne Water Quality Control Act, also known as the California Water Code (California Code of Regulations Title 22), is the State's statutory authority for the protection of water quality. Unlike the federal CWA that only regulates surface water, the California Water Code regulates water quality in both surface water and groundwater. This authority serves as the basis for Waste Discharge Requirements issued to wastewater treatment facilities (also known as water reclamation plants) and other industrial users by the RWQCBs; as well as Waste Discharge Requirements issued under the federal NPDES program.

As described in Chapter 2, *Existing Conditions*, native surface water resources that are tributary to the Six Basins emanate from the San Gabriel Mountains with the Live Oak Wash and Thompson Creek watersheds being a part of the larger San Gabriel River watershed; and the San Antonio Creek watershed being part of the larger Santa Ana River watershed. Therefore, the Six Basins project area falls under the authority of both the Los Angeles RWQCB and the Santa Ana River RWQCB.

The California Water Code requires SWRCB to adopt water quality policies, plans, and objectives that protect the Waters of the State and sets forth the obligations of SWRCB and RWQCBs requiring the adoption of Water Quality Control Plans (Basin Plans) and the establishment of water quality objectives. The purpose of a Basin Plan is to (1) designate beneficial uses for surface and ground waters, (2) set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy, and (3) describe implementation programs to protect all waters in a region. Both the Los Angeles RWQCB and the Santa Ana River RWQCB operate under approved Basin Plans.

In addition to the Basin Plans implemented at the regional level, SWRCB produces a biennial report as required under the CWA Section 305(b) and as reported to the State by RWQCBs. The latest 303(d) list and 305(b) report was combined into the 2014-2016 California Integrated Report. After approval of the 303(d) list by SWRCB, the Report was submitted to and approved by EPA in June 2018. A review of the State's 303(d) list showed that none of the water bodies within the Six Basins project area (Live Oak, Thompson Creek and San Antonio Creek) are listed as impaired.

Finally, SWRCB governs the permitting of recycled water projects, develops uniform water recycling criteria and reviews and approves Title 22 engineering reports prepared for recycled water use projects. At the regional level, wastewater treatment standards are set and enforced by Los Angeles RWQCB and the Santa Ana River RWQCB in consultation with the California Department of Public Health. In 2009, SWRCB adopted the Recycled Water Policy, based on its Strategic Plan Update 2008-2012 for the RWQCBs. SWRCB Strategic Plan goals as they relate to implementation of the Six Basins Strategic Plan are paraphrased as follows:

- Improve and protect groundwater quality in high-use basins by 2030;
- Increase sustainable local water supplies available for meeting existing and future beneficial uses; and
- Comprehensively address water quality protection and restoration, and the relationship between water supply and water quality, and describe the connections between water quality, water quantity, and climate change, throughout California's water planning processes.

SWRCB's Recycled Water Policy, most recently amended in 2018, is intended, in part, to support its Strategic Plan by allowing the increase in the amount of recycled water that may be used to achieve more sustainable local water supplies for beneficial uses. The Policy states, in part ... *the use of recycled water in California is part of an integrated water management approach that includes water conservation, capture and use of stormwater, aquifer storage and recovery, and other strategies to achieve a sustainable and reliable long-term water supply.*"

To support water supply diversity and sustainability and to encourage the increased use of recycled water, SWRCB adopted the following goals:

- Increase the use of recycled water from 714,000 acre-ft/yr in 2015 to 1.5 million acre-ft/yr by 2020 and to 2.5 million acre-ft/yr by 2030.
- Reuse all dry weather direct discharges of treated wastewater to enclosed bays, estuaries and coastal lagoons, and ocean waters that can be viably put to a beneficial use. For the purpose of this goal, treated wastewater does not include discharges necessary to maintain beneficial uses and brine discharges from recycled water facilities or desalination facilities.
- Maximize the use of recycled water in areas where groundwater supplies are in a state of overdraft, to the extent that downstream water rights, instream flow requirements, and public trust resources are protected.

Department of Water Resources

The Department of Water Resources (DWR) manages the State's water resources, systems, and infrastructure, including the State Water Project from which the Watermaster Parties obtain some of their imported water, indirectly through MWDSC. DWR manages State-owned above-ground reservoirs and surface water and provides technical assistance for the management of underground reservoirs/aquifers through the execution of the Sustainability Groundwater Management Act (SGMA). The intent of the SGMA, enacted in 2014, is to bring depleted aquifers into balanced levels of pumping and recharge. DWR's role is to provide assistance to local communities to achieve that goal.

California Senate Bills 1168 and 1319 and Assembly Bill 1739, signed by the Governor in September 2014, amended the California Water Code to establish the SGMA. The SGMA includes the following: (1) requires the development of sustainable groundwater management plans for all medium- and high-priority basins, as defined by the DWR; (2) mandates the creation of local groundwater sustainability agencies to oversee and implement the plans; and (3) outlines the guidelines and schedule for complying with the SGMA. Section 10721.8 of the CWC exempts adjudicated areas and local agencies that conform to the requirements of an adjudication of water rights from the provisions of the SGMA (specifically naming the Six Basins as exempt) except for the following annual reporting requirements:

- By April 1, submit to DWR a report containing the following information to the extent available for the portion of the basin subject to the adjudication:
 - a) groundwater elevation data unless otherwise submitted pursuant to Section 10932.2 b;
 - b) annual aggregated data identifying groundwater extraction for the preceding water year;
 - c) surface water supply used for or available for use for groundwater recharge or in-lieu use for the preceding water year;
 - d) total water use for the preceding water year;

- e) change in groundwater storage; and
- f) submit the annual report to the court.

Pursuant to the requirements of the SGMA, the Six Basins Watermaster has incorporated reporting items “a” through “e” into its annual reports submitted to DWR.

State Water Resources Control Board

In California the NPDES permit program is administered by SWRCB through its RWQCBs under the authority of the federal EPA to control water pollution by regulating point sources that discharge pollutants into Waters of the US. The requirements for operating under the NPDES permit program are described below in the Regional section.

General Dewatering Permit

SWRCB has issued General Waste Discharge Requirements (WDRs) under Order No. R4-2003-01080095, NPDES No. CAG 994005, entitled *Waste Discharge Requirements for Discharges of Groundwater from Potable Water Supply Wells in Coastal Watersheds of Los Angeles and Ventura Counties*, governing non-stormwater construction-related discharges from activities such as dewatering, water line testing, and sprinkler system testing. The discharge requirements include provisions requiring notification, testing, and reporting of dewatering and testing-related discharges, and authorize such construction-related discharges as long as all conditions of the permit are fulfilled. Discharges covered by this permit include groundwater from potable water supply wells generated during the following activities: Groundwater generated during well purging for data collection purposes; Groundwater extracted from major well-rehabilitation and redevelopment activities; and Groundwater generated from well drilling, construction, and development.

Regional

National Pollution Discharge Elimination System Permit Program

EPA’s NPDES permit program is administered in the State of California by SWRCB and RWQCBs. This program requires that water pollution be controlled by regulating point sources that discharge pollutants into Waters of the US. If discharges from industrial, municipal, and other facilities operations go directly to surface waters, those operators must obtain permits. Examples of such land uses include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (SWRCB, Title 23, Chapter 9, Section 2200). In addition, these types of facilities generally require an individual NPDES permit that sets forth the requirements for an operator to discharge to waters of the US. The EPA also has a general NPDES permit which covers multiple facilities within a specific activity category such as construction activities, for example the State’s General Construction Permit. A general permit applies with same or similar conditions to all dischargers covered under the general permit.

The Los Angeles RWQCB has issued Waste Discharge Requirements for the County of Los Angeles and cities within the County. These are included in the Los Angeles County

Municipal Separate Storm Sewer System Permit (LA County MS4 Permit) (Order No. R4-2012-0175, NPDES Permit No. CAS004001). For projects identified in the Strategic Plan, construction activities may require Watermaster Parties or their construction contractors (if a project disturbs an area of one acre or greater) to submit Stormwater Pollution Prevention Plans (SWPPP) if a project disturbs an area of one acre or greater. These would be reviewed by the RWQCB. In addition to review of a SWPPP, the RWQCB may also review monitoring reports, conduct compliance inspections, and take enforcement actions if the BMPs set forth in a SWPPP are not being implemented.

Within the San Bernardino County area of the Santa Ana River Basin, management and control of stormwater is shared by a number of agencies, including the San Bernardino County Flood Control District (“District”); San Bernardino County, and the cities within the Valley area of the County including the City of Upland. To control storm water pollutants carried by urban runoff the Santa Ana RWQCB issued area-wide waste discharge requirements for the County’s MS4 in April 26, 2002 (NPDES No. CAS618036; Order No. R8-2002-0012), that were updated in 2007.

Local

Cities within the Six Basins project area are responsible along with the counties of Los Angeles and San Bernardino, for implementing the State’s General Construction Permit and each County’s MS4 Permit.

4.9.3 Project Impacts

Thresholds of Significance

Implementation of the Strategic Plan for the Six Basins would have a significant impact on the environment for Hydrology and Water Quality if it would result in any of the following:

Hydrology

1. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
2. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:
 - i. result in substantial erosion or siltation onsite or offsite
 - ii. substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite
 - iii. create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
 - iv. impede or redirect flood flows?

3. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Water Quality

4. Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact Evaluation

Hydrology

Impact 4.9-1

Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells; (2) increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or (3) expanding the existing air stripping facility or constructing a granular activated carbon (GAC) facility to remove constituents.

The Strategic Plan for the Six Basins, once approved, will become the water resources management program utilized by the Watermaster Parties to implement their respective water supply and water conservation projects in a coordinated manner to optimize conjunctive water management activities in the Six Basins, and thereby increase the reliability of the regional water supply. The Watermaster Parties have agreed to four goals for the Strategic Plan: (1) enhance water supplies, (2) enhance basin management, (3) protect and enhance water quality and (4) equitably finance the implementation of the Strategic Plan. These goals would be met by the implementation of Strategic Plan projects identified in Chapter 3, *Project Description*, including *Project Category 1: Pump and Treat Groundwater in the Pomona Basin*.

Project Category 1 projects are intended to pump and treat groundwater in the Pomona Basin. There are two issues to be resolved regarding the Pomona Basin. The first is water quality; and the second is capacity and the potentially significant impacts that increased

extraction may have on groundwater levels. Projects in this category include increased groundwater production and treatment capacity at the Reservoir 5 and Lincoln/Mills treatment facilities, the construction of well head treatment facilities at the Old Baldy well site, the construction of a new well and wellhead treatment facilities at the Durward 2 well site, and the rehabilitation of the Del Monte 4 well including the addition of arsenic treatment. Water Quality is discussed under Impact 4.9-4 below.

As described in the Strategic Plan, the Pomona Basin has the greatest storage capacity of the Six Basins. Development of Strategic Plan projects would allow the Parties to store water or “put” water into storage during wet years, “hold” water until needed, and produce or “take” the stored water when imported water supplies are reduced due to drought or otherwise not available. The Strategic Plan identified a conjunctive management scenario whereby a 36,000 acre-ft dry-year storage account could be created in the Pomona Basin. The pump and treat plan include the following features:

- Create a dry-year storage account large enough to offset the imported water demands of the three largest imported water users for four consecutive years. The imported water demand is approximately 9,000 acre-ft/yr for the City of La Verne, the City of Pomona, and the Golden State Water Company. Thus, a dry-year storage account of at least 36,000 acre-ft is required to withstand four consecutive dry years.
- 50,000 acre-ft of the groundwater currently in storage in the Pomona Basin is dedicated to the dry-year storage program to evacuate operational storage space because groundwater elevations in the Pomona Basin are relatively high.
- Construct pump-and-treat capacity of 9,000 acre-ft/yr in the Pomona Basin for dry year takes from storage that are in addition to the Baseline Operating Safe Yield (OSY).
- The “put” or recharge to the dry-year storage account is accomplished through in-lieu recharge. In-lieu recharge is the addition of water to the groundwater basin using other surplus surface water supplies “in-lieu” of producing groundwater within the OSY rights of the recharging parties. The put is accomplished by reducing groundwater production in the Pomona Basin by as much as 9,000 acre-ft/yr and increasing the use of other sources of water by the same amount. The other sources of water could include imported water or water made available through a Temporary Surplus (see Project Category 3).

Specifically, regarding the potential for the increase in the amount of groundwater being extracted by Project Category 1 projects, there is a potential for interference with groundwater recharge in basins adjacent to the Six Basins project area to occur. The Parties who pump groundwater are also responsible for monitoring groundwater quality and groundwater levels. Because groundwater levels fluctuate during wet and dry years, and there is a known area of high groundwater levels in both the Pomona Basin and the UCHB, the Parties have a coordinated groundwater level monitoring program in place using data from production and monitoring wells to identify areas that are problematic and to address

high groundwater levels when they occur. This activity would continue with the implementation of the Strategic Plan. The areas of high groundwater are generally located along the westerly side of the San Jose fault that separates the Pomona Basin and UCHB from the adjacent Chino Basin to the east/southeast. As described in the Six Basins Strategic Plan, during periods of high groundwater in the Pomona Basin and UCHB, some outflow into the adjacent Chino Basin occur.

Increasing the groundwater extraction in existing production wells, in conjunction with the development of new production wells (Project Category 3) would allow Parties to continue to control the groundwater levels in the Pomona Basin and the UCHB, in order to prevent overdraft conditions from occurring. At the same time, continued monitoring at existing monitoring wells and the development of new monitoring wells in the Pomona Basin in particular, would allow the Parties to increase the monitoring of groundwater levels to provide additional data. Therefore, implementation of projects in Project Category 1 would not impede sustainable groundwater management of the basin by substantially decrease groundwater supplies or interfering with groundwater recharge.

Increasing the groundwater extraction in existing production wells, in conjunction with the development of new production wells (Project Category 3) could exclude this water source from migrating to the adjacent Chino Basin resulting in the loss of this water source in that basin. However, the loss is likely to amount to a relatively small percentage of the total groundwater within the Chino Basin; resulting in no significant impact associated with the depletion of groundwater levels. To ensure that this impact would be less than significant, the Watermaster Parties operating existing production wells, or developing future production wells in the Pomona Basin and UCHB shall implement mitigation measure HWQ-1 that requires groundwater modeling to be conducted prior to upgrading existing wells or developing new wells.

As part of the on-going work on the Six Basins Strategic Plan, the project engineer developed and evaluated a set of conjunctive water management alternatives, including the development of a Six Basins groundwater flow model that simulates the hydrologic response of a Baseline Alternative (continued operation under the Judgement without implementation of the Strategic Plan) and three conjunctive water management alternatives. These alternatives are evaluated in Chapter 6, *Alternatives*. The evaluation of the hydrologic responses and potential impacts that were considered included: (1) chronic lowering of groundwater levels; (2) threat of high groundwater; (3) pumping sustainability at wells; (4) developed yield; and (5) subsurface outflow from the Six Basins into the Chino Basin. This latter impact suggests that decrease in subsurface outflow to the Chino Basin could be a significant impact to the beneficial uses and users in the Chino Basin. However, the results of the evaluation of conjunctive water management alternatives showed that regarding subsurface outflows to the Chino Basin, there was no projected change in subsurface outflow. However, as part of a comprehensive groundwater monitoring/modeling program (Project Category 4), if the data collected through future monitoring programs indicates chronic lowering of groundwater levels along the Chino Basin boundary, the Watermaster will

evaluate the potential impacts through modeling and develop solutions if necessary. Should a solution require the development of new wells or other type of project, it may be subject to subsequent environmental review in the form of a subsequent EIR or Mitigated Negative Declaration.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

During long term operation of Project Category 1 projects, certain Watermaster Parties (e.g., PVPA, SAWCo, TVMWD) would also be implementing stormwater and supplemental water recharge projects including new recharge basins in the SASG and TCSG. In addition, the City of Pomona is proposing to increase the size of the existing recharge basins at its PSG site to take in stormwater from the surrounding urban area. Finally, at the LA County Fairplex, a new underground infiltration gallery is being proposed beneath new soccer fields that have been developed on the site of the former horse racing track and grounds. Similar to the PSG project, this project would take stormwater from the surrounding streets and the Thompson Creek concrete lined channel adjacent to the Fairplex site, pretreat it and convey it to the underground gallery. Both the PSG and Fairplex projects are part of the Watermaster Parties efforts to increase groundwater recharge through the use of urban runoff as part of the Los Angeles County Municipal Storm Sewer Separation System (MS4) program. This program is discussed further under Impact 4.9-4.

The intent of this category of projects is to:

- Enhance the yield of the Six Basins by increasing the capacity to divert and recharge stormwater.
- Improve groundwater quality through the recharge of high-quality storm water.
- Increase the volume of groundwater that can be sustainably pumped from the Six Basins via recharge of supplemental water.

In addition, the water recharge projects would assist in facilitating the implementation of a Strategic Plan in the Six Basins by maximizing the use of surplus local and imported surface water when available in greater volumes during wet periods, so that the availability of groundwater will be more reliable during dry periods when the surface-water supplies are reduced (Project Categories 1 and 3).

In concert with proposed Pump and Treat projects that would allow Parties to “put” water into storage during wet years, and produce or “take” the stored water when imported water supplies are reduced due to drought or otherwise not available (Project Category 1), and temporary surplus projects to address historically high groundwater problems (Project Category 3), implementation of Project Category 2 projects to recharge groundwater in new or enhanced recharge basins would not result in a substantial decrease in groundwater supplies or interfere substantially with groundwater recharge such that these projects would impede sustainable groundwater management of the basin.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

During long term operation of Project Category 1 projects to pump and treat groundwater in the Pomona Basin, and Project Category 2 projects to enhance stormwater and supplemental water recharge in new basins in the SASG and TCSG, enlarge the existing recharge basins in the PSG, and create a new groundwater infiltration gallery at the Fairplex site, Parties (e.g., City of Pomona, GSWC) would also be implementing Temporary Surplus projects including the rehabilitation of Pomona’s P-20 site, and constructing an interconnect between the P-20 site and the TVMWD Miramar WTP. *Temporary Surplus* projects also include the development of up to 12 new production wells interconnected to a new treatment facility, and an interconnect between the Pomona WRP (recycled water) and the new SASG site. In addition, as part of Project Category 4, Monitoring Programs in Support of the Strategic Plan, the Strategic Plan identified the construction of three new multi-depth clustered monitoring wells in the Pomona Basin within an area of historically high groundwater. These wells have been included in Project Category 3 analysis because impacts associated with the construction of these wells would be similar to those associated with the construction of new production wells.

The intent of this category of projects is to facilitate the implementation of a water resources management program in the Six Basins by increasing the use of surplus stormwater during wet periods, which can enable in-lieu recharge of the Pomona Basin so that groundwater is more available during dry periods. High groundwater conditions are undesirable because they increase the threat of rising groundwater and liquefaction potential, and reduce the yield of the Six Basins by increasing subsurface outflow to the Chino Basin and by limiting the volume of stormwater recharge that can occur during wet periods.

Similar to Project Category 1 projects, to ensure that impact associated with increased groundwater extraction in the Pomona Basins and UCHB would be less than significant, the Parties operating existing production wells, or developing future production wells in the Pomona Basin and UCHB shall implement mitigation measure HWQ-1 that requires groundwater modeling to be conducted prior to upgrading existing wells or developing new wells.

In concert with proposed pump and treat projects that would allow Parties to “put” water into storage during wet years, and produce or “take” the stored water when imported water supplies are reduced due to drought or otherwise not available (Project Category 1), and water recharge projects to enhance stormwater and supplemental water recharge in new or expanded recharge basins or an underground infiltration gallery (Project Category 2), implementation of Project Category 3 projects to rehabilitate Pomona’s P-20 site (including constructing an interconnect between the P-20 site and TVMWD’s Miramar WTP), the development of up to 12 new production wells interconnected to a new treatment facility the development of an interconnect between the Pomona WRP (recycled water) and the new

recharge basin at the SASG, and the development of three new monitoring wells in an area of historically high groundwater levels, would not result in a substantial decrease in groundwater supplies or interfere substantially with groundwater recharge such that these projects would impede sustainable groundwater management of the basin.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.9-2

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation onsite or offsite; ii) substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite; iii) create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows? (Threshold 2)

The four potentially significant impacts are all related to drainage of a site or area that may result in runoff that could exceed capacity and thus cause erosion, siltation, flooding, contribute to polluted runoff, or redirect flows.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction

Regarding the potential for a project to result in substantial erosion or siltation, increase the rate or amount of surface water runoff, or create or contribute to runoff water that exceeds the capacity of a storm drain system, Project Category 1 projects consist of improvements to existing groundwater well sites, including new treatment facilities. Three of the five sites

(Durward 2, Old Baldy and Lincoln/Mills) are small (less than one acre) and two (Reservoir 5 and Del Monte) are greater than one acre but the area of disturbance would likely be less than one acre, based on the improvements proposed. Figures 4.1-1 through 4.1-5 in Section 4.1, *Aesthetics*, show existing conditions at each of these sites.

It is likely that at any Project Category 1 site, improvements may not result in any new ground disturbance, or would result in ground disturbance of less than an acre. Therefore, construction activities would not likely trigger the “one acre” rule that would require the preparation of a SWPPP under the statewide Construction General Storm Water Permit. However, construction sites would still be subject to the requirements of the Los Angeles County MS4 permit in which the cities within the Six Basins project area are co-permittees. Note: there are no projects in this category within the County of San Bernardino. An MS4 permit allows cities and counties to discharge pollutants from public stormwater systems to Waters of the US, under the federal Clean Water Act. Temporary Best Management Practices (BMPs) must be employed during construction to prevent stormwater runoff and the discharge of pollutants, including sediment, into the local storm drain system. Silt fences, inlet protection, and site-stabilization techniques are typical BMPs at a construction site.

Mitigation measure HWQ-2 shall be implemented at each of the Project Category 1 sites during construction activities. This measure requires that prior to the commencement of construction, a Watermaster Party or its construction contractor shall prepare a SWPPP (if the area of disturbance of one acre or greater) or provide the city in which construction activities will take place, with a list of BMPs to be implemented and a schedule for completion of such activities. Examples of typical BMPs for construction sites include the following:

- Diversion of off-site runoff away from the construction site.
- Revegetate exposed soil surfaces as soon as feasible following grading/excavation activities.
- Employ perimeter straw wattles to prevent off-site transport of sediment and pollutants.
- Regular watering of exposed soils to control fugitive dust.
- Provide contractors with specifications for construction waste handling and disposal.
- Erosion and sedimentation control measures maintained throughout the length of the construction period.
- Stabilize ingress/egress areas to avoid trucks from tracking soil and debris onto the local street.

It should be noted here that, although, Article 5 Section 53091(d) and (e) of the *California Government Code* specifically exempts facilities and/or sites developed for the production, generation, storage, treatment, or transmission of water from local building ordinances, because the control of stormwater flows and the potential to discharge pollutants or sediments into the stormwater system is subject to State (waters of the State) and federal (waters of the US) requirements, Watermaster Parties proposing site improvements under Project Category 1 would be subject to local requirements to implement BMPs.

Finally, regarding a proposed project resulting in an impediment to or the redirection of flood flows during construction, all of the sites in Project Category 1 are located on developed sites in urban areas where storm drain systems are in place. Therefore, there improvements to these sites would not result in a change in existing flood flows.

Long-term Operation

Implementation of Project Category 1 projects may result in the addition of impervious surfaces that could increase stormwater runoff quantity during post-construction operation, at some sites such as Reservoir 5 and Durward 2 where portions of these sites are unpaved. However, other sites such as Lincoln/Mills and Old Baldy are wholly developed and paved, so that upgrades to the groundwater well or additional treatment facilities, would not result in an increase in impervious surfaces. Aerial photographs of Project Category 1 sites are included in Section 4.1, *Aesthetics*. Increasing the amount of impervious surface area at some sites could affect on-site drainage patterns as well as off-site drainage volumes. However, Project Category 1 sites are all located in urban areas where storm drain facilities are in place. Therefore, the issue is one of control of stormwater runoff from a project site. Mitigation Measure HWQ-3 requires that prior to construction at a Project Category 1 site, the Watermaster Party proposing a project that would result in the change in volume or direction of flows shall prepare a drainage plan that identifies design features to reduce stormwater peak concentration flows exiting a site (if they result in a change from existing conditions) so that the capacities of the existing downstream drainage facilities are not exceeded. Such design features may include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or a detention basin.

In addition, the *Air Quality Impact Analysis* (Appendix B) identified the need to comply with the SCAQMD requirements to implement Best Available Control Measures (BACM) for the control of fugitive dust and wind erosion, especially during Santa Ana wind conditions would ensure that impacts associated with wind related erosion can be reduced to a less than significant level. For the convenience of the reader, mitigation measure AQ-1 has been in Section 4.9.4, *Mitigation Measures*, below. Therefore, compliance with mitigation measure HWQ-2, temporary impacts associated with construction stormwater runoff would be less than significant. Likewise, implementation of a site drainage plan as set forth in mitigation measure HWQ-3, would ensure that impacts associated with on-going operation of a Project Category 1 site would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

Construction

SASG and TCSG Projects

Regarding the potential for a project to increase the rate or amount of surface water runoff, create or contribute to runoff water that exceeds the capacity of a storm drain system, or impede or redirect flood flows, two of the Project Category 2 project sites (TCSG and SASG)

are located in wash areas that are both dammed and where water released from the dams flows either into existing recharge basins (SASG) or into smaller recharge pits (TCSG) with excess water being diverted into existing concrete-lined channels (San Antonio Creek channel or Thompson Creek channel). The purpose of these two projects is to create additional groundwater recharge capacity in new recharge basins in order to receive an increased amount of stormwater, supplemental water, and at the new SASG site, to receive recycled water from the Pomona WRP to recharge the groundwater basin. The new recharge basin to be developed at the SASG would be approximately 50 acres to a depth of up to 200 feet deep. The new recharge basins to be developed at the TCSG would be approximately 25 acres to a depth of approximately 20 feet. The intent is to capture and detain a maximum amount of this water on each site in order to recharge the groundwater basin, so that no stormwater runoff is anticipated. Therefore, the new recharge basin projects would result in a decrease in the amount of surface water runoff in the SASG and TCSG and would not create runoff water that would exceed the capacity of a storm drain system. These projects have the ability to impede and redirect flood flows into new groundwater recharge basins for the beneficial use of the Watermaster Parties.

Regarding the potential to cause substantial erosion or siltation on or offsite, during construction, these projects include vegetation removal, excavation and hauling of soil to temporary stockpile areas on-site, thus creating opportunities for erosion (wind or water) and siltation (water) to occur. Or, for the SASG site, crushing and conveying the excavated material to the Holliday Rock aggregate mine site located east of the San Antonio Creek channel. Because each of these projects represents over one acre of disturbance, the Watermaster Party proposing either project, or the construction contractor, would be required to prepare and implement a SWPPP (see discussion under Project Category 1 above). Mitigation measure HWQ-2 shall be implemented at the SASG and TCSG sites during construction activities. This measure requires that prior to the commencement of construction, a Watermaster Party or its construction contractor shall prepare a SWPPP to be implemented throughout the schedule of construction activities.

PSG Project

The PSG site is located in an urban area where storm drain infrastructure is in place. Under existing conditions, stormwater flows from the SASG (60/40 splitter) are conveyed through a pipeline to the recharge basins at the PSG site. The proposed PSG project is to deepen the existing recharge basins to accommodate local urban runoff from the surrounding neighborhood, in addition to the stormwater conveyed from the SASG. The intent of this project is to receive and detain this water on site in order to increase the amount of recharge into the UCHB, so that no stormwater runoff is anticipated. Impacts associated with construction activities would be similar to those identified for the SASG and TCSG projects. Because the PSG project represents over one acre of disturbance, the City of Pomona or its construction contractor would be required to prepare and implement a SWPPP (see discussion under Project Category 1 above). Mitigation measure HWQ-2 shall be implemented at the PSG site during construction activities.

LA County Fairplex Project

The Fairplex project would be developed as an underground infiltration gallery proposed to be located beneath the new soccer fields at the former horse racing track and grounds. Drainage from Arrow Highway would flow via gravity into the infiltration gallery. A second gravity connection is proposed at a new catch basin to be located adjacent to Thompson Creek (concrete channel running adjacent on the east side of the Fairplex), which will flow into a hydrodynamic separator for pretreatment before being conveyed into the infiltration gallery. A third connection would flow via pump well from McKinley Avenue into the infiltration basin. Water in the infiltration gallery would be capture and used on site to recharge groundwater. During storm events where the inflow exceeds outflow, water from the infiltration gallery would flow into the Thompson Creek channel.

Impacts associated with construction activities would be similar to those identified for the SASG and TCSG projects but would have a smaller footprint (up to 10 acres). Because the Fairplex project represents over one acre of disturbance, the Watermaster Party proposing a project or its construction contractor would be required to prepare and implement a SWPPP (see discussion under Project Category 1 above). Mitigation measure HWQ-2 shall be implemented at the Fairplex site during construction activities.

Long-term Operation

Operation of Project Category 2 projects is largely passive where stormwater flows by gravity downstream (either from rainfall, released from behind the dam, or conveyed through a pipeline or storm drain) into recharge basins or an underground infiltration gallery. Maintenance activities at the SASG, TCSG and PSG sites would consist of periodic vegetation removal and the removal of silt and debris that accumulates on the floor of basins over time. Equipment and vehicles used for these activities would be similar to those used during construction activities. Therefore, impacts associated with the operation/maintenance of recharge basins would be similar to construction impacts. Under long term operation, the Watermaster Party or its construction contractor would be required to implement BMPs similar to those identified in construction SWPPPs. Therefore, implementation of mitigation measure HWQ-2 would ensure that impacts associated with operation and maintenance activities are the SASG, TCSG and PSG would be less than significant.

Regarding the underground infiltration gallery at the LA County Fairplex site, because the proposed infiltration gallery is underground, operation and maintenance would not involve the use of heavy construction equipment to remove vegetation or debris as with the other recharge basins. Therefore, this impact would be less than significant.

Regarding a proposed project resulting in an impediment to or the redirection of flood flows during operation, flood flows in the San Antonio Creek and Thompson Creek are currently held behind dams and released into existing recharge basins (SASG) or into recharge pits (TCSG) or released into existing concrete-lined storm channels. Under future operating conditions, the additional capacity in new recharge basins in both spreading grounds sites

would allow Watermaster Parties to increase the amount of stormwater that can be detained on site for percolation, with any overflow continuing to be released into the existing storm channel as under existing conditions. Therefore, flood flows would be impeded and directed into the new recharge basins at the SASG and TCSG for beneficial use, resulting in a less than significant impact on the potential for flooding to occur.

Regarding the PSG project, flows from the SASG would continue to flow through the existing pipeline to the PSG with additional stormwater flows into the PSG from a new storm drain (Project Category 3). The expansion/deepening of the PSG basins will be designed to accommodate these additional flows.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consist of (1) rehabilitation of the P-20 well head (similar to Project Category 1 projects); (2) development of up to 12 new production wells and a new treatment facility interconnected to the new wells; (3) development of up to three new monitoring wells to monitor groundwater elevation; and (4) construction of interconnections (underground pipelines) between new production wells and the new treatment facility, between the Pomona WRP and the new SASG site, and between the P-20 well site and TVMWD's Miramar WTP.

Construction

The rehabilitation of the P-20 well head would have similar impacts as Project Category 1 projects and be subject to the implementation of mitigation measures HWQ-1 and HWQ-2 to ensure that potential impacts on drainage patterns at each site would be reduced to less than significant levels.

The development of up to 12 new groundwater production wells and three new groundwater monitoring wells has the potential to cause substantial erosion or siltation on or offsite, during construction. These projects may require vegetation removal and grading to prepare a site, excavation for new pipeline interconnects (production wells) and may require temporary stockpiling of soil during trenching activities. These projects would also require drilling and treatment of the water used in the drilling process. Areas on a site where soil is exposed either from grading or stockpiling, create opportunities for erosion (wind or water) and siltation (water) to occur. It is unknown how large any of the new well sites would be however some may be one acre or greater. For these sites, mitigation measure HWQ-1 shall be implemented during construction activities at each site. This measure requires that prior to the commencement of construction, a Watermaster Party or its construction contractor shall prepare a SWPPP (if the area of disturbance of one acre or greater). For sites smaller than one acre, implementation of a set of BMPs to be identified prior to ground disturbance would still be required in compliance with the LA County MS4 Permit requirements as set forth in mitigation measure HWQ-2.

In addition, the *Air Quality Impact Analysis* (Appendix B) identified the need to comply with the SCAQMD requirements to implement Best Available Control Measures (BACM) for the control of fugitive dust (wind erosion), especially during Santa Ana wind conditions. For the convenience of the reader, mitigation measure AQ-1 has been in Section 4.9.4, *Mitigation Measures*, below.

The construction of interconnections (underground pipelines) between new production wells and the new treatment facility, between the Pomona WRP and the new SASG site, and between the P-20 well site and TVMWD's WTP has been estimated to total 85,000 linear feet (approximately 16 miles). Such interconnections would be developed for Temporary Surplus between new wells and a proposed new treatment plant (up to 3,000 linear feet), projects such as the interconnect between Pomona's P-20 well site and the TVMWD Miramar WTP in order to blend treated water with the groundwater pumped from the well (approximately 1,000 to 10,000 feet); and a Recycled Water Recharge interconnect between the Pomona WTP and the new recharge basin at the SASG. Construction of new interconnects would be subject to both NPDES and SCAQMD requirements for the control of erosion at a project site. Therefore, these projects shall be constructed using BMPs set for in a project specific SWPPP (mitigation measure HWQ-2), and BACM as required by SCAQMD for the control of fugitive dust (mitigation measure AQ-1). Mitigation measure AQ-1 requires compliance with SCAQMD Rule 403 and includes a copy of Rule 403 Table 1 – a list of BACM for construction activities. With implementation of mitigation measures, impacts associated with construction activities would be less than significant.

Regarding a proposed *Temporary Surplus* project resulting in an impediment to or the redirection of flood flows during construction or operation, the area overlying the Pomona Basin where most of these projects would be implemented, is highly urbanized with an existing storm drain network that ties into a regional system. Under future conditions, in order to maintain each site in compliance with the requirements of the County's MS4 Permit, for the retention of storm flows on site to control stormwater runoff, a Drainage Plan as set forth in mitigation measure HWQ-3 shall be implemented at each Project Category 3 site. With implementation of mitigation measure HWQ-3, impacts associated with operation activities would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a

part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.9-3

In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (Threshold 3)

Substantiation

The Six Basins project area is not located near or downstream of a body of water such that the area would be affected by either a tsunami or seiche. Even though the SASG and TCSG projects would be developed within an area downstream of a dam, and that these dams could be damaged during a seismic event, several months out of the year, there is no measurable amount of water behind the dams. This is because the San Antonio and Thompson Creeks are fed by rain and snowmelt only. In addition to stormwater, existing recharge basins on the west side of the SASG are also receives imported water from MWDSC's Foothill Feeder Pipeline. TVMWD puts this water into the recharge basins on the west side of the SASG through an 80 cfs pipeline constructed by TVMWD in 2011.

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

The proposed Project Category 1 projects are all located in urban areas within the cities of Pomona and La Verne which are located approximately 35 miles north and northeast of the Pacific Ocean. In addition, none of the project sites are located adjacent to any large standing water bodies that could experience a seiche.

Flooding in the Six Basins project area has been largely controlled over time, by the development of local and regional facilities for the capture, control, and release of stormwater in the recharge basins in the LOSG, SASG, and TCSG. Flows that are not captured are diverted into concrete lined channels and conveyed to the San Gabriel River or the Santa Ana River. The Watermaster Parties, particularly PVPA and SAWCo have over 100 years of experience addressing storm flows in the project area. In addition, as shown in Figure 4.9-1, the entire Six Basins project area is located in an Area of Minimal Flooding, based on FIRM data provided by FEMA. Therefore, the possibility of Project Category 1 sites being flooded due to an issue with one or both dams would be remote and is considered to be less than significant.

Release of Pollutants During Construction

Project Category 1 project sites are all existing and in urban areas where storm drain infrastructure is in place. Construction of proposed improvements at these sites may require ground disturbance that could alter a site's drainage patterns. Compliance with the

requirements of a site-specific SWPPP, or for smaller sites not subject to SWPPP requirements, compliance with the County's MS4 permit for the control of stormwater, would require the implementation of BMPs that manage site runoff from construction sites. Some typical BMPs have been identified under Impact 4.9-2.

Construction activities could result in changes to existing drainage patterns at a site including drainage outlets to the storm drain. With implementation of such BMPs and compliance with conditions of required permits governing storm water runoff from construction sites, potential onsite and offsite flooding impacts would be reduced to less than significant levels and discharges from construction sites would not exceed the capacity of existing storm water drainage systems. Erosion or siltation from construction sites would also be minimized by the use of "good housekeeping" BMPs. Mitigation measure HWQ-2 for the implementation of a SWPPP or a site-specific set of BMPs for the control of stormwater runoff on sites less than one acre, would ensure that this impact would be less than significant.

Release of Pollutants During Operation

Each Watermaster Party is responsible for controlling stormwater runoff from a project site. Mitigation measure HWQ-3 requires a Watermaster Party to implement a drainage plan that includes design features to reduce stormwater peak concentration flows exiting a site to reduce impacts on downstream flows from its site. Implementation of mitigation measure HWQ-3 would ensure that stormwater flows from project sites are controlled on-site and released in such a manner as to prevent flooding and ensure that this impact would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Figure 4.9-1 shows that the Six Basins project area is located within an Area of Minimal Flood Hazard based on FIRM data provided by FEMA. For Thompson Creek and San Antonio Creek, each drainage is controlled by a dam. In the unlikely scenario where either of the dams are compromised, there is only water in the reservoir behind the dam seasonally during the "wet period" in winter and early spring when most of the region's precipitation occurs, and snowmelt from the mountains is available. In addition, under future conditions, new recharge basins would take some of this water (if there is water behind the dam), with the remaining water flowing into the existing concrete-lined channels. Should recharge basins be full, overflow not directed to the channel would flow into the surrounding wash area. Under existing conditions in the SASG, the residential neighborhood directly south and west of the proposed new SASG recharge basin is either protected by an earthen berm or is at a higher elevation than the project site. At the TCSG conditions are similar in that the area proposed to be developed with recharge basins is either at a lower elevation than the street (Mills Avenue) or protected by a berm (Pomello Avenue).

The PSG and Fairplex sites are also located in an urban Area of Minimal Flood Hazard. Both these projects are MS4 projects that will be designed to capture storm flows from existing storm drain systems in order to pretreat and recharge stormwater into the groundwater basins. Projects would be designed to take in a maximum amount of storm flows, but if the amount is exceeded controls would be in place to divert storm flows back into the storm drain system. Therefore, during heavy storm events, the PSG recharge basins would increase the capacity of the storm drain system by taking flows from local storm drains.

Release of Pollutants During Construction

Project Category 2 project sites are all greater than 1 acre in size, and include excavation, trenching, soil removal and stockpiling. These activities may result in changes in drainage patterns that could result in the discharge of pollutants, soils or other construction related debris. Compliance with the requirements of a site-specific SWPPP includes the implementation of BMPs to manage runoff from construction sites. Mitigation measure HWQ-2 would ensure that the potential onsite and offsite flooding impacts would be reduced to less than significant levels and discharges from construction sites would not exceed the capacity of existing storm water drainage systems. Erosion or siltation from construction sites would also be minimized by the use of “good housekeeping” BMPs. Mitigation measure HWQ-2 for the implementation of a SWPPP or a site-specific set of BMPs for the control of stormwater runoff on sites less than one acre, would ensure that this impact would be less than significant.

Release of Pollutants During Operation

Each Watermaster Party is responsible for controlling stormwater runoff from a project site. Mitigation measure HWQ-3 requires a Watermaster Party to implement a drainage plan that includes design features to reduce stormwater peak concentration flows exiting a site to reduce impacts on downstream flows from its site. Implementation of mitigation measure HWQ-3 would ensure that stormwater flows from project sites are controlled on-site and released in such a manner as to prevent flooding and ensure that this impact would be less than significant.

Maintenance of the recharge basins in the spreading grounds would likely consist of removal of vegetation, silt and debris using equipment and vehicles similar to what would be used during construction, but using less of each since the object is to restore the functionality of the recharge basins, rather than construct new basins. Many of the BMPs used during construction would also be used during maintenance activities, and the development of a SWPPP to be implemented during this activity would be required. Therefore, prior to a Watermaster Party or its construction contractor, undertaking a basin restoration project, a SWPPP shall be developed and implemented as set forth in mitigation measure HWQ-1, to ensure that impacts associated with construction activities would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

See discussion under Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Water Quality

Impact 4.9-4

Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality? (Threshold 5)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

Water quality standards and waste discharge requirement for construction and operation related to stormwater runoff are addressed in Impact 4.9-2. This section provides an evaluation of surface water quality and groundwater quality related to the rehabilitation of existing wells and development of new treatment facilities at existing sites.

Issues to be resolved for this impact are related to both construction of new facilities and long-term operation/maintenance of the facilities in a way that would prevent degradation of surface or ground water quality.

Construction

SWRCB has issued General Waste Discharge Requirements (WDRs) under Order No. R4-2013-0095, NPDES No. CAG 994004 (Dewatering General Permit) that addresses non-stormwater construction-related discharges from activities including dewatering related to

well head improvements that require water extraction and disposal, and water line testing that may be required during construction activities at Project Category 1 sites. In addition, although not anticipated for projects in this category, there is a potential to encounter shallow groundwater that could potentially interfere with construction activities, requiring groundwater dewatering in support of construction.

For projects that require dewatering, discharges are covered under a separate NPDES General Permit (Groundwater Dewatering Permit) which specifically addresses groundwater extracted from major well-rehabilitation and redevelopment activities for potable water supply wells. Dewatering typically includes the extraction of shallow groundwater and discharge into nearby storm drains in order to complete the construction of underground facilities, such as structural building foundations for new treatment facilities. The discharge requirements include provisions requiring notification, testing, and reporting of dewatering and testing-related discharges, and authorizes such construction-related discharges as long as all conditions of the permit are fulfilled. Mitigation measure HWQ-4, shall be implemented prior to commencement of well rehabilitation activities that involve dewatering or other water discharge. Implementation of mitigation measures HWQ-2 through HWQ-4, will ensure that impacts associated with Project Category 1 projects during construction would be less than significant.

Operation

New facilities would be located within existing sites which may result in an increase in the amounts of impervious surfaces that could increase stormwater runoff if uncontrolled. Each of the existing sites is subject to the General Industrial Stormwater Permit that requires facility design to include structural controls to protect stormwater runoff quality. Mitigation measure HWQ-2 requires the implementation of a drainage plan to reduce flows from a site. Because Project Category 1 projects are all located at existing sites, the requirement would be to update the existing permit with the revised drainage plan showing site design features that will ensure compliance with the General Industrial Stormwater Permit. Such design features may include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention basin. Therefore, with implementation of mitigation measure HWQ-2, impacts associated with operation and maintenance activities at Project Category 1 sites would be less than significant.

Regarding groundwater quality, the intent of this category of projects is to upgrade existing facilities in order to increase groundwater production and add additional treatment facilities at existing sites. As outlined in Chapter 3, *Project Description*, new treatment facilities could include combinations of various treatment methods to produce potable water, depending on the facility's capacity and the desire to minimize the use of treated imported water for blending. Potential facility improvements include:

- Construct ion exchange (IX) or biological treatment facilities at the Lincoln/Mills treatment facility to remove nitrate and perchlorate.

- Expand the existing air-stripping facility or construct a granular activated carbon (GAC) facility to remove TCE.
- Construct conveyance facilities to connect other wells to the treatment facility, if necessary (see Project Category 3).
- Construct conveyance facilities to supply product water to other agencies, if necessary (see Project Category 3).

Upon approval of the new facilities by the Department of Water Resources (DWR), Project Category 1 projects would allow Watermaster Parties to increase the amount of groundwater they extract and treat, resulting in a beneficial impact by increasing the reliability of the groundwater resource to meet existing and future demand while reducing the dependence on imported water which may not always be available in the quantities Watermaster Parties have relied upon in the past. Per the Strategic Plan “... *imported water is becoming increasingly more expensive, and its reliability is threatened by natural disasters, climate change, and changing environmental regulations.*” (Strategic Plan page 4-1)

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Construction

Temporary Best Management Practices (BMPs) must be employed during construction to prevent stormwater runoff and the discharge of pollutants, including sediment, into the local storm drain system. Silt fences, inlet protection, and site-stabilization techniques are typical BMPs at a construction site.

Mitigation measure HWQ-2 shall be implemented at each of the Project Category 2 sites during construction activities, and during maintenance activities when a Watermaster Party proposes to remove vegetation, aggregate material, silt and other debris that may build up in the recharge basins over time. This measure requires that prior to the commencement of construction, a Watermaster Party or its construction contractor shall prepare a SWPPP (if the area of disturbance of one acre or greater) or provide the city in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities. Examples of typical BMPs for construction sites include the following:

- Diversion of off-site runoff away from the construction site.
- Revegetate exposed soil surfaces as soon as feasible following grading/excavation activities.
- Employ perimeter straw wattles to prevent off-site transport of sediment and pollutants.
- Regular watering of exposed soils to control fugitive dust.
- Provide contractors with specifications for construction waste handling and disposal.
- Erosion and sedimentation control measures maintained throughout the length of the construction period.

- Stabilize ingress/egress areas to avoid trucks from tracking soil and debris onto the local street.

Implementation of mitigation measure HWQ-2 during initial construction and when maintenance requires the use of heavy equipment and the removal of material from recharge basins in spreading grounds is required, would ensure that this impact would be less than significant.

Should any of the proposed Project Category 2 projects require dewatering during construction, they would also be subject to the requirements of the Groundwater Dewatering Permit. Mitigation measure HWQ-4, shall be implemented prior to commencement of well rehabilitation activities that involve dewatering or other water discharge. Implementation of mitigation measures HWQ-2 through HWQ-4, will ensure that impacts associated with Project Category 1 projects during construction would be less than significant.

Operation

Under long term conditions, the new SASG and TCSG recharge basins would operate in a similar manner to the existing basins in the SASG or pits in the TCSG in that water would flow into the basin, be retained and percolate. The water sources are either stormwater or snowmelt from the San Gabriel Mountains, or imported water delivered from MWDSC's Foothill Feeder Line. Under future conditions, a third source – recycled water from the Pomona WRP – would also be delivered to the new SASG recharge basin. Water in this basin would percolate into the groundwater basin and over time migrate south and southwesterly into downstream basins where it would be pumped at several existing production wells, and in the future, new production wells. It is at this point where the water would be treated to drinking water standards.

The PSG and Fairplex projects are proposed as MS4 projects to take stormwater from urban areas, treat it and detain it on site for percolation into the groundwater basins. Ultimately, this water would be pumped at existing or future new production wells. Where it would be treated drinking water standards.

Therefore, when combined with Project Category 1 and Project Category 3 projects, to pump and treat groundwater for distribution to existing and future customers, impacts on groundwater quality would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

The rehabilitation of Pomona's P-20 well is similar in characteristic to Project Category 1 projects.

Construction

New Production and Monitoring Wells

For the purposes of this analysis, the TVMWD Miragrand Well project was utilized as a model to describe the well drilling and startup process. This project was approved in 2020 and is currently under construction.

Equipment to be used in the drilling process would consist of a drilling rig, pipe truck, driller's trailer (doghouse), and settling tanks for the discharge water. Drilling a new well would require the use of a fluid, either water or other approved drilling fluid as the circulating medium. For the Miragrand well site, proposed treatment and disposal of this liquid is described herein.

A minimum of two 20,000-gallon discharge water settling tanks would be used for clarification of water prior to discharge; and would be removed upon completion of construction. Although settling times will vary depending on the nature of suspended particles in the discharge water (e.g., fine-grained sand and silt require more time to settle), previous drilling projects in the area (TVMWD's Grand Avenue well site developed in 2020) showed that two tanks were adequate to clarify water such that the suspended sediment in the discharge meets regulatory criteria of 100 Nephelometric Turbidity Units (NTU) total suspended solids. The NTU measurement is based on the cloudiness of the water and is one of the tests used to evaluate water quality. If the drilling process requires the use of an approved drilling fluid as the circulation medium, liquid (water or drilling fluid) generated from well development and pumping tests may require that the water be hauled off site to an approved disposal site. Otherwise, a temporary pipeline between a well site to an existing storm drain could be constructed, for a controlled release into the system. If the site is large enough, a retention basin could be developed to release the water for percolation into the groundwater.

During the design phase of a new production or monitoring well, an Initial Study would be conducted to determine if additional environmental review in the form of a subsequent Mitigated Negative Declaration or EIR is required.

New Interconnects

New interconnects consist of new underground pipelines to interconnect new production wells with a new treatment facility or to existing treatment facilities. An example of the latter is the proposed interconnect between the P-20 well site and the TVMWD Miramar WTP. Another interconnect is proposed between the Pomona WRP and the new SASG recharge basin. In total, the Strategic Plan estimates up to 85,000 linear feet of new pipeline would be constructed. These are considered to be typical pipeline projects that would include trenching, stockpiling of soil, placement of new pipe, backfilling and repaving. Typical BMPs for the control of water and wind erosion during short term construction are described under Impact 4.9-4. Each Watermaster Party or its construction contractor will be required to comply with the BMPs set forth in project specific SWPPPs as described in mitigation measure HWQ-2. For the purposes of this analysis and the urbanized nature of the Strategic

Plan project area, it was assumed that most of the pipeline construction would occur within existing streets, and that once completed, all facilities would be underground. Therefore, no impacts on surface or groundwater quality associated with the operation of these pipelines were identified.

Finally, should any of the proposed Project Category 3 projects require dewatering during construction, they would also be subject to the requirements of the Groundwater Dewatering Permit. Mitigation measure HWQ-4, shall be implemented prior to commencement of well rehabilitation activities that involve dewatering or other water discharge. Implementation of mitigation measures HWQ-2 through HWQ-4, will ensure that impacts associated with Project Category 1 projects during construction would be less than significant.

Operation

New Production and Monitoring Wells

Impacts associated with the operation of these facilities would be similar to those identified in Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.9.5

Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (Threshold 5)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant impact with Mitigation Incorporated.

Regarding water quality control plans, see discussion under impacts 4.9-2 through 4.9-4.

Regarding compliance with a sustainable groundwater management plans, Senate Bills 1168 and 1319 and Assembly Bill 1739, signed by the Governor in September 2014, amended to California Water Code to establish the “Sustainable Groundwater Management Act.” The SGMA requires the development of sustainable groundwater management plans for all medium- and high-priority basins, as defined by DWR; mandates the creation of local groundwater sustainability agencies to oversee and implement the plans; and outlines the guidelines and schedule for complying with the Act. Section 10721.8 of the amended Water Code exempts adjudicated areas and local agencies that conform to the requirements of an adjudication of water rights from the provisions of the SGMA (specifically naming the Six Basins as exempt) except for the following annual reporting requirements:

By April 1, the Six Basins Watermaster must submit to the DWR a report containing the following information to the extent available for the portion of the basin subject to the adjudication:

- a. Groundwater elevation data unless otherwise submitted pursuant to Section 10932.2
- b. Annual aggregated data identifying groundwater extraction for the preceding water year.
- c. Surface water supply used for or available for use for groundwater recharge or in-lieu use for the preceding water year.
- c. Total water use for the preceding water year.
- d. Change in groundwater storage.
- e. The annual report submitted to the court.

Pursuant to the requirements of the SGMA, the Six Basins Watermaster has incorporated reporting items “a” through “e” within each of the Annual Report submitted to date. The intent of the Strategic Plan is to continue to manage the groundwater basins in a reliable and sustainable way in order to ensure a continuous supply of water to the Watermaster Parties and their customers.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Regarding water quality, see discussion under impacts 4.9-2 through 4.9-4.

Regarding compliance with the Sustainable Groundwater Management Act, see discussion under Project Category 1.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Regarding water quality, see discussion under impacts 4.9-2 through 4.9-4.

Regarding compliance with the Sustainable Groundwater Management Act, see discussion under Project Category 1.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.9.4 Cumulative Impacts

Concurrent construction of development projects in the Six Basins project area could result in temporary impacts to groundwater and surface hydrology and water quality. Each cumulative project is subject to the same federal, State, and local requirements regarding implementation of best management practices under the Construction General Permit (SWPPP requirements), the General Watering Permit (if perched groundwater or other dewatering activities are included in a proposed project), and the Los Angeles County and San Bernardino County MS4 Permits. Therefore, compliance of all cumulative projects with the requirements of each projects' relevant permits, cumulative development would not result in a violation of water quality standards, waste discharge requirements, or otherwise substantially degrade water quality. None of the proposed Six Basins Strategic Plan projects would result in violations to Waste Discharge Requirements or Water Quality Standards, and would comply with such requirements and standards; and with mitigation incorporated, their contribution to cumulative impacts associated with groundwater and surface water quality standards, waste discharge requirements, or degradation of water quality would be less than cumulatively considerable. Therefore, the project would result in a less than cumulatively significant impact.

4.9.5 Mitigation Measures

HWQ-1 Under existing conditions Watermaster conducts a comprehensive groundwater-level monitoring program across the Six Basins project area. The information developed from this monitoring program is used to identify potential impacts associated with the threat of high groundwater, pumping sustainability, chronic lowering of groundwater levels, developed yield and subsurface outflow to the Chino Basin. Under future conditions, the information developed from monitoring

programs will be used to develop operating strategies and requirements for Strategic Plan projects to mitigate for these impacts.

Threat of High Groundwater. Potential operating strategies to mitigate the threat of high groundwater include: (1) modifying the put and take cycles to minimize impacts the threat of rising groundwater; (2) strategically re-distributing supplemental water recharge to minimize the threat of rising groundwater; (3) curtail spreading per Watermaster’s methodology and deduct the estimated reductions in spreading from the responsible party’s Storage and Recovery account; (4) construct and operate pumping facilities in the areas of concern to eliminate the threat of rising groundwater; (5) a combination of (1) through (4); and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Pumping Sustainability. Potential operating strategies include: (1) modifying the put and take cycles to minimize impacts to pumping sustainability; (2) strategically increasing supplemental water recharge to mitigate loss of pumping sustainability; (3) modifying a party’s affected well (e.g., lowering pump bowls); (4) providing an alternate supply to the affected party to ensure it can meet its demands; (5) a combination of (1) through (4); and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Chronic Lowering of Groundwater Levels. Potential operating strategies include: (1) modifying the put and take cycles to minimize the potential chronic lowering of groundwater levels; (2) strategically increasing supplemental water recharge to mitigate chronic lowering of groundwater levels; (3) a combination of (1) and (2); and (4) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Developed Yield. Potential operating strategies include: (1) modifying the put and take cycles to minimize impacts to developed yield; (2) strategically increasing supplemental water recharge to mitigate any reductions in developed yield; (3) deduct the estimated decrease in developed yield from the storage account; (4) strategically increase pumping in areas that will eliminate the decrease in developed yield; (5) a combination of (1) through (4); and (6) a periodic model recalibration and use of the model to estimate the impacts of the Strategic Plan program on developed yield.

Subsurface Outflow to the Chino Basin. If the data collected through the comprehensive groundwater-level monitoring and modeling monitoring program indicate chronic lowering of groundwater levels along the Chino Basin boundary, Watermaster will evaluate potential impacts to the Chino Basin through additional modeling and develop operating strategies to minimize, if appropriate.

Updated Operations Plan. In addition to the proposed operating strategies described above, Watermaster is in the process of updating its Operating Plan to include procedures that will enable the Watermaster to identify potential impacts and additional strategies or measures when projects are proposed and as they are implemented including procedures to: (1) analyze projects for the potential to cause substantial injury; (2) develop storage and recovery agreements that take into consideration the potential impacts described herein; and (3) implement a Temporary Surplus.

HWQ-2 Implementation of a SWPPP and the Use of BMPs During Construction. Prior to commencement of any ground disturbing activities on a project site, the Watermaster Party or construction contractor shall prepare a SWPPP (area of disturbance one acre or greater) and submit a Notice of Intent to the State Water Resources Board. Implementation of BMPs as outlined in the SWPPP shall be ongoing during construction activities. A copy of the SWPPP and the Waste Discharge Identification (WDID) number, shall be kept at the construction and available for review by inspectors until construction is completed. For sites where the area of disturbance would be less than one acre, the project proponent or construction contractor is still responsible for maintaining the site and must provide the city in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities, prior to commencement of construction activities.

HWQ-3 Implementation of a Drainage Plan to Reduce Downstream Flows. Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.

HWQ-4 Dewatering General Permit. Prior to commencement of construction activities that would require dewatering and conveyance of groundwater to surface water including but not limited to a storm drain system, shall submit a Notice of Intent (NOI) to SWRCB under the requirements of the Dewatering General Permit. The NOI shall include any additional information including a list of BMPs for preventing degradation of water quality or impairment of receiving waters.

AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.

- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.

Rule 403 Table 1 is provided at the end of this section in order that the reviewer may see the full range of Best Available Control Measures that may apply to the construction of the Strategic Plan projects. On a project-by-project basis, this table will be reviewed and appropriate measures will be incorporated into a project-specific mitigation monitoring program for each Strategic Plan project to ensure that all projects are in compliance with SCAQMD Rule 403.

4.9.6 Level of Significance After Implementation

Implementation of mitigation measures HWQ-1 through HWQ-4 and AQ-1, impacts associated with groundwater and surface water quantity and quality would be less than significant.

4.9.7 References

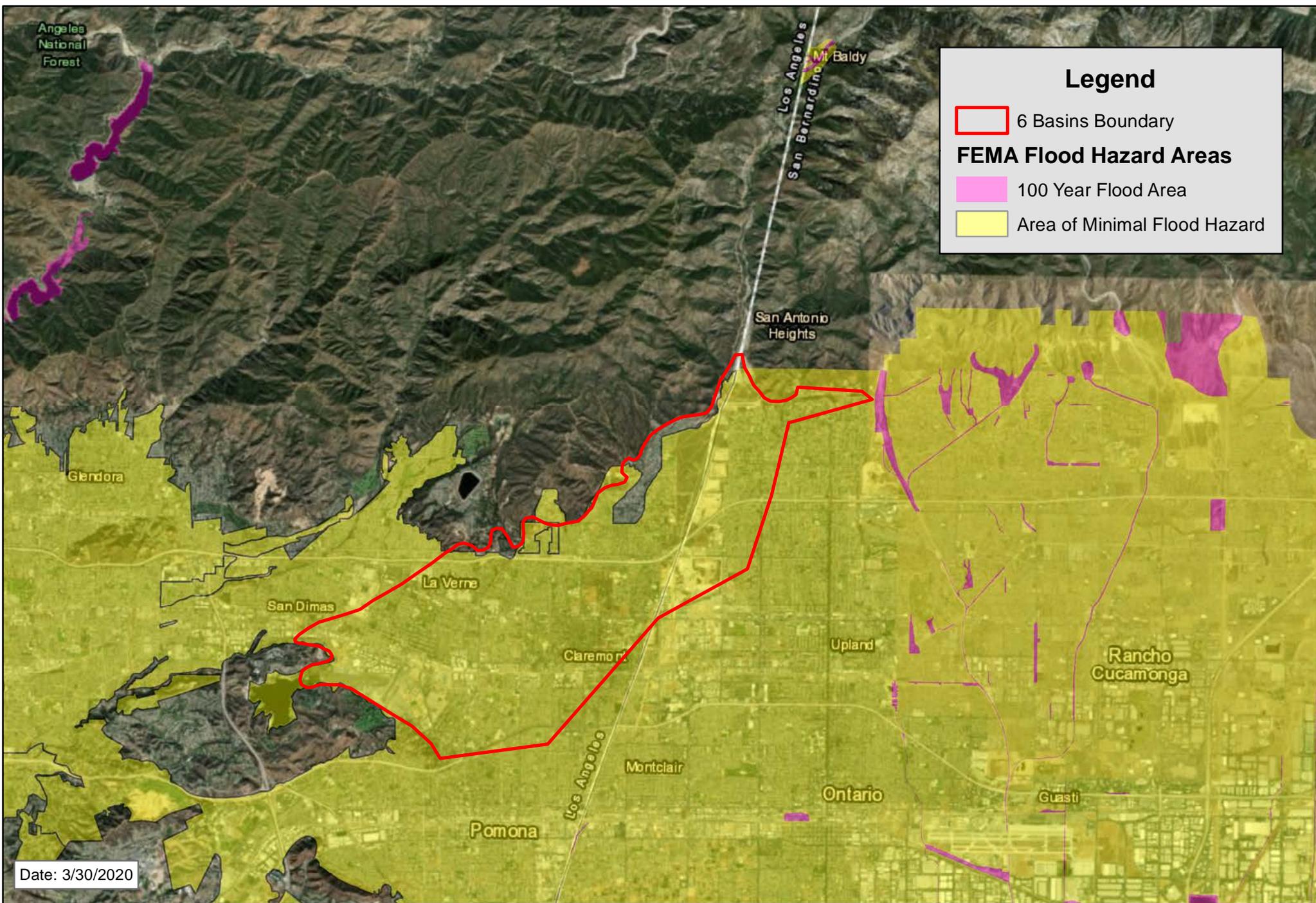
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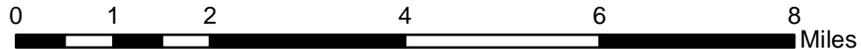
WEI, Inc., 2017, *Final Strategic Plan for the Six Basins*.



Legend

- 6 Basins Boundary
- FEMA Flood Hazard Areas**
- 100 Year Flood Area
- Area of Minimal Flood Hazard

Date: 3/30/2020



Imagery Date: 8/6/2017

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community



1 inch = 10,363 feet

Figure 4.9-1 FEMA Flood Hazard Areas

4.10 Land Use / Planning

4.10.1 Introduction

This section describes the environmental setting for Land Use and Planning, as well as potential impacts associated with implementation of the proposed Strategic Plan and related projects.

4.10.2 Environmental Setting

Regional Setting

The Six Basins project area encompasses all or portions of the cities of Claremont, La Verne, Pomona and Upland as well as some adjacent unincorporated areas in Los Angeles and San Bernardino Counties. The unincorporated areas that are a part of East San Gabriel Valley Planning Area of Los Angeles County include the following:

- North Claremont encompassed by the City of Claremont
- Northeast La Verne and West Claremont located between the cities of La Verne and Claremont
- Two unnamed unincorporated areas located along Foothill Blvd in the City of Pomona

The unincorporated community of San Antonio Heights is located in San Bernardino County adjacent and to the north of the City of Upland.

Local Setting

The overlying land uses are largely urban/suburban and there are no forest lands designated within any of the jurisdictions that control land use within the Six Basins project area.

Strategic Plan projects are primarily proposed to be implemented within the cities of Claremont, La Verne, and Pomona. In the future, groundwater production and/or monitoring wells may also be developed on sites in the City of Upland and within unincorporated areas adjacent to these cities. Land uses within these unincorporated areas are similar to those developed in the adjacent cities.

The project area is relatively built out with a variety of urban uses including residential, commercial, institutional and industrial. Figure 3-4 in Chapter 3, *Project Description*, provides an aerial photograph of the Six Basins project area in relation to these cities.

Regulatory Setting

State

California Government Code

California Government Code Section 53091 specifies that water supply facilities such as those associated with the implementation of the Strategic Plan, are exempt from zoning restrictions. Specifically, Section 53091 states:

- (d) Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.*
- (e) Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water.*

Such facilities as those proposed in the Strategic Plan are however, subject to other regulations administered by a county or city such as NPDES permits for the control of pollutants in stormwater runoff.

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the federally mandated Metropolitan Planning Organization (MPO) representing six counties: Los Angeles, Imperial, Orange, Riverside, San Bernardino, and Ventura. The SCAG Regional Comprehensive Plan addresses important regional issues such as housing, traffic/transportation, water, and air quality and serves as an advisory planning document to support and encourage local agencies in their planning efforts. In response to the Notice of Preparation of the Program EIR for the Strategic Plan, SCAG indicated that the Program EIR should include an evaluation of the Strategic Plan's consistency with its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

South Coast Air Quality Management District

The project site is located within the South Coast Air Basin (Air Basin), which is characterized by relatively poor air quality. SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Air Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, SCAQMD is principally responsible for air pollution control, and works directly with SCAG, county transportation commissions, local governments, as well as State and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these State and federal air quality standards are exceeded in most parts of the Air Basin. In response, SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet State and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the National Ambient Air Quality Standards (NAAQS), as well as exploring new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including SCAG's 2016 RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements.

Airport Land Use Plans

The California State Legislature enacted airport land use planning laws which are intended to:

- Provide for the orderly development of each public use airport in the State and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Public Utilities Code Section 21669 and to prevent the creation of new noise and safety problems; and
- Protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

There are two general aviation airports within the Six Basins project area, Brackett Field in the City of La Verne and Cable Airport in the City of Upland. The Ontario International Airport is located approximately 8 miles southeast of the southerly boundary of the Six Basins project area. However, even at that distance, the project area largely falls within that airport's Airport Influence Area (AIA).

Airport Land Use Compatibility Plans (ALUCP) prepared for each of these airports include policies that set limits on future land uses and development near an airport in response to noise, safety, airspace protection, and overflight impacts of current and future airport activity. The geographic extent of each of these issues differ with the size and location of the airport. The ALUCP sets forth land use compatibility policies that are intended to ensure that future land uses in the surrounding area will be compatible with potential long-range aircraft activities at the airport, and that the public's exposure to airport safety hazards and noise impacts are minimized. The ALUCP provides the basis by which an Airport Land Use Commission (ALUC) and local agencies located within the AIA carry out land use

development review responsibilities in accordance with State law. The ALUC in each county retains land use development review of applicable projects until the affected local agencies' general and specific plans have been deemed consistent with the ALUCP.

4.10.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact on Land Use and Planning if it would result in any of the following:

1. Physically divide an established community?
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Impact Evaluation

Impact 4.10-1

Physically divide an established community? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells; and (2) increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

None of the proposed projects would result in the physical division of an established community. The physical division of an established community generally refers to the construction of an interstate highway or the extension of an urban road into a rural community, construction of new railroad tracks, or permanent removal of an existing local road or bridge that would result in a reduction in mobility within an existing community or between a community and an outlying area. Therefore, there would be no impact associated with implementation of the Strategic Plan or related projects.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

This category of projects represents improvements that would be undertaken in the San Antonio Creek wash (SASG) and Thompson Creek wash (TCSG) to develop new groundwater recharge basins to enhance stormwater recharge and supplemental water recharge; develop new stormwater recharge opportunities at the Pedley Spreading Grounds (PSG); and to create an underground infiltration gallery to recharge stormwater and supplemental water at the LA County Fairplex. This category of projects also includes identifying opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The two MS4 projects that have been identified in the Strategic Plan and evaluated in this Program EIR are at the PSG site and the LA County Fairplex site.

Water recharge projects would all be constructed and operated in areas where water recharge activities already occur and that would be expanded; or in the case of the Fairplex site, within the footprint of an established fairgrounds complex. The areas proposed for spreading in the SASG, TCSG and PSG are located in proximity to existing residential neighborhoods but are located on sites accessible from existing roads, such that no new roads are proposed to be developed that would divide an existing community. Therefore, there would be no impact associated with implementation of the Strategic Plan or related projects.

Project Category 3: Temporary Surplus

Determination: No Impact.

Projects in this category include: (1) rehabilitating Pomona's P-20 wellhead treatment facility (including constructing an interconnect between the site and the TVMWD Miramar Water Treatment Plant); (2) the development of up to 12 new production wells interconnected to a new treatment facility and up to 3 new monitoring wells; and (3) constructing an interconnect between the Pomona Water Reclamation Plant (recycled water) and the new SASG site.

Pomona's P-20 site is an approximately 2-acre site surrounded by single-family neighborhoods on the north, west and south and, on the east by Claremont High School and related playing fields and courts. Rehabilitation of the existing facility would not divide these existing neighborhoods, or alter access to the high school, and no expansion in the size of the project site is proposed.

Construction of new production or monitoring wells could be developed on sites already developed with water supply facilities or on vacant properties owned by the various water agencies set aside for the purpose of developing additional production and/or monitoring wells in the future. Where a new well is proposed and additional property is required, the assumption has been made that new sites would be similar in size and location as existing well sites, that is one to two acres in size. Photographs of existing well sites are included in Section 4.1, *Aesthetics*. Therefore, construction of new wells would not divide an existing community.

Likewise, construction of new underground pipelines to interconnect some sites would not result in the division of a community because all pipeline construction and operation would occur underground. Construction of the new pipelines could cause some temporary access issues by requiring residents to take a detour however, this would be a temporary situation that would be alleviated once the pipeline construction was completed. Therefore, development of new pipelines between a well site and an existing pipeline to connect the new well to a water treatment plant would not divide an established community.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

Projects in this category consist of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use.

For the purposes of evaluation of the proposed Strategic Plan projects, the physical development of new production and monitoring wells are addressed in Project Category 3; and the physical development of new water recharge areas (spreading grounds) are addressed in Project Category 2. Therefore, the evaluation of the potential environmental impacts associated with Project Category 4 is limited to evaluation of the monitoring groundwater and surface water monitoring programs in support of the Strategic Plan and its related projects. Therefore, the development and implementation of such programs would not result in a physical change and would therefore not divide an existing community.

Impact 4.10-2

Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (Threshold 2)

Substantiation

Determination: Less Than Significant Impact – All Categories.

Table 4.10-1, Project Consistency with SCAG’s RTP/SCS, shows that implementation of the Strategic Plan and related projects would be consistent with the 2016 RTP/SCS. Therefore, impacts would be less than significant.

For consistency with other Planning documents See Section 4.3, *Air Quality/Greenhouse Gases/Global Climate Change*, for a discussion of the Strategic Plan’s consistency with SCAQMD AQMPs. Also, see Section 4.8, *Hazards/Hazardous Materials/Airport Hazards/Wildfire Hazards*, for an evaluation of the Strategic Plan’s consistency with an Airport Land Use Compatibility Plans.

Table 4-10-1 Project Consistency with SCAG’s RTP/SCS

Goal	Goal Statement	Project’s Consistency with Goals
G1	Align the plan investments and policies with improving regional economic development and competitiveness.	<i>Consistent.</i> The policy is implemented by cities and the counties within the SCAG region as part of comprehensive local and regional planning efforts. However, indirectly, implementation of the Strategic Plan would ensure a more reliable, sustainable water source and thus may contribute to the improvement of economic development and competitiveness.
G2	Maximize mobility and accessibility for all people and goods in the region.	<i>No inconsistency identified.</i> The Strategic Plan and its related projects would create a minimal number of trips associated with on-going operation and maintenance of wells, treatment facilities and spreading grounds.
G3	Ensure travel safety and reliability for all people and goods in the region.	<i>No inconsistency identified.</i> Proposed Strategic Plan projects include new or upgraded production and monitoring wells, treatment facilities and spreading grounds. These projects would not interfere with traffic patterns in the region. During construction, project proponent must ensure that construction traffic plans shall be implemented to safely detour vehicles around or through construction sites. Therefore, implementation of the Strategic Plan would not result in a substantial safety hazard to motorists.
G4	Preserve and ensure a sustainable regional transportation system.	<i>No inconsistency identified.</i> The policy is implemented by cities and the counties within the SCAG region as part of the overall planning and maintenance of the regional transportation system. Future projects would have no adverse effect on this planning effort.
G5	Maximize the productivity of the regional transportation system.	<i>No inconsistency identified.</i> The policy would be implemented by cities and the counties within the SCAG region as part of comprehensive transportation planning efforts. Therefore, no inconsistency was identified.
G6	Protect the environment and health for residents by improving air quality and encouraging active transportation/non-motorized transportation.	<i>No inconsistency identified.</i> See Section 4.3, Air Quality, Greenhouse Gasses/Global Climate Change, for a discussion of the project’s less than significant impact on the environment.

Table 4-10-1 Project Consistency with SCAG’s RTP/SCS (continued)

Goal	Goal Statement	Project’s Consistency with Goals
G7	Actively encourage and create incentives for energy efficiency, where possible.	<i>No inconsistency identified.</i> See Section 4.15, Utilities/Service Systems/Energy, for a discussion of the project’s compliance with applicable standard conditions and requirements
G8	Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	<i>No inconsistency identified.</i> The policy provides guidance to cities to establish a local land use plan that facilitates the use of transit and non-motorized forms of transportation. The Strategic Plan and related projects represent a conjunctive water management plan to provide a reliable and sustainable water resource in the region. Future projects will be developed where appropriate to meet the needs of the Watermaster Parties to implement the Strategic Plan. Therefore, future projects would be independent of growth patterns as identified in the cities and counties general plans for the Six Basins project area.
G9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	<i>No inconsistency identified.</i> The policy provides guidance to cities and counties to monitor the transportation network and to coordinate with other agencies as appropriate. The Strategic Plan and related projects are independent of the regional transportation planning effort.

Source: SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy.
<http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx>

4.10.4 Cumulative Impacts

The Six Basins project area is characterized as a developed urbanized area with the exception of the foothills of the San Gabriel Mountains and open space associated with the San Jose Hills and Bonelli Park. The project area is largely built-out so that future cumulative development as envisioned in each of the cities’ and counties’ general plans would not likely result in the division of established communities within the Six Basins project area. Therefore, the potential for the implementation of the Strategic Plan and related projects to contribute to a cumulative land use impact on established communities would be less than significant.

Regarding, consistency with various planning documents, proposed new or upgraded facilities such as production and monitoring wells, treatment facilities and spreading grounds would all be developed at or below grade on a number of sites already utilized for these uses, or owned by Watermaster parties for future similar uses. There may be occasion

when a new location, not currently occupied by a water production use, is acquired. In such a case, land uses would be similar to those evaluated in this Program EIR.

4.10.5 Mitigation Measures

No significant adverse impacts to Land Use and Planning have been identified. Therefore, no mitigation measures are required.

4.10.6 Level of Significance After Implementation

Not applicable.

4.10.7 References

SCAG, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*.

<http://scagrtpscscs.net/Pages/FINAL2016RTPSCS.aspx>

WEI, Inc., 2017, Final Strategic Plan for the Six Basins.

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4.11 Noise

4.11.1 Introduction

This section describes the environmental setting for the ambient acoustic environment, and evaluates the potential environmental effects associated with the construction and operation of Strategic Plan projects including new or upgraded production and monitoring wells; and spreading grounds. The environmental evaluation of project-related Noise also includes an evaluation of project-related groundborne vibration. The *Noise Impact Analysis* is included in Appendix G.

4.11.2 Environmental Setting

Regional Setting

Figure 2-1, in Chapter 2, *Existing Conditions*, shows the location of the Six Basins project area within the larger San Gabriel Valley region. Projects identified in the Strategic Plan may be developed within the cities of Claremont, La Verne, Upland, and Pomona, and unincorporated Los Angeles County areas adjacent to these cities. Although the Strategic Plan did not identify any projects in the city of Upland, the Noise Impact Analysis included Upland in the evaluation of potential noise and vibration impacts because (1) the city falls within the Strategic Plan project area and (2) the city of Upland is a Watermaster Party.

Figure 4.11-1, *Six Basins Strategic Plan Project and Noise Measurement Locations*, shows the general location of the sites where upgrades to existing facilities (well sites) or new spreading grounds are proposed, and the locations where 24-hour ambient noise measurements were taken. Following Figure 4.11-1 is a series of photographs showing existing conditions around the sites. They are identified by letters which correspond with the following projects:

Pump and Treat Projects

Upgrades to the following facilities

Wells and treatment facilities:

- Reservoir 5 (PID a)
- Lincoln/Mills (PID b)
- Del Monte 4 (PID c)
- Durward 2 (PID d)
- Old Baldy (PID e)
- P-20 (PID m)
- New Production wells (PID p)

Recharge Improvements:

- San Antonio Spreading Grounds (PID f and g)
- Thompson Creek Spreading Grounds (PID h and i)
- Pedley Spreading Grounds (PID j)
- Los Angeles County Fairplex (PID k)

Two projects listed here that are not location specific at this time are PID n, *Enhance Stormwater Recharge through MS4 Compliance*, and PID l, *Construct Interconnections between water agencies*. There are two MS4 projects that have been identified in the Strategic Plan, Pedley Spreading Grounds (PID j) and the Fairplex (PID k). However, other sites are under review but were not specifically identified in the Strategic Plan. Therefore, the evaluation of MS4 projects is limited to the two identified in the Strategic Plan.

In addition, PID o, *Create a Conservation Pool Behind San Antonio Dam*, was deleted from the list of projects because it is too speculative at this time. Likewise, because sites that may be developed with Temporary Surplus projects such as new groundwater production wells, a new treatment facility and new monitoring wells are unknown at this time, they are not identified on Figure 4.11-1.

The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains. Figure 3-4 in Chapter 3, *Project Description*, shows an aerial photograph with the adjudicated boundary. The aerial shows the extent of urbanization overlying the groundwater basins at the base of the San Gabriel Mountains.

Chapter 2 includes additional figures identifying physical features in the project area. Photographs showing examples of existing water facilities in the project area are included in Section 4.1, *Aesthetics*. These include, well sites, water treatment facilities, and spreading grounds.

Fundamentals of Noise

Noise in the environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels. These are as follows:

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. A-weighting adjusts the decibels to de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. Table 4.11-1, *Typical Noise Levels*, provides a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental (background) noise at a given location.

Table 4.11-1 Typical Noise Levels

Common Outdoor Activities	Common Indoor Activities	A-weighted Sound Levels (dBA)	Subjective Loudness	Effects of Noise
Threshold of Pain		140	Intolerable or Deafening	Hearing Loss
Near Jet Engine		130		
		120		
Jet Flyover at 1,000 ft	Rock Band	110		
Loud Auto Horn		100	Very Noisy	
Gas Lawn Mower at 3 ft		90		
Diesel Truck at 50 ft	Food Blender at 3 feet	80	Loud	Speech Interference
Noisy Urban Area, Daytime	Vacuum Cleaner at 10 feet	70		
Heavy Traffic at 300 ft	Normal Speech at 3 feet	60		
Quiet Urban Area Daytime	Large Business Office	50	Moderate	Sleep Disturbance
Quiet Urban Area Nighttime	Theater, Large Conference Room (Background)	40		
Quiet Suburban Area Nighttime	Library	30	Faint	
Quiet Rural Area Nighttime	Bedroom at Night, Concert Hall (Background)	20		
	Broadcasting/Recording Studio	10		
Lowest Threshold of Human Hearing	Lowest Threshold of Human Hearing	0	Very Faint	No Effect

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Exhibit 2-A.*

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above). *Equivalent Sound Level (LEQ):* The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90 and L99, etc.

Noise: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds of equal sound pressure level are combined, they will produce a sound pressure level of 3 dB greater than the original single sound pressure level. In other words, sound energy must be doubled to produce a 3

dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in a noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a localized or stationary source propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source.

Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

Shielding

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure.

Fundamentals of Vibration

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment*, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibration may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Table 4.11-2, *Typical Levels of Ground-Borne Vibration*, shows common vibration sources and the human and structural response to ground-borne vibration.

Vibration Descriptors

Ground-borne vibration consists of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

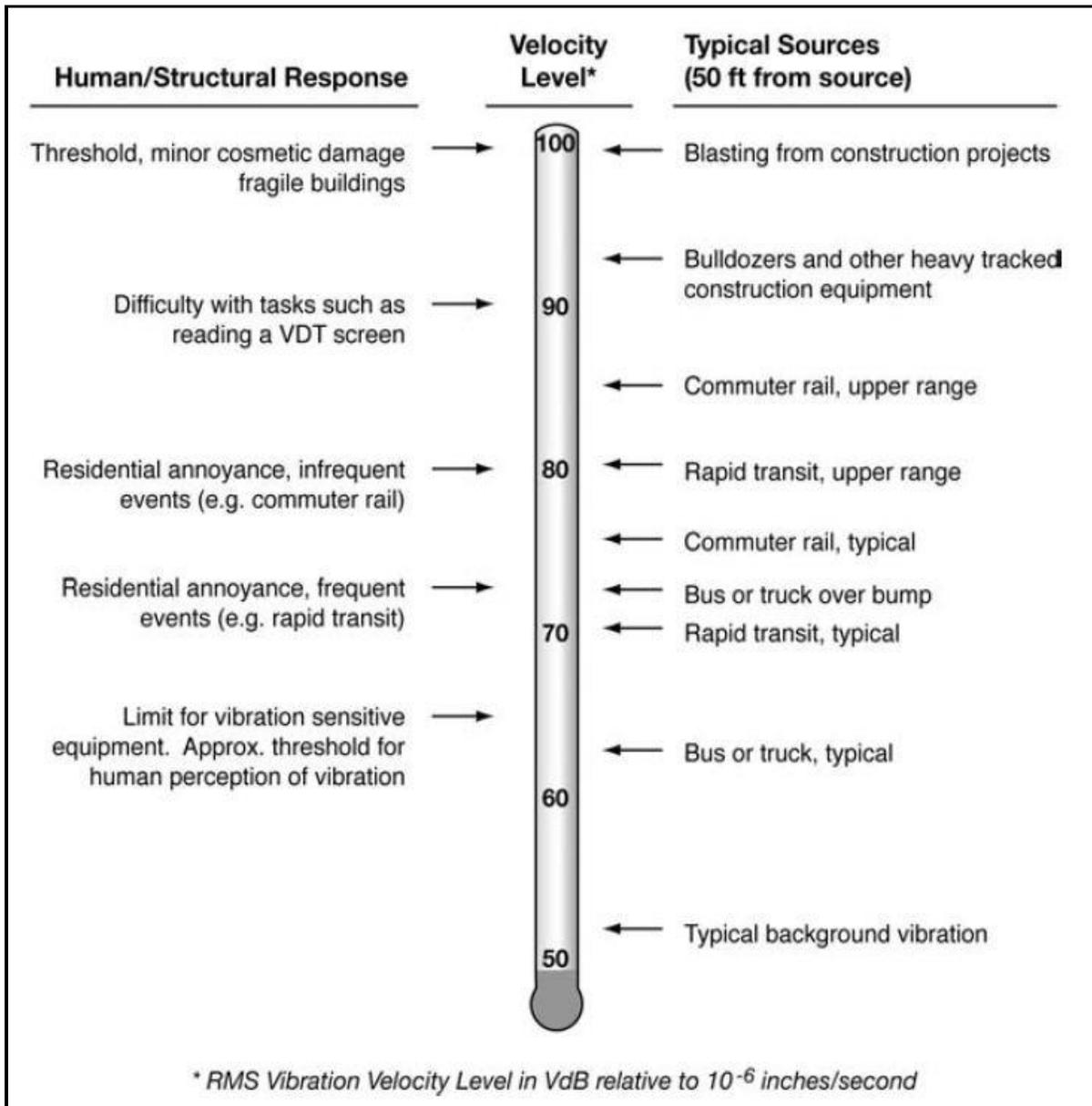
PPV – Peak particle velocity (PPV) is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS – Root mean squared (RMS) can be used to denote vibration amplitude.

VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

Vibration Perception: Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. To counter the effects of ground-borne vibration, the FTA has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

Table 4.11-2 Typical Levels of Ground-Borne Vibration



Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Exhibit 2-B.*

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

Regulatory Setting

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

Operational Noise Standards

To analyze noise impacts originating from a designated fixed location or private property such as any of the proposed projects identified in the Strategic Plan, operational source noise such as new well pump operations (start up, air release, continuous pumping) in addition to enclosed equipment exhaust activities are typically evaluated against standards established under a jurisdiction's Municipal Code.

Since proposed operational activities have the potential to generate noise levels near sensitive receiver locations in multiple jurisdictions, this analysis evaluates potential impacts based on each jurisdiction's respective exterior Municipal Code noise level standards, where applicable. Table 4.11-3, *Operational Noise Level Standard by Jurisdiction*, shows the Municipal Code exterior noise level limits of each jurisdiction, which were used in the program-level *Noise Impact Analysis* to determine potential impacts. Although California Government Code Section 53091 specifies that water supply facilities such as those associated with the implementation of the Strategic Plan, are exempt from building and zoning ordinances, because most city and county noise ordinances are based on the State's model noise ordinance and several of the Strategic Plan projects are currently or would be in the future located adjacent or near sensitive receptors (e.g. residences), the Noise Impact Analysis referred to the local noise ordinances.

Construction Noise Standards

To control noise impacts associated with construction, most jurisdictions establish limits to the hours of permitted activity. To provide a quantifiable evaluation of potential noise level impacts due to construction associated with new facilities (projects) or upgrades/expansion of existing facilities, the Municipal Code standards for construction were reviewed for each jurisdiction. Table 4.11-4, *Construction Level Standards*, shows the available, quantified construction noise level limits of all affected jurisdictions.

Table 4.11-3 Operational Noise Level Standards by Jurisdiction

Jurisdiction	Land Use	Time Period	Exterior Noise Level Standards ¹					
			L50 (30 mins)	L25 (15 mins)	L17 (10 mins)	L8 (5 mins)	L2 (1 min)	Lmax (<1 min)
Claremont ²	Residential (Noise Zone I)	7:00 a.m. to 10:00 p.m.	-	60	65	74	-	75
		10:00 p.m. to 7:00 a.m.	-	55	60	69	-	70
Pomona ³	Single-Family Residential (Zone I)	7:00 a.m. to 10:00 p.m.	60	65	-	70	75	80
		10:00 p.m. to 7:00 a.m.	50	55	-	60	65	70
	Multi-Family Residential (Zone II)	7:00 a.m. to 10:00 p.m.	65	70	-	75	80	85
		10:00 p.m. to 7:00 a.m.	50	55	-	60	65	70
La Verne ⁴ (County of L.A.)	Residential	7:00 a.m. to 10:00 p.m.	50	55	-	70	65	70
		10:00 p.m. to 7:00 a.m.	45	50	-	65	60	65
Upland ⁵	Residential	7:00 a.m. to 10:00 p.m.	50	55	-	60	65	70
		10:00 p.m. to 7:00 a.m.	45	50	-	55	60	65
County of L.A. ⁴	Residential	7:00 a.m. to 10:00 p.m.	50	55	-	70	65	70
		10:00 p.m. to 7:00 a.m.	45	50	-	65	60	65

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 3-1.*

Notes:

1. L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{25} is the noise level exceeded 25% of the time.
2. Source: City of Claremont Municipal Code, Chapter 16.154.
3. Source: City of Pomona Municipal Code, Article VII - Noise and Vibration Control.
4. Source: City of La Verne Municipal Code, Chapter 8.20 & County of Los Angeles Municipal Code, Section 12.08.390.
5. Source: City of Upland Municipal Code, Section 9.40.040.

Although some projects may be located in industrial or commercial areas, for the purposes of the analysis of the Strategic Plan and its related projects, a 65 dBA Leq threshold was used to represent a single numerical threshold to assess the potential construction noise impacts at nearby sensitive receivers; thus operational noise level standards for residential land uses were employed. While the L25 describes the noise levels occurring 25 percent of the time, the Leq accounts for the total energy (average) observed for the entire hour during construction activities. Therefore, based on the noise level standards shown on Table 4.11-4, an acceptable construction noise level threshold of 65 dBA Leq was used to evaluate noise levels generated by construction of proposed projects at the nearby sensitive land uses. Moreover, the 65 dBA Leq is more conservative than the 75 dBA Leq mobile equipment construction noise level standard identified by the County of Los Angeles.

Table 4.11-4 Construction Noise Level Standards

Jurisdiction	Municipal Code Section	Construction Noise Level Standard(s) at Noise-Sensitive Uses
Claremont	16.154.020(F)(4)	65 dBA - L25, 70 dBA - L17, 79 dBA - L8, 80 dBA - Lmax
Pomona	18-305(3)	65 dBA
La Verne	n/a	n/a
Upland	n/a	n/a
County of L.A.	12.08.440	75 dBA Leq (Mobile Equipment)
Acceptable Construction Noise Level Threshold		65 dBA Leq

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 3-2.*

Notes:

"n/a" = Jurisdiction's municipal code does not specify a construction noise level standard.

Construction Vibration Standards

To provide a quantifiable evaluation of potential vibration level impacts due to construction of Strategic Plan projects, the Municipal Code standards for construction were reviewed for each jurisdiction. Table 4.11-5, *Construction Vibration Levels*, shows the available, quantified construction vibration level limits of the affected jurisdictions.

Table 4.11-5 Construction Vibration Level Standards

Jurisdiction	Municipal Code Section	Root-Mean-Square Velocity Standard (in/sec)
Claremont	16.154.020(J)	0.05
Pomona	18-309	0.05
La Verne	n/a	n/a
Upland	n/a	n/a
County of L.A.	12.08.350	0.01

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 3-3.*

Notes:

"n/a" = Jurisdiction's municipal code does not specify a construction noise level standard.

Based on the available vibration level standards shown on Table 4.11-5, an acceptable construction vibration level threshold of 0.05 in/sec RMS was used to evaluate vibration levels generated by construction at the nearby sensitive land uses within the cities of Claremont, Pomona, La Verne, and Upland, and the County of Los Angeles threshold of 0.01 in/sec RMS is used to determine potential impacts at receivers in unincorporated areas of the County of Los Angeles.

Existing Noise Level Measurements

To assess the existing noise level environment, sixteen 24-hour noise level measurements were taken at sensitive receptor locations in the Six Basins project area. These locations were selected to describe and document the existing noise environment within the project area. Figure 4.11-1 shows the locations where noise measurements were taken, near Strategic Plan project sites. Measurements were collected on Wednesday, June 19th, and Thursday, June 20th, 2019. To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it was possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL.

Noise Measurement Locations

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding a project site. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of before and after project noise levels and is necessary to assess potential noise impacts due to a project's contribution to the ambient noise levels

Noise Measurement Results

The noise measurements focus on the average or equivalent sound levels (Leq) and the median noise levels (L50) consistent with local Municipal Code standards. The equivalent

sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Table 4.11-6, *24-Hour Ambient Noise Level Measurements*, provides the energy average noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number.

Appendix 4.2 of the *Noise Impact Analysis* (See EIR Appendix G) provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L1, L2, L5, L8, L25, L50, L90, L95, and L99 percentile noise levels observed during the daytime and nighttime periods.

Because the Six Basins project area is largely urbanized, the background ambient noise levels are dominated by the transportation-related noise associated with the arterial roadway network (including freeways) and existing stationary-source activities. The 24-hour existing noise level measurements shown in Table 4.11-6, provides a summary of existing ambient noise conditions.

4.11.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. Implementation of the Strategic Plan and its related projects may have a significant impact on the acoustic environment if it would result in any of the following:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
2. Generation of excessive groundborne vibration or groundborne noise levels?
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Table 4.11-6 24-Hour Ambient Noise Level Measurements

Meas Site	Closest PID ¹	Date	City	Description	Energy Average Noise Level (dBA Leq) ²		Average Median Noise Level (dBA L50) ²		CNEL
					Daytime	Nighttime	Daytime	Nighttime	
L1-1	K	6/19/19	Pomona	Midvale Drive, southwest of the Fairplex project site, within an existing SFR neighborhood.	54.1	49.5	48.7	47.1	57.4
L1-2	K	6/19/19	Pomona	Laredo Avenue, northeast of the Fairplex project site, within an existing SFR neighborhood.	59.9	51.8	51.0	46.0	61.2
L2	WT	6/19/19	Pomona	Roderick Avenue, east of the Palomares Park project site, within an existing SFR neighborhood.	59.5	49.1	46.6	42.3	59.8
L3-1	A	6/19/19	Pomona	Stocker Street, north of the Reservoir 5 project site, within an existing SFR neighborhood.	61.3	54.3	52.5	49.1	63.9
L3-2	A	6/19/19	Pomona	Royalty Drive, west of the Reservoir 5 project site, within an existing SFR neighborhood.	58.5	55.5	54.7	51.9	63.1
L4	B	6/19/19	La Verne	6th Street, north of the Lincoln/Mills project site, within an existing SFR neighborhood.	57.2	51.8	51.7	46.8	59.9
L5-1	C	6/19/19	Claremont	East Green Street, south of the Del Monte project site, within an existing SFR neighborhood.	60.1	48.3	45.1	41.2	59.8
L5-2	C	6/19/19	Claremont	Plunk Place, south of the Del Monte project site, adjacent to Claremont Dog Park.	52.4	47.4	45.6	42.0	55.7
L6	D	6/19/19	La Verne	Walnut Street, north of the Durwood project site, adjacent to existing SFR neighborhood.	64.1	59.9	56.1	49.1	67.7
L6	D	6/19/19	La Verne	Walnut Street, north of the Durwood project site, adjacent to existing SFR neighborhood.	64.1	59.9	56.1	49.1	67.7

Table 4.11-6 24-Hour Ambient Noise Level Measurements (continued)

Meas Site	Closest PID ¹	Date	City	Description	Energy Average Noise Level (dBA L _{eq}) ²		Average Median Noise Level (dBA L ₅₀) ²		CNEL
					Daytime	Nighttime	Daytime	Nighttime	
L7	E	6/19/19	La Verne	5th Street, south of the Old Baldy project site, adjacent to existing SFR neighborhood.	63.7	49.8	50.6	46.3	64.2
L8-1	F, G	6/20/19	Claremont	Amundsen Branch, east of the San Antonio wash project site, within an existing SFR neighborhood.	47.4	40.0	40.8	37.3	48.9
L8-2	F, G	6/20/19	Claremont	Fergus Falls, north of the San Antonio wash project site, within an existing SFR neighborhood.	52.0	47.9	44.9	38.4	55.4
L9-1	H, I	6/20/19	Claremont	Pennsylvania Avenue, south of the Thompson Creek project site, within an existing SFR neighborhood.	55.2	43.6	43.3	39.6	55.0
L9-2	H, I	6/20/19	Claremont	Adirondack Lane, northeast of the Thompson Creek project site, within an existing SFR neighborhood.	53.8	43.8	44.6	38.6	54.2
L10-1	J	6/20/19	Claremont	Chaparral Drive, east of the Pedley site, within an SFR neighborhood, near Chaparral Elementary School.	55.1	47.8	50.9	42.2	56.8
L10-2	J	6/20/19	Claremont	Barrington Court, north of the Pedley site, within an existing SFR, near Chaparral Park.	54.3	47.1	50.1	45.3	56.0

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 4-1.*

Notes:

1. "PID" = Project Identification Number. See Figure 4.11-1 for the noise level measurement locations.
2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "WT" = Potential Water Treatment Facility;

Impact Evaluation

Impact 4.11-1

Generation of a substantial temporary or permanent increase in ambient noise levels, or ground-borne vibration in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Thresholds 1 and 2)

Construction Duration

Because the Strategic Plan is a long-range plan (20 years), it is unknown when projects would be developed. Therefore, to provide a worst-case analysis of potential Noise impacts associated with construction of Strategic Plan projects, the Strategic Plan's Noise Impact Analysis Report assumed a one-year construction period between August 2021 and September 2022. The construction scenario utilized includes the development of the following:

- the construction of a treatment facility with related infrastructure;
- up to 8,500 linear feet of pipeline construction; and
- the construction of the new recharge basin at the San Antonio Spreading Grounds SASG). Construction of the spreading grounds includes the disturbance up to 50 acres and the removal of up to 2.5 million tons (1,785,714) cubic yards aggregate material to create the basins.

The project is anticipated to include soil import and export within the project site boundaries as a part of construction of the new recharge basin at the SASG. Per the Project Description (Chapter 3), because excavated material would be removed from the site on a conveyor system and would not be transported on surface streets, no hauling trips were modeled.

The development of the new recharge basin in the SASG is proposed to be completed over a five-year period for a total of 20 million tons of material. Material would be crushed on-site with a portable crusher then conveyed easterly to the active Holliday Rock mine site to be stockpiled and/or processed.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells; and (2) increasing treatment capacity at existing well sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the

existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

Construction Impacts

To describe construction noise levels, measurements were collected for similar activities at several construction sites in southern California. Table 4.11-7, *Construction Reference Noise Levels*, provides a summary of construction reference noise level measurements taken at sites where construction activities, including grading and well drilling occurred.

Since the reference noise levels were collected at varying distances, all construction noise level measurements presented on Table 4.11-7 have been adjusted to describe a common reference distance of 50 feet for comparison purposes. The reference construction noise level measurements were selected based on the construction equipment list provided in Chapter 3, *Project Description*.

Project construction activities were analyzed using the reference construction noise levels shown on Table 4.11-7. Then, Table 4.11-8, *Highest Project Construction Equipment Noise Levels at 50 Feet*, identifies the highest reference construction noise level as 70.7 dBA Leq at a distance of 50 feet from the primary construction activities. Using the highest noise level as a reference allows a conservative approach to the analysis of project related noise.

The Six Basins construction noise analysis shows that sensitive receiver locations within 97 feet of the highest noise-generating project construction activities would experience noise levels that could exceed the 65 dBA Leq construction noise level threshold, as shown in Table 4.11-9, *Focused Construction Analysis Screening Distance*. The 65 dBA Leq construction noise level threshold is based on the Municipal Code standards of jurisdictions identified in Table 4.11-3 and was used to identify the 97-foot screening distance for any future focused construction noise analysis that may be required at the time a project is proposed.

Table 4.11-7 Construction Reference Noise Levels

ID	Noise Source	Duration (h:mm:ss) ¹	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance (dBA Leq)	Reference Noise Levels @ 50 Feet (dBA Leq) ²
1	Truck Pass-Bys & Dozer Activity ³	0:01:15	30'	63.6	59.2
2	Dozer Activity ⁴	0:01:00	30'	68.6	64.2
3	Well Pump Drilling ⁴	1:00:00	100'	64.7	70.7
4	Non-Drilling Well Pump Construction Activity ⁵	1:00:00	20'	70.8	62.8
5	Crane Activity ⁶	0:01:08	60'	66.7	68.3

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 6-1.*

Notes:

1. h:mm:ss = hours:minutes:seconds
2. Reference noise levels were calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).
3. Measured on October 14, 2015 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.
4. Measured on November 8, 2017 during 24-hour well drilling construction at the San Gabriel Valley Water Company Plant No. 1 facility.
5. Measured on May 4, 2018 during well construction activities at the San Gabriel Valley Water Company Plant No. 1 facility.
6. Measured on May 18, 2017 for crane movements and lifting activity in Costa Mesa.

Table 4.11-8 Highest Project Construction Equipment Noise Levels at 50 Feet

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)
Truck Pass-Bys & Dozer Activity	59.2
Dozer Activity	64.2
Well Pump Drilling	70.7
Non-Drilling Well Pump Construction Activity	62.8
Crane Activity	68.3
Highest Reference Noise Level at 50 Feet:	70.7

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 6-2.*

Notes:

1. Reference construction noise level measurements taken as previously shown on Table 4.11-6.

Table 4.11-9 Focused Construction Analysis Screening Distance

Worst-Case Construction Activity	Highest Construction Noise Levels @ 50 Feet (dBA Leq) ¹	Distance to 65 dBA Leq Noise Level Contour ²
Grading & Well Drilling	70.7	97 feet

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 6-3.*

Notes:

1. Construction equipment noise levels as shown in Table 4.11-7.
2. Estimated distance to the 65 dBA Leq noise level contour.

Based on reference construction noise level measurements shown in Table 4.11-7 and Table 4.11-8, the highest noise level generating activity is expected to be well drilling. In addition, well drilling may occur over 24-hour periods for multiple days, and therefore, a focused construction noise analysis based on detailed plans showing the location of a proposed well would be required to show how - on a project by project basis - construction noise levels at noise-sensitive receiver locations within 100 feet would be reduced to levels set forth in the

cities and County of Los Angeles Municipal Codes (note: no projects are currently being proposed in the unincorporated San Antonio Heights community in San Bernardino County). With the construction noise mitigation measures identified in Section 4.11.4 below (NOI-1 through NOI-4, project construction noise would be reduced to less than significant levels. These include operating construction equipment consistent with manufacturer’s standards; directing noise emitting equipment away from sensitive receivers; identifying a staging area that will create the greatest distance between a construction-related noise source and a sensitive receiver; and following a construction materials delivery route that would minimize exposure of sensitive land uses.

Construction Vibration

The potential ground-borne vibration associated with construction activities was also evaluated. Construction projects have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized in Table 4.11-10, *Vibration Source Levels for Construction Activities*. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:

$$PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$$

Table 4.11-10 Vibration Source Levels for Construction Activities

Equipment ¹	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Auger Drill	0.089

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 6-4.*

Notes:

1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, September 2018.

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from construction activities would cause only intermittent, localized intrusion. Construction activities most likely to cause vibration impacts are:

- *Heavy Construction Equipment:* Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to a building, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- *Trucks:* Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within a project site were estimated from data published by the FTA. Construction activities that would have the potential to generate low levels of ground-borne vibration within a project site include grading. Using the vibration source level of construction equipment provided in Table 4.11-11 and the construction vibration assessment methodology published by the FTA, project vibration impacts were estimated.

Drilling equipment and large mobile equipment (e.g., dozers, loaded trucks) represent the peak sources of vibration anticipated as part of a project's construction activities. At screening distances ranging from 25 to 200 feet from a project's construction activities, root-mean-square (RMS) vibration velocity levels are expected to range from 0.063 in/sec RMS at 25 feet to 0.003 in/sec RMS at 200 feet, as shown on Table 4.11-11, *Focused Construction Vibration Analysis Screening Distance*.

The results of the program-level construction vibration analysis indicated that sensitive receiver locations within 25 feet of a project's construction activities in the cities of Claremont, Pomona, La Verne, and Upland are anticipated to experience vibration levels of up to 0.063 in/sec RMS, and could potentially exceed the 0.05 in/sec RMS threshold. In addition, sensitive receiver locations within 50 feet of a project's construction activities in the unincorporated areas of the County of Los Angeles adjacent to city boundaries are anticipated to experience vibration levels ranging from 0.022 in/sec RMS at 50 feet to 0.063 in/sec RMS at 25 feet, and could potentially exceed the 0.01 in/sec RMS threshold identified by the County of Los Angeles (see Table 4.11-3 for thresholds). The Strategic Plan does not identify any projects within the unincorporated community of San Antonio Heights in San Bernardino County.

Therefore, project construction vibration mitigation measures are required – on a project-by-project basis - as identified in Section 4.11.5, mitigation measure NOI-2. This will provide a focused analysis of individual activities and construction equipment once detailed construction plans are available for sites near occupied sensitive receiver locations within the identified screening distances of a project's construction activities. To reduce potential impacts associated with vibration generating construction activities, the Watermaster Party proposing a project must prepare and implement a focused construction noise and vibration mitigation plan (NOI-1 and NOI-5) if either or both of the following screening criteria are met:

Table 4.11-11 Focused Construction Vibration Analysis Screening Distance

Distance to Construction Activity (Feet)	Receiver PPV Levels (in/sec) ¹						RMS Velocity Levels (in/sec) ²
	Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Auger Drilling	Peak Vibration (PPV)	
25	0.003	0.035	0.076	0.089	0.089	0.089	0.063
50	0.001	0.012	0.027	0.031	0.031	0.031	0.022
100	0.000	0.004	0.010	0.011	0.011	0.011	0.008
200	0.000	0.002	0.003	0.004	0.004	0.004	0.003
Thresholds				Threshold Exceeded? ³			
Cities		County of L.A.		Cities		County of L.A.	
0.05		0.01		Yes		Yes	
0.05		0.01		No		Yes	
0.05		0.01		No		No	
0.05		0.01		No		No	

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 6-4.*

Notes:

1. Based on the Vibration Source Levels of Construction Equipment included on Table 4.11-10.
2. Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the *Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.*
3. Does the vibration level exceed the acceptable vibration threshold shown on Table 4.11-5?

- If project construction activities would occur within 100 feet of occupied, sensitive receiver locations; or
- If high vibration-generating construction activities such as the use of well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles.

Implementation of NOI-1 through NOI-5 identified in Section 4.11.5 project construction noise and vibration levels would be reduced to less than significant levels.

Operational Noise

Reference Measurements

To estimate the operational noise impacts associated with new pump and treat projects, multiple reference noise level measurements were collected from similar types of activities

to determine a conservative reference noise level for each activity and represent the noise levels expected with the development of new wells and treatment facilities. Table 4.11-12, *Operational Reference Noise Level Measurements*, summarized these measurements. Operational noise impacts are associated with enclosed well pump start-ups, air releases, and continuous pump activity in addition to enclosed equipment exhaust activities.

Table 4.11-12 Operational Reference Noise Level Measurements

Noise Source	Duration (h:mm:ss) ¹	Distance From Source (Feet)	Noise Source Height (Feet)	Noise Level (dBA L50)		Noise Level (dBA L25)	
				@ Ref. Distance	@ 50 Feet	@ Ref. Distance	@ 50 Feet
Well Pump Activities				Highest Reference Noise Level @ 50 Feet:		45.4	45.6
Well Pump Activity ²	0:02:00	3	5	69.8	45.4	70.0	45.6
Well Pump Activity ³	0:00:52	3	5	63.6	39.2	63.8	39.4
Well Pump Activity ⁴	0:00:50	3	3	63.3	38.9	64.0	39.6
Well Pump Building ⁵	0:01:00	3	5	58.8	34.4	60.2	35.8
Exhaust Activities				Highest Reference Noise Level @ 50 Feet:		47.7	47.9
Exhaust Vent ⁴	0:00:25	5	7	67.7	47.7	67.9	47.9
Exhaust Louver ⁶	0:00:30	5	6	66.8	46.8	67.7	47.7

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, July 2019; Table 5-1.*

Notes:

1. h:mm:ss = hours: minutes: seconds.
2. Measured on Sept 29, 2015 at an existing Coachella Valley Water District well site in the City of Palm Desert.
3. Measured on Sept 29, 2015 at an existing Coachella Valley Water District well site in the City of Palm Desert.
4. Measured on Oct. 19, 2016 at well site number 19 in the City of Coachella.
5. Measured on Oct. 19, 2016 at well site number 17 in the City of Coachella.
6. Measured on Oct. 19, 2016 at well site number 18 in the City of Coachella.

Highest Reference Well Pump Activity

The Coachella Valley Water District (CVWD) well site where reference noise level measurements were taken is well number 5676, located at 38-130 Portola Avenue in the City of Palm Desert, near a multifamily residential complex. This measurement represents a typical noise level for an operating groundwater production well was used to describe the well pump activity expected to occur at similar facilities being proposed in the Six Basins project area. The two-minute reference noise level measurement indicated that well pump

activity can generate noise levels of 45.4 dBA L50 at the uniform reference distance of 50 feet. Activities included in the reference noise level measurement were well pump startup, continuous pump activity, and an air release.

Highest Reference Exhaust Activity

The exhaust activities measured at the City of Coachella Well 18 represents a typical site and was used to describe the highest reference noise level measurement for exhaust-related noise sources at project facilities. The reference noise level measurement shows the noise levels exiting the exhaust vent approach 47.7 dBA L50 at the uniform reference distance of 50 feet.

Activities included in the reference noise level measurement were well pump building exhaust noise, that were in addition to background well pump activities.

Sensitive Receiver Locations

Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land.

Land Uses

Table 4.11-13, *Land Uses and Their Related Sensitivity Levels*, lists land uses by their sensitivity to noise. To determine the potential operational noise levels at adjacent sensitive receiver locations, the distance to the noise level contour for each jurisdiction's nighttime noise level standard was calculated for the enclosed well pump start-up, air releases, and continuous pump activity in addition to enclosed equipment exhaust activities.

Operational Noise Levels

Based on the reference noise levels listed in Table 4.11-13 it was possible to estimate the distance from each project-related operational noise activity to the noise level contour boundary of each jurisdiction's exterior noise level standards. The operational noise level calculations shown in Table 4.1-14, *Unmitigated Operational Noise Levels*, account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern.

With geometric spreading, sound levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source such as a well pump.

It is important to note that the operational noise contours do not account for any additional attenuation provided by existing barriers or topography at the adjacent receiver locations near project sites, and therefore, likely overstate project-related operational noise levels associated with pump and treat activities.

Table 4.11-13 Land Uses and Their Related Sensitivity Levels

Sensitive	Moderately Sensitive	Relatively Insensitive	Typically Not Affected
Schools	Multi-family dwellings	Businesses and Business Parks	Industrial, including manufacturing and warehousing
Hospitals	Hotels/motels	Commercial Centers	Utilities
Single Family Dwellings	Dormitories	Professional developments	Agriculture
Mobile Home Parks	Out-patient clinics		Natural open space
Churches	Cemeteries		Undeveloped land
Libraries	Golf courses		Parking lots
Recreation Areas	Country clubs		Liquid and solid waste facilities
	Athletic/tennis clubs		Salvage yards
	Equestrian clubs		Transit terminals

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Page 26.*

Table 4.11-14 Unmitigated Operational Noise Levels

Highest Reference Noise Source	Unmitigated Reference Noise Level @ 50 Feet (dBA) ¹		Distance from Noise Source to Nighttime Noise Level Standard Contour ²		
	L50	L25	dBA L25	dBA L50	
			Claremont (55 dBA L25)	Pomona (50 dBA L50)	La Verne, Upland, & County of L.A. (45 dBA L50)
Well Pump Activities	45.4	45.6	17 feet	29 feet	52 feet
Exhaust Activities	47.7	47.9	22 feet	38 feet	68 feet

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 5-2.*

Notes:

- Highest reference noise level by activity type, as previously shown on Table 4.11-6.
- Estimated distance to the noise level contour boundary for each jurisdiction's nighttime noise level standard.

Although the *Noise Impact Analysis* evaluated the Strategic Plan and its related projects at a program level it was assumed that because proposed pump and treat projects are similar in function and type of equipment to existing conditions at these sites, a project's anticipated operational noise sources were assumed to generate unmitigated noise level contour boundaries that will largely be located within the boundaries of each site.

At receiver locations in the cities of Pomona, La Verne, Upland, and the County of Los Angeles, unmitigated well pump activity noise levels are shown to approach 45.4 dBA L50 at 50 feet, and enclosed equipment exhaust activity noise levels are shown to approach 47.7 dBA L50. The cities of Pomona, La Verne, Upland, and the County of Los Angeles identify nighttime noise level limits of 50 dBA L50 and 45 dBA L50, respectively, and with the additional noise attenuation provided by distance, screen and perimeter walls at some of the well sites and/or at adjacent residential receiver locations, in addition to the building enclosures recommended by the *Noise Impact Analysis* (mitigation measure NOI-6), project operational noise levels would be reduced by a minimum of 5 dBA to range from 40.4 dBA L50 to 42.7 dBA L50 at 50 feet.

At receiver locations in the City of Claremont, unmitigated well pump activity noise levels are shown to approach 45.6 dBA L25 at 50 feet, and enclosed equipment exhaust activity noise levels are shown to approach 47.9 dBA L25. The City of Claremont identifies a nighttime noise level limit of 55 dBA L25, and with the additional noise attenuation provided by distance, screen and perimeter walls at some of the well sites and at adjacent residential receiver locations, in addition to the enclosures recommended in the *Noise Impact Analysis* (mitigation measure NOI-6), project operational noise levels would be reduced by a minimum of 5 dBA to range from 40.6 dBA L50 to 42.9 dBA L50 at 50 feet. The 5 dBA of barrier attenuation assumed in the analysis was the minimum noise attenuation achievable by breaking the line-of-sight to the receiver location, which is anticipated to be attained by screen and perimeter walls at some of the well sites and at adjacent residential receiver locations, the enclosures recommended in the *Noise Impact Analysis*, and existing intervening structures.

The *Noise Impact Analysis* assumed that all project operational activity associated with pump and treat facilities is constantly occurring to present a conservative approach, when in reality, the operational activities may occur as needed and vary throughout the daytime and nighttime hours. Since project operational noise levels are anticipated to remain below a city's noise level limits, operational noise level impacts associated with pump and treat activities would be less than significant. However, to ensure this finding of a less than significant impact, the *Noise Impact Analysis* included operational noise abatement measures (mitigation measure NOI-6) that are set forth in Section 4.11-5 below. These include:

- Enclosing any new or existing well pumps to further reduce noise levels, using acoustically rated louvres and materials within the enclosure construction; and
- Minimizing noise from maintenance vehicles entering the site by ensuring they are in proper working order with well-maintained mufflers, and maintain on-site pavement.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken at the SASG and TCSG to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the PSG site; to create an area for the recharge of stormwater and supplemental water at the LA County Fairplex; and to identify opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The two MS4 projects that have been identified in the Strategic Plan and evaluated in this Program EIR are at the Pedley Spreading Grounds and the LA County Fairplex site.

Ambient noise measurements for Strategic Plan projects included measurements near sensitive receivers located in proximity to the spreading grounds sites. Table 4.11-15, *Noise Measurements Locations Near Spreading Grounds*, lists the locations where noise measurements were taken. Locations are shown on Figure 4.11-1.

Table 4.11-15 Noise Measurements Locations Near Spreading Grounds

Site Location	Noise Measurement Locations ¹	Energy Average Noise Level dBA Leq		Average Median Noise Level (dBA L50)		CNEL
		Daytime	Nighttime	Daytime	Nighttime	
SASG	L8-1	47.4	40.0	40.8	37.3	48.9
	L8-2	52.0	47.9	44.9	38.4	55.4
TCSG	L9-1	55.2	43.6	43.3	39.6	55.0
	L9-2	53.8	43.8	44.6	38.6	54.2
Pedley SG	L10-1	55.1	47.8	50.9	42.2	56.8
	L10-2	54.3	47.1	50.1	45.3	56.0
La County Fairplex	L1-1	54.1	49.5	48.7	47.1	57.4
	L1-2	59.9	51.8	51.0	46.0	61.2

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 4-1.*

Notes:

1. See Figure 4.11-1 for noise level measurement locations.

Construction

San Antonio Spreading Grounds

Construction of the new recharge basin in the SASG would consist of grading and excavation to create an approximately 50-acre basin to a depth of up to 200 feet deep to capture stormwater flows or untreated imported water for spreading and percolation. The approximately 90-acre SASG project area is generally shown in Figure 3-7 in Chapter 3, *Project Description*. It is within this area that up to 50 acres would be disturbed for the new basin and related infrastructure. The excavated material would be crushed on-site then conveyed across the SASG to the existing Holliday Rock conveyor system located on the east

side of the San Antonio Channel (see Figure 3-7). It is estimated that the resulting recharge basin can be completed within three to five years at a rate of 2.5 million tons of material per year (total 20 million tons over a five-year period), at which time the crusher and conveyor system would be removed and the basin will become operational. The crusher and conveyor system are portable and can be moved around the excavated area as mining lowers the level of the excavation area. No transport of excavated material would be hauled on surface streets through neighborhoods. Upon cessation of excavation activities, the site would be used as a recharge basin.

In addition to creating the new recharge basin, potential facility improvements at SASG may include new pipelines and booster pump stations to convey recycled water from the Pomona Water Reclamation Plant (WRP), and new production wells to recover the recharged groundwater.

The approximate location of the new recharge basin is unknown at this time however, consideration must be given for the single-family neighborhoods that are located adjacent to the project area to the west and southwest in the city of Claremont. The optimal location of the basins would be determined during site design and at that time a project specific Noise Impact Analysis shall be performed to determine potential impacts to the neighborhood and how such impacts may be mitigated through implementation of mitigation measures NOI-1 through NOI-5.

Thompson Creek Spreading Grounds

Construction of new recharge basins in the TCSG would consist of grading and excavation to create approximately 25 acres in two basins to a depth of up to 20 feet for spreading untreated imported water and the construction of a new pipeline between MWD's Foothill Feeder Pipeline and the new TCSG recharge basins. A booster pump station may be necessary to convey the imported water to the new basins. The TCSG project area is generally shown on Figure 3-8, in Chapter 3, *Project Description*.

Pedley Spreading Grounds

Construction at PSG to increase the depth of existing recharge basins would consist of grading and excavation on approximately 6 acres. The intent is to enhance the capacity of these basins to recharge stormwater runoff and dry-weather runoff from the surrounding urbanized area. This would require the extension of the storm drains into the project site from the adjacent neighborhood and increasing the depth of existing recharge basins. No site design has been prepared at this time but existing conditions at the PSG site are shown in Figure 4.1-8 of Section 4.1, *Aesthetics*.

Los Angeles County Fairplex

Construction at the LA County Fairplex would consist of the development of up to 10 acres to create an underground infiltration gallery that would take in stormwater runoff and dry weather runoff from the Fairplex site. Flows may also be redirected from the Thompson

Creek channel as well, through an underground pipe. The galleries would be under soccer fields that are being created at the Fairplex. There are no sensitive receivers located in the vicinity of the proposed Fairplex site. Figure 4.1-9 in Section 4.1, *Aesthetics*, shows the general location of this project.

Table 4.11-15 shows that ambient noise levels in the vicinity of the Stormwater and Supplemental Recharge sites are relatively low. Construction at the Fairplex site will likely not affect sensitive receivers because the area to be developed is near the center of the Fairplex complex and not located in proximity to sensitive receivers. Likewise, the location within the TCSG site where the recharge basins would be developed, are located between 200 feet and 700 feet north of the existing neighborhood south of Pomello Drive and in excess of 700 feet west of the nearest neighborhood located on the east side of Mills Avenue.

The PSG project area is approximately 75 feet to the south and east of the existing adjacent neighborhoods and approximately 100 feet west of the Chaparral School.

There are currently no site design plans for any of the *Stormwater and Supplemental Water Recharge* projects. However, the *Noise Impact Analysis* included a number of mitigation measures that would be implemented for most construction projects, including the development of new basins these sites, construction of new pipelines to convey water to spreading ground sites, and for the larger recharge basin in the SASG, the development of new production wells in addition to the new basins and pipelines. Mitigation Measure NOI-1 requires that a focused construction noise and vibration mitigation plan be prepared that meets the screening criteria (compliance with Noise Standards of each city or county Municipal Code). Regarding vibration, mitigation measure NOI-5 specifically addresses the distance drilling equipment and heavy mobile equipment such as dozers should be from the nearest sensitive receivers. NOI-2 and NOI-3 address construction equipment and staging areas, and NOI-4 addresses equipment and materials delivery routes.

Operation

Regarding long-term operation of recharge basins, maintenance of these basins would require periodic grading and removal of silts, vegetation or debris that has accumulated in the basin bottoms. Equipment uses during maintenance would be similar to the construction equipment used. Therefore, mitigation measure NOI-1 would apply to operational maintenance of the recharge basins at the SASG, TCSG and PSG. The underground infiltration gallery would not require the implementation of NOI-1 because that site is not located in proximity to sensitive receivers.

Where pumping equipment is included at spreading grounds, NOI-6 addresses wells, pumps and related equipment and the abatement of noise through the siting and enclosure of permanent stationary equipment, long-term maintenance of the site, particularly the ground surface, and site access.

The intent of the mitigation measures identified in Section 4.11.5 is to ensure that noise associated with the construction and operation of Strategic Plan projects does not exceed the Noise Standards as set forth in each city’s or county’s Municipal Code. Meeting or exceeding those standards would ensure that noise associated with *Stormwater and Supplemental Water Recharge* projects, would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less Than Significant with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona’s P-20 wellhead treatment facility and an interconnect between the site and the TVMWD Miramar WTP; (2) constructing up to 12 new production wells and up to 3 new monitoring wells; and (3) construction of new underground pipelines to interconnect some sites, including a new interconnect between the Pomona WTP and the new recharge basins in the San Antonio Creek wash.

Rehabilitation of the P-20 Well Site

The P-20 well is owned by the City of Pomona and is the only well located in the Lower Claremont Heights Basin (see PID m on Figure 3-2 in Chapter 3, *Project Description*). This site is located within the City of Claremont, adjacent to single family residential neighborhoods and across the street from Claremont High School. No ambient noise measurements were taken at the P-20 well site because the City of Pomona has not produced groundwater from this well since 2000 due to high nitrate concentrations. Therefore, for the purposes of the *Noise Impact Analysis*, the rehabilitation of P-20 and related infrastructure (treatment facility and pipeline) was treated as a new production well project, similar to Project Category 1 sites.

Noise measurements were taken at existing well sites where treatment facilities were collocated. These are shown in Table 4.11-16, *Representative Ambient Noise Measurements*, and include Lincoln/Mills (PID-b) and Old Baldy (PID-e) which are both located adjacent to single family neighborhoods and include a production well and treatment facility. Table 4.11-17, *City of Claremont Noise Level Standards*, shows the standards for construction noise and vibration as well noise that may be generated during operation.

The evaluation of construction noise for all categories is included under Project Category 1, *Pump and Treat in the Pomona Basin*. This is because the noise assessment for this category addressed improvements to groundwater production at existing wells and increasing treatment capacity at existing sites through the construction of new treatment facilities as well as grading activities.

Table 4.11-16 Representative Ambient Noise Measurements

Noise Measurement Location	Energy Average Noise Level (dBA Leq) ¹		Average Median Noise Level (dBA L ₅₀) ¹		CNEL
	Daytime	Nighttime	Daytime	Nighttime	
6th Street, north of the Lincoln Mills project site, within an existing SFR neighborhood.	57.2	51.8	51.7	46.8	59.9
5th Street, south of the Old Baldy project site, adjacent to existing SFR neighborhood.	63.7	49.8	50.6	46.3	64.2

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 4-1.*

Notes:

1. Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 4.11-17 City of Claremont Noise Level Standards

	Municipal Code Section	Construction Noise Level Standard(s) at Noise-Sensitive Uses
Construction Noise	16.154.020(F)(4)	65 dBA L25 70 dBA L17 79 dBA L8 80 dBA Lmax
	Municipal Code Section	Root-Mean-Square Velocity Standard (in/sec)
Construction Vibration	16.154.020(J)	0.05
	Time Period	Exterior Noise Level Standards
Operational Noise Levels (Residential – Noise Zone I)	7 am to 10 pm	60 dBA L25 (15 min), 65 dBA L17 (10 min), 74 dBA L8 (5 min), 75 dBA Lmax (<1min)
	10 pm to 7 am	55 dBA L25 (15 min), 60 dBA L17 (10 min), 69 dBA L8 (5 min), 70 dBA Lmax (<1min)

Source: *Urban Crossroads, Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster, March 2021; Table 3-1, 3-2 and 3-3.*

Table 4.11-8 listed typical noise sources for the highest project construction equipment noise levels. Reference noise levels for dBA Leq at 50 feet ranged from 59.2 feet for truck pass-byes and dozer activities to 70.7 for well drilling. However, the P-20 well already exists and will be rehabilitated to increase groundwater production. Therefore, drilling may not occur associated with this project. However, other construction activities at the site including grading and trenching associated with the new treatment facility and pipeline construction to connect the P-20 well with the Miramar WTP and/or other existing pipelines to convey groundwater to other agencies, could generate noise levels of up to 68.3 dBA.

To ensure that noise levels at the property line adjacent to existing single-family neighborhoods does not exceed the City of Claremont Noise Standards, measures (NOI-1

through NOI-6) identified in Section 4.11.5, *Mitigation Measures*, shall be implemented during construction and on-going operation of the P-20 well site. Implementation of these measures are intended to meet the Noise Level Standards as set forth in each of the city's and county's Municipal Codes; for P-20, that would be the City of Claremont. With the construction noise mitigation measures identified in Section 4.11.4 below, project construction noise levels would be reduced to less than significant impacts. These include operating construction equipment consistent with manufacturer's standards; directing noise emitting equipment away from sensitive receivers; identify a staging area that will create the greatest distance between a construction-related noise source and a sensitive receiver; and following a construction materials delivery route that would minimize exposure of sensitive land uses.

New Production and Monitoring Wells

Representative noise levels for project construction, including well drilling, crane activity and grading that would likely be associated with the construction of new production and monitoring wells are shown in Table 4.11-7 under Project Category 1, *Pump and Treat in the Pomona Basin*. Then, Table 4.11-8 identified the highest project construction equipment noise levels at 50 feet from a sensitive receiver. In the *Noise Impact Analysis*, the construction activities and representative noise levels associated with these activities were assumed based on proximity to sensitive receivers, generally single-family neighborhoods that are adjacent to a number of existing well/treatment facility sites within the Six Basins project area. Based on the data contained in Tables 4.11-7 and 4.11-8, Table 4.11-9 focused construction analysis screening noise level contour and distance was identified; that is, the distance to the 65 dBA Leq contour of 97 feet. This is the screening distance for any future focused construction noise analysis that may be required at the time a project is proposed. Similar to projects included in Project Categories 1 and 2, projects included in Project Category 3 must comply with the mitigation measures identified in Section 4.11.4 below (mitigation measures NOI-1 through NOI-6). These include, preparing a focused construction noise and vibration mitigation plan (NOI-1 and NOI-5), requirements for construction contractors regarding maintenance of equipment and location of staging areas (NOI-2 and NOI-3), and the identification of equipment and material delivery routes. Mitigation measure NOI-6 outlines operational noise abatement measures to control noise related to site operation including measures specific to maintenance workers and vehicles, as well as the identification of pump house building elements designed to attenuate operational noise.

Implementation of mitigation measures NOI-1 through NOI-6 would ensure that impacts associated with the development and operation of new production and monitoring wells would be less than significant.

New Pipeline Interconnects

The purpose of developing new interconnections is to increase the flexibility in conveying water to water-supply agencies in the region to facilitate the use of Six Basins groundwater during a Temporary Surplus or the interconnect between the Pomona WRP and the new recharge basin in the SASG, which is not necessarily a temporary water source. Potential facility improvements include:

- Interconnections of wells and/or distribution systems to the regional treated-water pipelines (e.g. Benson Avenue feeder; Miramar system).
- Interconnection between the WFA Agua de Lejos WTP in Upland and TVMWD Miramar WTP in Claremont.
- Other interconnections. For example, new pipelines and connections necessary to ensure all Parties have the ability to convey and receive water from all other Watermaster Parties; export water to the Chino Basin; export water through the PWR pipeline; and convey water between the Pomona Water Reclamation Plant and the San Antonio Spreading Grounds.

The location of some of these facilities are shown on Figure 3-6, in Chapter 3, *Project Description*. Other facilities have not been determined at this time. However, pipeline construction may typically involve pavement removal, trenching/excavation and stockpiling, pipeline placement, backfilling and repaving; material and equipment staging. Section 3.6.1, *Construction Activities*, in Chapter 3, lists the construction activities associated with new conveyance pipelines. These can be placed generally within the construction reference noise levels outlined in Table 4.11-7, and these include truck pass-byes and dozer activity, dozer activity without truck pass-byes, non-drilling well pump construction activity and crane activity. Because pipeline construction is a temporary activity that is linear, construction noise may be a nuisance when the activity is occurring near a residence. Therefore, as construction is completed and the activity moves away, the noise levels are reduced in that location but continue in adjacent locations as construction of a pipeline is linear. Therefore, mitigation measures for construction activities NOI-1 through NOI-5 would be applicable to pipeline construction activities.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects,

would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.11-2

For a project located within an the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

As described in Section 4.8, Hazards/Hazardous Materials/Wildfire Hazards, the Six Basins project area includes the following:

- Brackett Field Airport, a Los Angeles County-owned/operated general aviation airport located at 1615 McKinley Avenue, within the City of La Verne.
- Cable Airport, a private general aviation airport located at 1749 W. 13th Street in the City of Upland.

In addition, although not located within the Six Basins project area, the Ontario International Airport, located at 2500 East Airport Drive in the City of Ontario, has an Airport Influence Area (AIA) that includes portions of the cities of Claremont, Pomona, and Upland, as well as the unincorporated area of Los Angeles and San Bernardino that are surround by these cities. According to the ALUCP Compatibility Policy Map the AIA pertains to areas where existing or future airport related safety, noise, airspace protection, or overflight factors may significantly affect land uses or necessitate restrictions on those uses.

However, the Strategic Plan does not include any residential land uses, therefore implementation of projects in this category would not include any new residents that would be adversely affected by proximity to an airport or private airstrip. In addition, proposed projects identified in the Strategic Plan do not include any sites where permanent employees would be located. Once construction is complete, operation and maintenance tasks would be performed by workers working on site intermittently and not for extended periods. When on a site located within the AIA of one of the airports, workers may occasionally hear airplanes pass by overhead however, they would not be exposed to substantial, long-term airport-related noise. Therefore, the proposed projects would not expose persons to excessive airport-related noise levels. Exposure to airport noise would be a less than significant impact.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

See discussion in Project Category 1 above.

Project Category 3: Temporary Surplus

Determination: No Impact.

See discussion in Project Category 1 above.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

There are no project sites associated with Project Category 4.

4.11.4 Cumulative Impacts

Future cumulative development could result in the exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance potentially resulting in significant impact. Because construction of proposed Strategic Plan projects could result in excessive noise levels during construction, a project's contribution to cumulative impacts on the generation of noise levels in excess of local standards throughout the Six Basins project area would be cumulatively considerable, and thus result in a significant cumulative impact. However, construction activities are short term and once completed, noise associated with construction would cease. During construction, where a Strategic Plan project is located near and vibration sensitive receptors, mitigation measures NOI-1 through NOI-5 would be implemented. Mitigation measure NOI-1 requires the Watermaster Party proposing a project, or its construction contractor, prepare a focused construction noise and vibration mitigation plan for short term implementation. Mitigation measure NOI-5 is specific to the generation of vibration where a focused construction vibration mitigation plan must be prepared and implemented if vibration generating construction activities are within 25 feet (cities) or 50 feet (unincorporated County of Los Angeles) of occupied, sensitive receiver locations. Implementation of Noise mitigation measures would reduce project related noise impacts to less than significant levels and thus, would not contribute significantly to cumulative Noise impacts.

Likewise, during operation of wells and treatment facilities, implementation of mitigation measure NOI-6 for operational noise abatement at well sites and treatment facilities would reduce potential operational noise levels received at nearby sensitive receiver locations. For *Stormwater and Supplemental Water Recharge* projects, these consist largely of passive recharge basins that during operation would not generate noise at levels that would contribute to a cumulatively significant impact. The exception is the SASG recharge basin project where one new source of supplemental water for recharge is to receive reclaimed water from the Pomona WTP through a pipeline that would require booster pumps to bring

this water from a lower elevation to a higher elevation. Implementation of mitigation measure NOI-6 may be required to ensure such activities do not result in the generation of noise in exceedance of the city of Claremont Noise Ordinance. Therefore, with implementation of mitigation measure NOI-6, operation of Strategic Plan projects would not contribute to a cumulatively significant noise impact.

Future cumulative development could expose people residing or working within two miles of a public airport or public use airport to excessive noise levels within the Six Basins project area. Because implementation of the Strategic Plan and related projects would not expose people to excessive noise levels regarding airport noise, the project's contribution to cumulative impacts on exposure of people to airport related noise would not be cumulatively considerable, and thus would result in no significant cumulative impact.

4.11.5 Mitigation Measures

Construction

NOI-1 The following mitigation measures are required to reduce noise and vibration levels produced by the construction equipment at nearby, occupied sensitive receiver locations:

- A focused construction noise and vibration mitigation plan shall be required if any or both of the following screening criteria are met:
 - If project construction activities would occur within 100 feet of occupied, sensitive receiver locations (e.g., residential, school, etc. uses):
 - A focused construction noise mitigation plan shall be required which evaluates whether project construction noise levels would exceed the 65 dBA Leq exterior noise level limit at occupied sensitive receiver locations, and the mitigation measures (if any) necessary to satisfy the 65 dBA Leq exterior noise level limit.
 - Potential mitigation measures to reduce project construction noise levels include, but are not limited to, temporary noise barriers, the use of alternative equipment, noise level monitoring, temporary relocation of residents, or a combination of the above.

NOI-2 During all project site construction, the construction contractors shall ensure that all construction equipment, fixed or mobile, shall have properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the Project site.

NOI-3 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction (i.e., the center of each site).

- NOI-4 The contractor shall design delivery routes of equipment and materials to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.
- NOI-5 If high vibration-generating project construction activities such as well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used:
- Within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or
 - Within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles:
 - A focused construction vibration mitigation plan shall be required which evaluates whether project construction vibration levels would exceed the exterior vibration level limit at occupied sensitive receiver locations, specific to that jurisdiction’s standards, and the mitigation measures (if any) necessary to satisfy the exterior vibration level limit.
 - Potential mitigation measures to reduce project construction vibration levels include, but are not limited to, the use of alternative equipment, vibration level monitoring, temporary relocation of residents, or a combination of the above.

Operation

- NOI-6 The following operational noise abatement measures shall be required to further reduce the potential operational noise levels received at nearby sensitive receiver locations:
- New, or existing unenclosed, well pumps shall be enclosed to further reduce operational noise levels at nearby sensitive receiver locations (e.g., residential homes). The location of any louvres or openings in the enclosure assembly would reduce the overall noise reduction of the enclosure, and therefore, shall be oriented away from nearby residential homes, if feasible. In addition, acoustically-rated louvres and materials within the enclosure construction are recommended to further reduce the noise levels at the well pump source.
 - All trucks transiting on-site in outdoor areas of the project facilities should be operated with properly functioning and well-maintained mufflers.
 - Maintain quality pavement conditions on the property that are free of vertical deflection (i.e. speed bumps) to minimize truck noise.
 - Truck access gates and loading areas should have posted signs which state:
 1. Truck drivers shall turn off engines when not in use;

2. No music or electronically reinforced speech from workers should be audible at noise-sensitive properties.

4.11.6 Level of Significance After Implementation

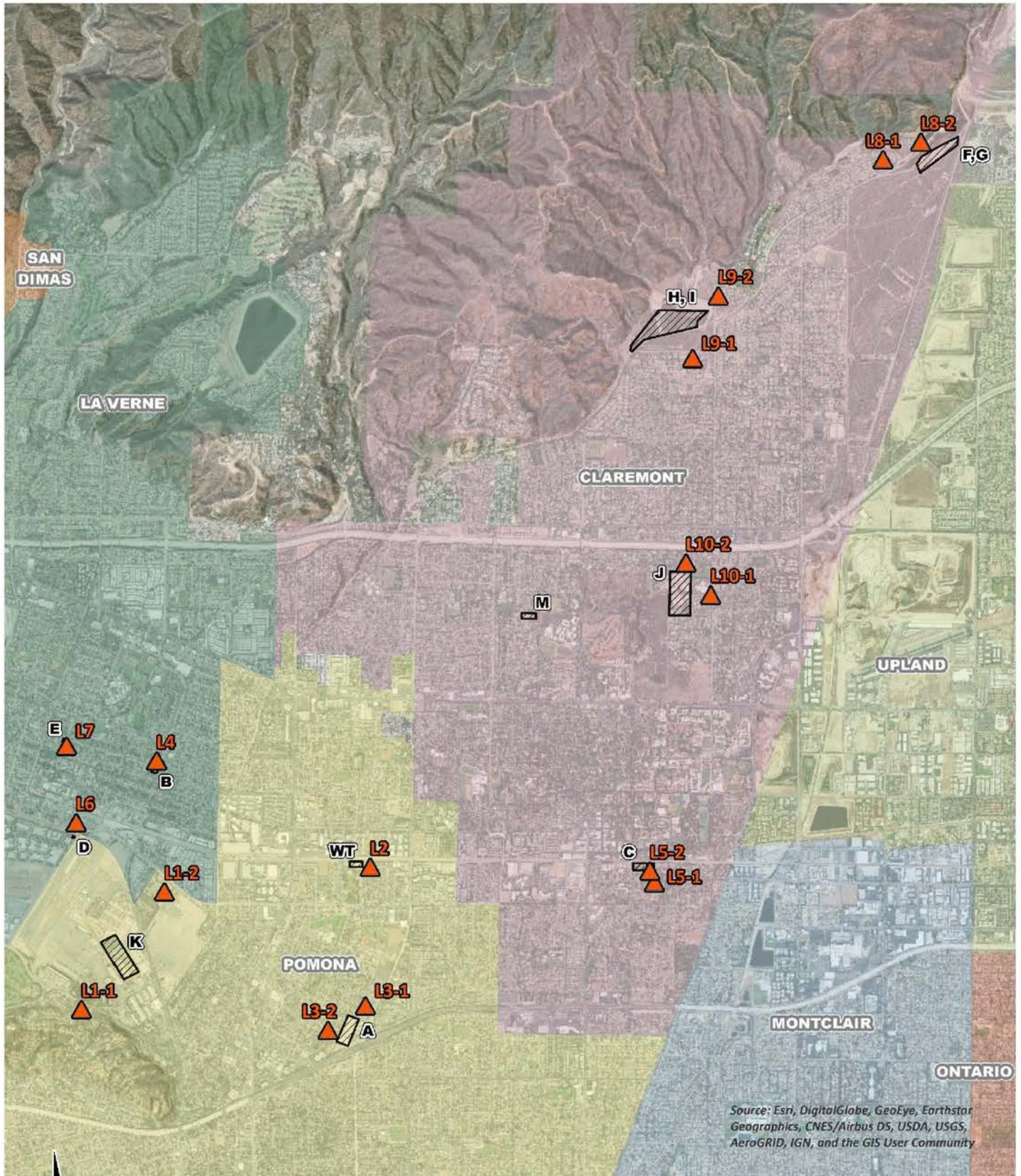
Less than significant.

4.11.7 References

Urban Crossroads, March 2021, *Six Basins Noise Impact Analysis, Cities of Claremont, Pomona, La Verne, and Upland and the County of Los Angeles, Six Basins Watermaster*.

WEI, Inc., 2017, *Final Strategic Plan for the Six Basins*.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND:

-  Noise Measurement Locations
-  Project Identification (PID)
-  Potential Water Treatment Facility

Source: Urban Crossroads Exhibit 4-A Noise Measurement Locations



Figure 4.11-1
Noise Study - Noise Measurement Locations

4.12 Population/Housing

4.12.1 Introduction

This section describes the environmental setting for Population and Housing, as well as potential impacts associated with implementation of the Strategic Plan projects.

4.12.2 Environmental Setting

Regional Setting

The Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) representing six counties, 191 cities and more than 19 million residents. SCAG's planning efforts include development and adoption of the Regional Transportation Plan/Sustainable Communities Plan (RTP/SCS), with the most recent RTP/SCS adopted in 2016 for years 2016-2040. SCAG's goal in implementing this plan is to encourage the integration of land use and transportation decisions at the local and regional level so that the region can grow smartly and sustainably. The plan was a collaborative effort with input from local governments, including the cities within the Six Basins project area, county transportation commissions, and others (stakeholders).

In addition to the RTP/SCS, SCAG prepares bi-annual Local Profiles of in each city and county within the SCAG region. The latest were prepared in 2018 and are summarized for each city below in the Local Setting section.

Local Setting

San Bernardino County

The Six Basins project area is largely within Los Angeles County with the exception of the northwesterly portion of the City of Upland and a portion of the unincorporated community of San Antonio Heights. SCAG's San Bernardino County profile does not break down the statistics into individual unincorporated communities. However, in 2017, the County updated the *San Antonio Heights Community Plan* that provided the projected population in 2020. This is shown in Table 4.12-1, *San Antonio Heights 2020 Projected Population*.

Table 4.12-1 San Antonio Heights 2020 Projected Population

Total Population	2020 Projected Population	Change		Total Dwelling Units	Average Household Size
		Increase	Percent		
3,396	3,454	58	1.7	1,249	2.8

Source: San Bernardino County San Antonio Heights Community Plan 2017, Key Census Data Table.

Using the average household size of 2.8 persons per dwelling unit, approximately 20 new dwellings units could be added to the community by the end of 2020. This represents growth that is independent of the Watermaster Parties proposed projects.

Los Angeles County

SCAG's Los Angeles County profile does not break down the statistics into individual unincorporated communities. However, the County of Los Angeles has prepared the East San Gabriel Valley Area Plan that includes the unincorporated communities of North Claremont, West Claremont, Northeast La Verne, and North Pomona. Figure 4.12-1, *East San Gabriel Valley Area Plan*, shows the location of the unincorporated areas. Areas that fall within the Six Basins project area are included in the red box.

North Claremont

The North Claremont community is 541 acres of largely open space designated land. The Community Plan shows a population of 150 in 75 dwelling units in the Padua Hills neighborhood. The mix of land uses is as follows: Residential - 7 percent; Rural - 51 percent; Parkland - 31 percent.

West Claremont

The West Claremont community consists of two separate areas that border the City of Claremont totaling 1.2 square miles. There are 1,166 residents in 392 dwelling units. The mix of land uses is as follows: Residential – 85 percent, Government/Institutional – 10 percent, Irrigated Farmland – 2.5 percent.

North Pomona

The North Pomona community consists of two separate areas surrounded by the City of Pomona totaling 0.51 square mile. There are 567 residents and 218 dwelling units. The northern area includes a mobile home park and the southern area includes a number of single-family residences. The mix of land uses is as follows: Single Family Residential – 56 percent and Multi-family Residential (Mobile Home Park) – 44 percent.

Northeast La Verne

At present, the Northeast La Verne community has not been characterized in the East San Gabriel Area Plan and no information on population and housing is available. However, because this unincorporated community is within the sphere of influence of that city, population and housing data likely have been incorporated into the La Verne general plan. Therefore, no further discussion of this community is included.

City of Claremont

According to the SCAG Local Profile for the City of Claremont, the 2018 population was 36,446, an increase of 2,448 residents from 2000 or approximately 7 percent growth over

an 18-year period. The number of dwelling units added to the City’s inventory in that same period was 565; 416 single family dwelling units and 149 multi-family dwelling units. The total number of dwelling units in the city of Claremont is shown in Table 4.12-2, *City of Claremont Housing Units and Types*.

Table 4.12-2 City of Claremont Housing Units and Types

Housing Type	Number of Units	Percent of Total Units
Single Family Detached	8,205	65.9%
Single Family Attached	1,336	10.6%
Multi-family: 2 to 4 units	1,007	8.1%
Multi-family: 5 units plus	1,888	15.2%
Mobile Home	23	0.2%
Total	12,459	100%

Source: SCAG, 2019, Claremont Local Profile, Section IV Housing, Housing Type.

Combining the single family attached and detached numbers for a total of 9,541 dwelling units shows that the additional 416 dwelling units added between years 2000 and 2018 represents an approximately 4 percent increase in the number of dwelling units over the 19-year period. This shows that the City of Claremont is close to buildout and that the development of additional dwelling units will continue but at a relatively slow pace. Population growth in the City during that same period is similar with an increase of only 2,448 residents.

City of La Verne

According to the SCAG Local Profile for the City of La Verne, the 2018 population was 33,260, an increase of 1,622 residents from 2000 or approximately 5 percent growth over an 18-year period. The number of dwelling units added to the City’s inventory in that same period was 315; 166 single family dwelling units and 150 multi-family dwelling units. Note: 101 of the multi-family units represents one year – 2008; and another 38 dwelling units were built in 2008. The total number of dwelling units in the City of La Verne is shown in Table 4.12-3, *City of La Verne Housing Units and Types*.

Combining the single family attached and detached numbers for a total of 8,689 dwelling units shows that the additional 315 dwelling units added between years 2000 and 2018 represents an approximately 3.6 percent increase in the number of dwelling units over the 19-year period. This shows that the City of La Verne is close to buildout and that the development of additional dwelling units will continue grow but at a relatively slow pace. Population growth in the City during that same period is similar with an increase of only 1,622 residents.

Table 4.12-3 City of La Verne Housing Units and Types

Housing Type	Number of Units	Percent of Total Units
Single Family Detached	7,758	63.9%
Single Family Attached	931	7.7%
Multi-family: 2 to 4 units	660	5.4%
Multi-family: 5 units plus	929	7.6%
Mobile Home	1,869	15.4%
Total	12,147	100%

Source: SCAG, 2019, La Verne Local Profile, Section IV Housing, Housing Type.

City of Pomona

According to the SCAG Local Profile for the City of Pomona, the 2018 population was 155,687, an increase of 6,214 residents from 2000 or approximately 4.2 percent growth over a 19-year period. The number of dwelling units added to the City's inventory in that same period was 1,134; 823 single family dwelling units and 577 multi-family dwelling units. The total number of dwelling units in the City of Pomona is shown in Table 4.12-4, *City of Pomona Housing Units and Types*.

Combining the single family attached and detached numbers for a total of 28,074 dwelling units shows that the additional 823 dwelling units added between years 2000 and 2018 represents an approximately 3 percent increase in the number of dwelling units over the 19-year period.

Table 4.12-4 City of Pomona Housing Units and Types

Housing Type	Number of Units	Percent of Total Units
Single Family Detached	24,994	60.2%
Single Family Attached	3,080	7.4%
Multi-family: 2 to 4 units	3,512	8.5%
Multi-family: 5 units plus	7,932	19.1%
Mobile Home	1,978	4.8%
Total	12,147	100%

Source: SCAG, 2019, Pomona Local Profile, Section IV Housing, Housing Type.

This shows that the city of Pomona is close to buildout and that the development of additional dwelling units will continue to grow but at a relatively slow pace. Population growth in the City during that same period is similar with an increase of only 6,214 residents or approximately 4 percent of the total population.

City of Upland

According to the SCAG Local Profile for the City of Upland, the 2018 population was 77,017, an increase of 8,624 residents from 2000 or approximately 11 percent growth over a 19-year period. The number of dwelling units added to the City’s inventory in that same period was 867; 547 single family dwelling units and 320 multi-family dwelling units. Note: the 320 multi-family dwelling units were built in one year – 2008. The total number of dwelling units in the City of Upland is shown in Table 4.12-5, *City of Upland Housing Units and Types*.

Table 4.12-5 City of Upland Housing Units and Types

Housing Type	Number of Units	Percent of Total Units
Single Family Detached	16,027	57.5%
Single Family Attached	1,762	6.3%
Multi-family: 2 to 4 units	2,902	10.4%
Multi-family: 5 units plus	6,294	22.6%
Mobile Home	865	3.2%
Total	27,850	100%

Source: SCAG, 2019, *Upland Local Profile, Section IV Housing, Housing Type*.

Combining the single family attached and detached numbers for a total of 17,789 dwelling units shows that the additional 547 dwelling units added between years 2000 and 2018 represents an approximately 3 percent increase in the number of dwelling units over the 19-year period. This shows that the City of Upland, like the other cities in the Six Basins project area, is close to buildout and that the development of additional dwelling units will continue to grow but at a relatively slow pace. Population growth in the City during that same period was higher than in the other cities with an increase of 8,624 residents or approximately 12.6 percent of the total population. This, however, is considerably lower than the County of San Bernardino growth rate of 27.2 percent for the same time period.

4.12.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact to Population and Housing if it would result in any of the following:

1. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

2. Would the project displace substantial numbers of existing housing or people necessitating the construction of replacement housing elsewhere?

Impact Evaluation

The Strategic Plan identified an approximately 54-year planning period between July 1, 2013 and June 30, 2066. Subsequently, and as part of the analysis of Alternative water management scenarios completed by the project engineer (West Yost) in November 2020, the planning period was redefined as a 58-year period between July 1, 2017 and June 30, 2075. This longer planning period allowed engineers and planners to adequately study and make projections regarding future reliability and sustainability of the water supply based on historical hydrology from the previous 58-year period between July 1, 1959 and June 30, 2017. However, most planning models used by cities and regional planning agencies such as SCAG, use a more modest planning model that typically projects growth over a 20-year planning period. Therefore, for the purposes of the environmental evaluation of the Strategic Plan and related projects, a 20-year buildout scenario was assumed whereby, the projects identified in the Strategic Plan are constructed and in operation at the end of this 20-year period.

Because the Six Basins project area is largely built out, the population projections show a modest increase between the years 2020 and 2040. These years correspond to the anticipated completion of proposed projects identified in the Strategic Plan. Table 4.12-6, *Population Projections for Cities Overlying the Six Basins*, shows that the increase in the population over the next 20 years is approximately 8 percent.

Table 4.12-6 Population Projections for Cities Overlying the Six Basins

City	Year 2020	Year 2035	Year 2040	Percent Change
Claremont	36,300	38,200	39,400	7.7
La Verne	32,200	32,600	32,900	2.13
Pomona	160,800	181,700	190,400	15.55
Upland	76,200	81,600	81,700	6.73
Total	305,400	334,100	344,400	8.03

Source: SCAG Comments on the NOP for the Six Basins Strategic Plan, October 5, 2018 (see Appendix A -NOP and Comments Received)

Although the population increase is projected to be a modest 8 percent over the next 20-year period, the percentage increase in population beyond 2040 is anticipated to be similar or less due to the project area being urbanized such that opportunities to build new housing or other non-residential projects that would result in additional population would be fewer.

Table 4.12-7, *Adopted Population, Households and Employment Forecasts through 2040*, is a summary of SCAG's growth forecasts for the area, based on input provided by the cities. Table 4.12-7, shows the breakdown for population, households and employment. Note: For unincorporated areas in Los Angeles and San Bernardino counties, complete projections

were not available. Although the population increase is projected to be approximately 8 percent over the 20-year period in the Six Basins project area, the larger issue facing the Six Basins Watermaster Parties, is the long-term sustainability (considering current use and future availability) of the water supply and the quality of that resource in order to guarantee a safe sustainable supply of potable water for the residential, commercial and industrial water users supplied by the Watermaster Parties.

Table 4.12-7 Adopted Population/Households/Employment Forecasts through 2040

	2020	2035	2040
Claremont			
Population	36,300	38,200	39,400
Housholds	12,200	12,800	13,200
Employment	18,500	19,300	19,700
La Verne			
Population	32,200	32,600	32,900
Households	11,600	11,800	12,100
Employment	13,200	13,900	14,300
Pomona			
Population	160,800	181,700	190,400
Households	43,400	48,800	51,100
Employment	60,500	64,700	67,200
Upland			
Population	76,200	81,600	81,700
Households	27,200	28,800	28,900
Employment	35,900	42,300	43,500
Los Angeles County East San Gabriel Valley (Note: 2022 was the only future year available from LAC Regional Planning Department, and no employment data was available)			
North Claremont			
Population	150	--	--
Households	75	--	--
Employment		--	--
North Pomona			
Population	567	--	--
Households	218	--	--
Employment		--	--
Northeast La Verne			
Population	200	--	--
Households	5	--	--
Employment		--	--
West Claremont			
Population	1,166	--	--
Households	392	--	--
Employment		--	--

**Table 4.12-7 Adopted Population/Households/Employment
Forecasts through 2040 (continued)**

	2020	2035	2040
<i>San Bernardino County</i> (Note: Forecast for population and households were available for 2020 only)			
<i>San Antonio Heights</i>			
Population	3,454	--	--
Households	1,208	--	--
Employment	--	--	--

Source: (1) SCAG Comments on the NOP for the Six Basins Strategic Plan, October 5, 2018 (see Appendix A - NOP and Comments Received); (2) Los Angeles County Regional Planning Department, ESGV Community Inventory, 2017 and 2021; (3) San Bernardino County San Antonio Heights Community Plan, 2017, Table 1, Key Census Data.

Impact 4.12-1

Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

These projects consist of upgrades to existing well sites and treatment facilities and would not require the development of any new sites. Therefore, the projects in Project Category 1 would not induce substantial unplanned population growth in the area. No new homes or businesses are proposed and no new infrastructure such as new roads to access a site are proposed. The intent of the Strategic Plan is to enhance water supplies, protect and enhance water quality through the treatment of contaminated groundwater, and sustainably manage the groundwater resource throughout the Six Basins project area. Therefore, there would be no population or housing impact in the Six Basins project area associated with Pump and Treat projects.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

These projects consist of new stormwater and supplemental water recharge basins in the SASG and TCSG, expanded basins in the PSG, and a new underground infiltration gallery at the Los Angeles County Fairplex. There are no new homes or businesses associated with the proposed improvements to SASG, TCSG or PSG sites. Likewise, the Fairplex site is a developed fairgrounds venue and there are no plans to include new homes or other new

habitable structures. Therefore, there would be no population or housing impact in the Six Basins project area associated with *Stormwater and Supplemental Water Recharge* projects.

Project Category 3: Temporary Surplus

Determination: No Impact.

These projects consist of rehabilitating the existing Pomona’s P-20 Wellhead and Treatment Facility in Claremont; constructing up to 12 new groundwater production wells and a treatment facility, and up to 3 monitoring wells in the Pomona Basin; and constructing new interconnects between new production wells and a new treatment facility, and one between the existing Pomona Water Reclamation Plant and the new SASG recharge basin. There are no plans to include new homes or businesses at or near and of these sites. Therefore, there would be no population or housing impact in the Six Basins project area associated with *Temporary Surplus* projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review. Therefore, there are no population or housing impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.12-2

Would the project displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

These projects consist of upgrades to existing well sites and treatment facilities and would not require the development of any new sites that are currently occupied by residences. Therefore, the projects in Project Category 1 would not require the construction of replacement housing elsewhere, and there would be no housing impact in the Six Basins project area associated with Pump and Treat projects.

Project Category 2: Stormwater and Supplemental Water Recharge Projects

Determination: No Impact.

These projects consist of new stormwater and supplemental water recharge basins in the SASG and TCSG, expanded basins in the PSG, and a new underground infiltration gallery at the Los Angeles County Fairplex. None of these sites are occupied by residences. Therefore, the projects in Project Category 2 would not require the construction of replacement housing elsewhere, and there would be no housing impact in the Six Basins project area associated with Stormwater and Supplemental Water Recharge projects.

Project Category 3: Temporary Surplus

Determination: No Impact.

These projects consist of rehabilitating the existing Pomona’s P-20 Wellhead and Treatment Facility in Claremont, constructing new production wells and a treatment facility in the Pomona Basin, and production and monitoring wells in the Pomona and Upper Claremont Heights basins; and constructing new interconnects between wells, and one between the existing Pomona WTP and the new recharge basin at the SASG.

The rehabilitation of the P-20 Wellhead and Treatment facility will be done at an existing well site. The interconnect between the Pomona WTP and the SASG would be completed in the existing street right-of-way. Therefore, for these two projects no replacement housing would be required as all work would be done in the right-of-way. At this point there are no plans to develop new well sites on properties that are currently occupied with residences. Therefore, there would be no housing impact in the Six Basins project area associated with Temporary Surplus projects.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.12.4 Cumulative Impacts

Because there would be no impacts on Population and Housing associated with the implementation of the Strategic Plan and its related projects, no cumulative impacts would be created.

4.12.5 Mitigation Measures

No impacts to Population and Housing have been identified, therefore, no mitigation measures are required.

4.12.6 Level of Significance After Mitigation

Not Applicable.

4.12.7 References

Sources used in the preparation of this section are as follows:

Southern California Association of Governments (SCAG), 2016, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategies, A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life.*

May 2019, *Profile of the City of Claremont*

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<http://www.ci.la-verne.ca.us/index.php/documents/community-development-planning/214-zoning-map-certified-2016/file>

City of Claremont website accessed February 11, 2019,

<https://www.ci.claremont.ca.us/Home/Components/FacilityDirectory/FacilityDirectory/54/1360?npage=2>

City of Upland, 2015, General Plan Land Use Element and Map,

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County of Los Angeles, *East San Gabriel Valley Area Plan Website*, accessed May 29, 2019
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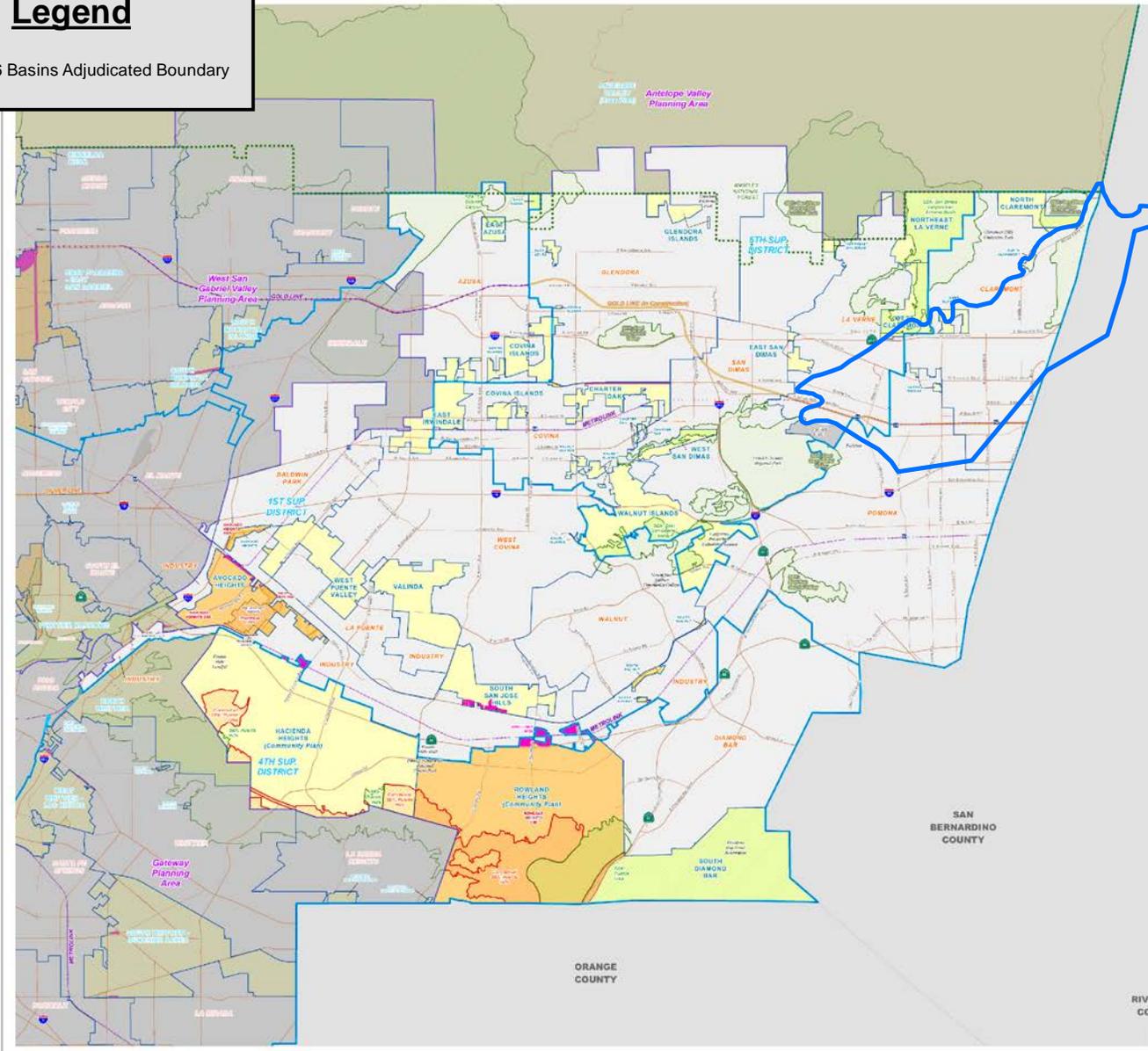
County of Los Angeles, Department of Regional Planning, personal communication with James Dverno, Regional Planner, Community Studies East, May 29, 2019.

County of San Bernardino, 2017, *Countywide Plan, San Antonio Heights Community Plan.*

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Legend

 6 Basins Adjudicated Boundary



Los Angeles County

EAST SAN GABRIEL VALLEY AREA PLAN

Planning Area and Overlays

LEGEND:

-  Surrounding Planning Areas
- Base Layers**
 -  Metro Rail Stations
 -  Metrolink Stations
 -  Metrolink
 -  Transitways
 -  Metro Rail - Existing
 -  Metro Rail - Proposed
 -  Metro Rail - Under Construction
 -  Airports
 -  City / Unincorporated Community Boundaries
 -  Supervisorial Districts
 -  Incorporated Cities
 -  Unincorporated Areas
 -  Surrounding Counties
- Overlays**
 -  Community Standards Districts (CSD)
 -  CSD Subareas
 -  Employment Protection Districts
 -  Equestrian Districts
 -  National Forest
 -  Opportunity Areas
 -  Significant Ecological Areas
 -  Significant Ecological Areas (Incorporated City)
 -  Conceptual SEAs

NOTES:

KEY MAP:







Date: 4/27/2020



Figure 4.12-1
East San Gabriel Valley Planning Area Map

6 Basins
Strategic Plan - Program EIR

4.13 Public Services/Recreation

4.13.1 Introduction

This section describes the environmental setting for Public Services for Fire Protection and Police Protection; and also includes Recreation as a related public service. Other public services such as schools, parks, and libraries would not be adversely affected by the proposed Strategic Plan projects because none of the projects include new residential development or new employment sectors (commercial or industrial) that would result in an increase in population.

4.13.2 Environmental Setting

Regional Setting

Most public services in the Los Angeles County portion of the Six Basins project area are provided by the cities overlying the project area, or for the Community of San Antonio Heights, the County of San Bernardino provides Fire and Law Enforcement services. In addition, a portion of the Six Basins project area falls under the administration the State of California Forestry and Fire Protection (CAL FIRE).

Regulatory Setting

State

CAL FIRE maps the Fire Hazard Severity Zones (FHSZ) for the cities and county areas within the Six Basins project area. The mapping is based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance, and fire history. The Six Basins project area is located in proximity to the San Gabriel mountains; and along the San Antonio and Thompson creeks wash areas that contain moderate, high, and very high fire severity zones shown on Figure 4.8-1, in Chapter 4.8, *Hazards/Airport Safety/Wildfires*.

Local

City of Claremont

Fire Protection

Fire services for the City of Claremont are provided by the Los Angeles County Fire Department (LACFD). There are three Fire Stations located within the city of Claremont that provide services to over 36,000 residents. These are:

- FS 101 606 W. Bonita Avenue
- FS 102 2040 N. Sumner Avenue
- FS 62 3701 N. Mills Avenue

Only one of these fire stations, Fire Station #101, provides paramedic services. Fire Station #101 is located at 606 Bonita Avenue, CA 91711.

Police Protection

The Claremont Police Department (CPD) provides police protection for the City of Claremont. The CPD consists of 40 sworn police officers, 3 sworn police reserve officers, and more than 30 volunteers. The CPD is comprised of three divisions: Administration Services, Operations, and Support Services. The Administration Services Division focuses on administration, community and volunteer programs, and emergency operations. The Operations Division concentrates on traffic, patrol, special programs, the Detective Bureau, and the K-9 unit. The Support Services Division manages the records, dispatch, impound, and the city jail. The police department is located at 570 West Bonita Avenue, Claremont, CA 91711.

City of La Verne

Fire Protection

Fire Services for the City of La Verne are provided by the La Verne Fire Department (LVFD). LVFD consists of 33 full time fire suppression employees including 15 firefighters/paramedics. Additionally, 24 Apprentice Firefighters and 30 Fire Explorers provide secondary support. LVFD serves approximately 32,000 residents over nine square miles. From three stations:

- FS 1 2061 Third Street
- FS 2 4785 Wheeler Avenue
- FS 3 5100 Esperanza Drive

Police Protection

The La Verne Police Department (LVPD) provides police services for the City of La Verne. LVPD is comprised of 12 divisions: Administration, Communications, Recruitment, Jail Services, Patrol, Reserve Forces Bureau, Retired Senior Volunteer Patrol, School Resource Officers, Detective Bureau, Crime Prevention, Traffic Bureau, and Records. LVPD is located at 2061 Third Street, La Verne, CA 91750. The Police Department consists of the following personnel 1 Police Chief, 1 Captain, 8 detectives/technicians, and 30 officers.

City of Pomona

Fire Protection

LACFD Battalion 15 provides fire services for the City of Pomona. There are a total of nine fire stations located within the city of Pomona, including a fire station at the LA County Fairplex, which operates during the period when the County Fair is in progress. These fire stations provide services for 152,361 residents within 22.92 square miles. The Division and Battalion Headquarters are located at 590 S Park Avenue, Pomona, CA 91766. The fire stations are located throughout the City as follows:

- FS 181 590 S. Park Avenue, Division and Battalion Headquarters
- FS 182 1059 N. White Avenue
- FS 183 708 N. San Antonio
- FS 184 1980 W. Orange Grove
- FS 185 925 E. Lexington
- FS 186 280 E. Bonita
- FS 187 3325 Temple Avenue
- FS 188 18 A Village Loop Road
- FS 189 Pomona Fairplex 1101 McKinley Avenue

Police Protection

The Pomona Police Department (PPD) provides police services to the City of Pomona. PPD divisions include Administrative Services, Investigative Services, Operations, and the Traffic Bureau. The PPD headquarters is located at 490 W Mission Boulevard, Pomona, CA 91766.

City of Upland

Fire Protection

The San Bernardino Fire Department (SBCFD) provides fire services to the City of Upland. SBCFD provides five stations within the City of Upland. The City of Upland is specifically provided service by SBCFD Division 1, with headquarters located at 475 N. Second Avenue, Upland, California 91786. Fire Stations are at the following locations:

- FS 161 475 N. Second Avenue
- FS 162 2413 N. Euclid Avenue
- FS 163 1350 Benson Avenue
- FS 164 1825 N. Campus Avenue
- FS 165 1257 N. Airport Drive (flight station)

Police Protection

The Upland Police Department (UPD) provides police services to the City of Upland. The UPD includes the Administrative Services Division, animal shelter, patrol, traffic, crime prevention, recruiting, and homeland security. The UPD is located at 1499 W. 13th Street, Upland, CA 91786. The Police Department consists of the following personnel 1 Police Chief, 2 Captains, 4 lieutenants, 9 sergeants, 9 detectives, and 46 officers.

County of Los Angeles

Fire Protection

LACFD provides fire services to the County of Los Angeles. LACFD serves 4.1 million residents in 59 cities within the County's 2,300 square miles. LACFD provides fire suppression and life safety services, as well as health hazards, lifeguard, and forestry services. LACFD's public information desk is located at 1320 N. Eastern Avenue, Los Angeles,

CA 90063. In the Six Basins project area, LACFD provides fire protection services to the City of Pomona.

Police Protection

The Los Angeles County Sheriff's Department (LACSD) provides law enforcement services in Los Angeles county. LACSD employs over 10,000 deputies and 8,000 civilian staff and provides law enforcement services for 42 cities and 141 unincorporated communities in Los Angeles County. LACSD is also responsible for 18,000 inmates located in 7 custody facilities. Headquarters for the LACSD is located at 211 W. Temple Street, Los Angeles, CA 90012.

County of San Bernardino

Fire Protection

SBCFD provides fire and emergency response services to more than 60 communities/cities and all unincorporated areas of the county. SBCFD's Office of Emergency Services (OES) serves as the Operational Area Lead Agency, coordinating the provision of emergency services with the 24 cities and towns in San Bernardino County. In the Six Basins project area, SBCFD provides fire protection services in the City of Upland and the community of San Antonio Heights.

Police Protection

The San Bernardino County Sheriff's Department (SBCSD), in collaboration with various cities and other agencies that have jurisdiction in the county, provides law enforcement services to the unincorporated communities in the County. In addition, many cities have contracted law enforcement services to SBCSD which provides law enforcement services to the County's citizens through 21 patrol stations and 18 specific divisions. In the Six Basins project area, SBCSD provides protection in the community of San Antonio Heights.

4.13.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact on Public Services and Recreation providers and/or facilities or programs if it would result in any of the following:

Public Services

1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - i. Fire Protection

- ii. Police Protection
- iii. Schools (no increase in population or new employees, therefore no impact on schools)
- iv. Parks (no increase in population or new employees, therefore no impact on parks)
- v. Other Public Facilities (no increase in population or new employees, therefore no impact on other public facilities such as libraries or community centers)

Recreation

1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact Evaluation

Impact 4.13-1

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: i) Fire Protection; ii) Police Protection? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells, and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

The proposed *Pump and Treat* improvements to existing wells and treatment facilities do not include the development of new or expansion of existing fire or police facilities. In addition, improvements to existing facilities would not directly induce substantial population growth or employment growth in the Six Basins project area that would require an increase in calls

for fire or police assistance resulting in a reduction in service ratios, response times or other performance standards used to ensure adequate fire and police protection.

Construction

Because the project sites are all improved with existing wells and most with treatment facilities, the assumption has been made that during rehabilitation and/or construction activities, all equipment and vehicles can be accommodated on site and will not require staging off site. Therefore, regarding emergency access for fire and police personnel, for proposed *Pump and Treat* projects, impacts on the ability of fire and/or police departments to respond to calls within the vicinity of a project site would be less than significant. If construction would impact a road, the Watermaster Party proposing a project would be required to develop and implement a Traffic Control Plan prior to initiating construction. Such a plan shall be consistent with the appropriate city or county Emergency Response Plan as set forth in mitigation measures HAZ-1 through HAZ-3 (see Section 4.8 for a discussion of impacts to agencies' emergency response plans). Implementation of a Traffic Control Plan would ensure that impacts associated with the interruption of traffic that may adversely impact response times during construction would be less than significant. For the convenience of the reviewer, mitigation measures HAZ-1 through has been repeated in Section 4.13.4, *Mitigation Measures*, below.

Operation

As under existing conditions, under future conditions with improvements, project sites would be secured with perimeter fencing or walls, and locked gates. Access to any of the sites would be daily for inspections or intermittent to perform routine maintenance with only one or two maintenance workers on site at a time. Therefore, during operation of the production wells and treatment facilities, no substantial adverse physical impacts affecting service ratios, response times or other performance objectives for police and fire protection services would occur.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken at the SASG and TCSG to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the PSG site; to an underground infiltration gallery to recharge of stormwater and supplemental water at the LA County Fairplex; and to identify opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The two MS4 projects that have been identified in the Strategic Plan and evaluated in this Program EIR are at the PSG and LA County Fairplex sites.

The proposed improvements to existing spreading grounds or at the Fairplex site, do not include the development of new or expansion of existing fire or police facilities. In addition, developing new recharge basins or enlarging existing recharge basins, and developing underground infiltration galleries (Fairplex) would not directly induce substantial

population growth or employment growth in the Six Basins project area that would require an increase in calls for fire or police assistance because no new residents or a significant increase in the number of employees is envisioned by any of the Watermaster Parties as a result of implementation of proposed *Stormwater and Supplemental Water Recharge Projects*.

Construction

Specifically, regarding the new recharge basins at the SASG and TCSG, these sites are located adjacent to the foothills of the San Gabriel Mountains where wildfires may occur. Construction of new recharge basins and related facilities will occur within or near wildland areas with high fire risk. The use of spark-producing construction equipment within a fire risk area could create hazardous fire conditions and expose construction workers and nearby residences to wildfire risks. This is a potentially significant impact. Mitigation measures HAZ-5 and HAZ-6 in Section 4.8, *Hazards/Hazardous Materials/Wildfire Hazards*, requires that fire hazard reduction measures be incorporated into a project specific Fire Management Plan (FMP) that must be implemented during construction activities as well as future operations maintenance activities. The FMP shall address all staging areas, welding areas, or areas to be disturbed that would require the operation of equipment that could produce sparks.

For the proposed expansion of the PSG recharge basins, the site is located in an urban area surrounded by residential neighborhoods, and to the west by a rural residential area and the 85-acre Rancho Santa Ana Botanical Gardens. Wildfires would be less of an issue at this site, nevertheless, the site does contain vegetation that could ignite during certain construction activities. Therefore, the City of Pomona, the Watermaster Party proposing improvements to the recharge basins, shall also be responsible for preparing and implementing an FMP before initiating construction.

Finally, regarding the LA County Fairplex site, the proposed underground infiltration gallery would be developed in an area of the site that is devoid of vegetation, is located adjacent to paved areas, and is not located near a residential neighborhood. Typical construction precautions such as keeping the construction site clean and debris free, would ensure that a fire would not occur.

Therefore, with implementation of mitigation measure HAZ-5 no substantial adverse physical impacts affecting service ratios, response times or other performance objectives for police and fire protection services would occur for Project Category 2 projects. For the convenience of the reviewer, mitigation measure HAZ-5 has been repeated in Section 4.13.4, *Mitigation Measures*, below.

Operation

There would be no habitable structures associated with the new recharge basins and on-going inspections and maintenance would include clearing vegetation from the recharge basins at the SASG, TCSG and PSG sites. The underground infiltration gallery proposed for the Fairplex site would not require such maintenance. Therefore, the development of new

recharge basins or the expansion of existing basins at spreading grounds sites would not increase the need for fire services. The FMP developed for construction would (with modifications as necessary) also be implemented by contractors performing maintenance activities in an around the recharge basins within the spreading grounds areas. Therefore, with implementation of mitigation measure HAZ-5 no substantial adverse physical impacts affecting service ratios, response times or other performance objectives for police and fire protection services would occur.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona’s P-20 wellhead treatment facility (including constructing an interconnect between the site and the TVMWD Miramar WTP); (2) the development of up to 12 new production wells interconnected to a new treatment facility and up to 3 new monitoring wells; and (3) constructing an interconnect between the Pomona WRP (recycled water) and the new recharge basins at the SASG.

Construction

Improvements at Pomona’s P-20 site would be similar to Pump and Treat projects evaluated under Project Category 1.

The construction of new monitoring wells, production wells and pipelines/interconnects would not directly induce substantial population growth or employment growth in the Six Basins project area that would require an increase in calls for fire or police assistance.

Although not specifically proposed in the Strategic Plan, future production well sites may be proposed for development in high fire areas, the Watermaster Party proposing such a project must also require the construction contractor to implement mitigation measure HAZ-5 that requires the preparation and implementation of an FMP during construction activities. In addition, during construction of either the recycled water pipeline, new wells, or new pipelines associated with new wells that may be developed in high fire risk areas, there may be a need for the preparation and implementation of a construction Traffic Management Plan (TMP). This issue is addressed in Section 4.14, *Transportation*, and includes mitigation measures TR-1 through TR-3. These mitigation measures require a construction contractor to develop and implement an approved TMP addressing potential construction-related traffic detours and disruptions. For the convenience of the reviewer, mitigation measure TR-1 through TR-3 have been repeated in Section 4.13.4, *Mitigation Measures*, below.

Operations

New Production Wells and Monitoring Wells

For long term operation of production wells that would be located in high fire hazard areas, each Watermaster Party shall be responsible for maintaining a site free of debris and highly combustible vegetation. Generally, these sites would be small, less than one acre, paved and enclosed with a perimeter wall or fence. Because these sites do not contain habitable

structures and would only be accessed periodically for maintenance and inspection of the wells, landscaping would likely be minimal and consist of a combination of low maintenance/drought tolerant plants and hardscape that may include rocks, pavers or similar non-flammable material. For areas in the Fire Hazard Severity Zones (see Figure 4.8-1, in Section 4.8, *Hazards/Hazardous Materials/Wildfire Hazards*), defensible space must be created around structures. Such actions are generally related to residential areas and not projects that do not include habitable structures. Requirements are set forth in mitigation measure HAZ-6 for maintenance of facilities during long-term operation. For the convenience of the reviewer, mitigation measure HAZ-6 has been repeated below in Section 4.13.4, *Mitigation Measures*.

For long-term operation of pipelines, there would be no impacts on police or fire because pipelines would be underground.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.13-2

Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (Thresholds 2 and 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

Implementation of the Strategic Plan would allow the Watermaster Parties to upgrade and rehabilitate existing well sites, and upgrade or construct new water treatment facilities.

There are no projects in this category that would result in any new residents or employees that would result in an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. In addition, none of the proposed projects include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, there would be no impact.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

Implementation of the Strategic Plan would allow the Watermaster Parties to enhance stormwater recharge and supplemental recharge at the new SASG site, the TCSG site, and the PSG site; and develop an underground infiltration gallery at the LA County Fairplex. None of these projects would result in new residents or a significant increase in employment opportunities that would result in an increase in population. Therefore, there would be no increase in the use of existing neighborhood and regional parks or other recreational facilities that would result in physical deterioration; and as such, there would be no impact.

Likewise, implementation of the *Water Recharge Projects* would not require the construction or expansion of recreational facilities. However, as noted in the Environmental Setting section above, the County of San Bernardino has proposed a recreational trail that would traverse the San Antonio Creek Wash in a north-south direction, connecting to the County's proposed Frontline Trail on the north along the foothills of the San Gabriel Mountains and the Santa Ana River Trail on the south.

The proposed San Antonio Creek Trail is not a project defined in the Strategic Plan and the County of San Bernardino is not a Six Basins Watermaster Party. The County has not requested that the trail be developed in association with the new SASG recharge basins. Therefore, because future construction of the San Antonio Creek Trail is not a project under the Strategic Plan for the Six Basins, and the County has not determined when this trail would be constructed. Therefore, there is no impact on this future recreation project associated with the development of the new recharge basin at the SASG.

Project Category 3: Temporary Surplus

Determination: No Impact.

Implementation of the Strategic Plan would allow the Watermaster Parties to develop new monitoring wells and production wells with associated pipelines to connect to existing water supply pipelines or the existing water treatment plants. There are no projects in this category that would result in any new residents or employees that would result in an increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. In addition, none of the proposed projects include recreational facilities or require the

construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Therefore, there would be no impact.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts to Aesthetics -Scenic Vistas. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.13.4 Cumulative Impacts

Public Services

The cumulative analysis for impacts to public services involves the projected growth in the Six Basins project area. The project area includes the cities of Claremont, La Verne, Pomona and Upland, the unincorporated community of San Antonio Heights, and four small County islands within the cities of Claremont, La Verne and Pomona. The Six Basins project area is relatively built out with urban use.

Section 4.12, *Population and Housing* describes existing population and future population growth in the project area. Between 2000 and 2018, population increases in the cities overlying the Six Basins grew an average of 5.8 percent. SCAG has projected that growth in the project area would increase by approximately 8 percent through 2040 in the project area (coincidentally, the Strategic Plan horizon year). This relatively slow rate of growth over a 20-year period is in part because the project area has been urbanizing over time so that opportunities to build new housing and non-residential land uses on vacant land have become scarcer. There may be opportunities to increase density or intensity of uses through the revitalization or redevelopment of existing sites, however, this is speculative at this time.

Assuming that some cumulative development will occur, either through the development of remaining vacant properties or the revitalization or redevelopment of existing sites, the project area would experience an increase in the demand for fire and police protection services, including new equipment and personnel, or new facilities. Depending on the location of new facilities, there could be significant impacts associated with construction and operation. Because the need for and/or location of any new facilities are unknown, impacts associated with these facilities are speculative. To err on the side of caution, it is assumed that cumulative development would result in significant environmental impacts on police or

fire protection services or require development of additional facilities. However, because implementation of the Strategic Plan and related projects would not result in an increase in demand for police and fire services (i.e., no increase in residents or employees), implementation of the Strategic Plan and its related projects would contribute a less than cumulatively considerable need for new police and fire services.

Parks/Recreation

Because implementation of the Strategic Plan would not result in impacts to Recreation or Recreational Facilities, the proposed project would not contribute to any cumulative impacts on Recreation or Recreational Facilities. With regard to the County's proposed San Antonio Creek Trail, this is currently not a project being pursued by the County and identifying the trail on a 2007 General Plan map does not constitute a project under CEQA. Therefore, implementation of the Strategic Plan and related projects would not contribute to a cumulative impact.

4.13.4 Mitigation Measures

The following mitigation measures were identified in Section 4.8, *Hazards/Hazardous Materials/Wildfire*, and Section 4.14, *Transportation*, and are repeated here for the convenience of the reviewer.

Emergency Planning and Traffic Control

TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.

Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.

Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.

- TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.
- TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:

$$50 \text{ PCE truck trips} / 3.0 \text{ PCE factor} = 16 \text{ total trucks during the peak hour}$$

Wildland Fire

- HAZ-5 During construction of facilities (production or monitoring wells, pipeline interconnects and related facilities) located in areas designated as Fire Hazard Severity Zones by CAL FIRE, fire hazard reduction measures shall be implemented and incorporated into a fire management plan. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.
- HAZ-6 During long term operation of facilities located in Fire Hazard Severity Zones, the Watermaster Party conducting operations/maintenance activities of such activities (spreading ground desilting and vegetation removal, maintenance of well sites, etc.) shall ensure that a fire management plan shall be included in the maintenance plans for each facility.

4.13.5 Level of Significance After Mitigation

Although there are not long term impacts on Public Services associated with the implementation of the Strategic Plan and related projects regarding the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives, mitigation measures have been identified for the potential for short-term construction impacts to affect response times. However, mitigation measures have been identified for the preparation of fire management plans and traffic control plans

to ensure that impacts associated with police and fire response times would be less than significant.

Regarding Recreation, implementation of the Strategic Plan and related projects would not introduce any new residents or employees into the project area. Therefore, there would be no increase in the use of existing neighborhood and regional parks or other recreational facilities or the development of any new recreational facilities. Therefore, there are no impacts on Recreation.

4.13.6 References

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4.14 Transportation

4.14.1 Introduction

This section describes the environmental setting for the regional and local transportation network and local circulation system, as well as potential impacts associated with implementation of the proposed Strategic Plan projects on the local circulation network during short-term construction of facility improvements. Vehicle trips associated with the operation of proposed projects is anticipated to be negligible and limited to periodic maintenance activities. The *Six Basins Strategic Plan Construction Trip Generation Assessment*, prepared by Urban Crossroads, is included in Appendix H.

4.14.2 Environmental Setting

Regional Setting

The Six Basins project area encompasses all or portions of the cities of Claremont, La Verne, Pomona and Upland, as well as unincorporated Los Angeles County areas between these cities; and the unincorporated community of San Antonio Heights, immediately north of the City of Upland, in San Bernardino County. The project area is bounded on the north by the San Gabriel Mountains where there is limited vehicle access from adjacent cities. Therefore, the circulation pattern in the project area is from the east, south and west along freeways – the San Bernardino Freeway (I 10), the Foothill Freeway (I 210), and the Orange Freeway (SR 57). Major roadways through the project area include north-south streets - Indian Hills Blvd, Towne Avenue and Garey Avenue, and east-west streets – Arrow Hwy, Foothill Blvd (Route 66) and Baseline Road. Figure ES-2 in Chapter ES, *Executive Summary*, shows the roadway network in the planning area.

Local Setting

Locally, several of the project sites are located in or adjacent to residential neighborhoods. These include such well sites as Lincoln/Mills, Old Baldy, and P-20, and the Pedley Spreading Grounds (PSG) site. Others such as the San Antonio Creek and Thompson Creek spreading grounds (SASG and TCSG) sites are located in more remote areas but are still located in proximity to residential neighborhoods. The Fairplex site is located on the Los Angeles County Fairplex site not directly accessible to any streets.

Regulatory Framework

Regional traffic circulation through the project area is on freeways that are the responsibility of the California Department of Transportation (Caltrans). There are no Strategic Plan projects that would require an encroachment permit or notification to Caltrans.

Locally, traffic associated with construction and on-going operation and related scheduled maintenance activities would use local streets under the jurisdiction of the cities and the

counties that overlay the Six Basins project area. Each city or county would be responsible for reviewing a construction contractor’s Construction Traffic Management Plan prior to starting work at a site where local traffic patterns may be interrupted. This does not apply to typical operation and maintenance activities where vehicles and equipment would be minimal and would be staged on-site. However, where major rehabilitation of well sites may require heavy equipment, or when a recharge basin needs to be cleared of material and debris that results in a reduction in the capacity of a basin to recharge, a Construction Traffic Management Plan may be required based on the amount and type of equipment being used.

4.14.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan and its related projects may have a significant impact on Transportation and local traffic patterns if it would result in any of the following:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
4. Result in inadequate emergency access?

Impact Evaluation

Impact 4.14-1

Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (Threshold 1)

Substantiation

Because none of the Strategic Plan projects include any new residents or employees, there would be no impacts to transit, bicycle or pedestrian facilities. Therefore, the evaluation on project-related trips is limited to impacts to roadways.

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells; and (2) increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the

existing air stripping facility; or construct a granular activated carbon (GAC) facility to remove constituents.

The project traffic engineer conducted a trip generation assessment that assumed all construction activities associated with the Strategic Plan projects would occur within the same general time period (one year) to maximize the number of trips associated with construction. Trip generation represents the amount of traffic that is both attracted to and produced by a development. The trip generation for this assessment was developed upon anticipated short term construction activities and long-term operations. The traffic engineer created the project's trip generation based on the following assumptions (these are from Section 3.6-1, *Construction Activities*, in Chapter 3, *Project Description*):

- All construction activities would occur between the hours of 7 am and 6 pm, Monday through Saturday (excludes Sundays and Holidays)
- Staging of equipment would occur on-site, so no daily arrival/departure of equipment was assumed to occur.
- *New Treatment Facility*: The number of construction workers was assumed to be 15, including equipment operators and laborers. This results in approximately 30 passenger car trips per day (15 employees x 2-way trip [inbound and outbound] = 30 trips per day). Based on the hours of construction, the employees were assumed to arrive on-site prior to the morning peak period (7-9 am) and depart after the evening peak period (4-6 pm).
- *New Well Sites*: A total of 6 workers was assumed to be on a project site at any one time. This results in approximately 12 passenger car trips per day (6 employees x 2-way trip [inbound and outbound] = 12 trips per day). Based on the hours of construction, the employees were assumed to arrive on-site prior to the morning peak period (7-9 am) and depart after the evening peak period (4-6 pm).
- *New Pipeline Interconnects*: The number of construction workers was assumed to be 15, including equipment operators and laborers. This results in approximately 30 passenger car trips per day (15 employees x 2-way trip [inbound and outbound] = 30 trips per day). Based on the hours of construction, the employees were assumed to arrive on-site prior to the morning peak period (7-9 am) and depart after the evening peak period (4-6 pm).

For all projects, each employee was assumed to drive to and from the construction site each day. The traffic engineer assumed that employees would arrive up to 30 minutes prior to the workday and leave up to 30 minutes after the workday ends.

Excavated material from the expansion of spreading grounds or the creation of an underground infiltration gallery (LA Fairplex project) were anticipated to be spread on-site. However, should this not be practical the following quantities of material were assumed to be exported from the following sites:

- San Antonio Spreading Grounds; approximately 1.79 million cubic yards
- Thompson Creek Spreading Grounds; approximately 160,000 cubic yards
- Pedley Spreading Grounds; approximately 4,500 cubic yards
- Fairplex Site; approximately 14,000 cubic yards

Regarding the SASG site, subsequent to the release of the Notice of Preparation, the Watermaster Board determined that the recharge facilities proposed at the SASG would not be cascading basins as originally envisioned, but one deep recharge basins of approximately 50 acres in area to a depth of up to 200 feet. No export of material would occur, instead, material excavated from the site would be crushed then conveyed to the Holliday Rock mine site located on the east side of the SASG in the City of Upland. However, because exporting material from the SASG represents an increase in on-road trips over moving the material on a conveyor (no new on-road trips), the project description was not modified for the project's Trip Generation Memo.

As shown in Table 4.14-1, *Project Trip Generation Summary*, construction of projects identified in the Strategic Plan is anticipated to generate 192 vehicle trips per day with 12 morning peak hour trips and 12 evening peak hour trips. This equates to approximately 432 passenger car equivalent (PCE) vehicles per day with 36 PCE morning peak hour trips and 36 PCE evening peak hour trips.

Table 4.14-1 Project Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Actual Vehicles							
<i>Project</i>							
Passenger Cars (Employees) ¹ :	0	0	0	0	0	0	72
Truck Trips (4+-Axle) ² :	6	6	12	6	6	12	120
<i>Total Trips (Actual Vehicles)</i> ³	6	6	12	6	6	12	192
Passenger Car Equivalent (PCE)							
<i>Project</i>							
Passenger Cars (Employees) ¹ :	0	0	0	0	0	0	72
Truck Trips (4+-Axle) (PCE Factor = 3.0) ² :	18	18	36	18	18	36	360
<i>Total Trips (PCE)</i> ³	18	18	36	18	18	36	432

Source: *Urban Crossroads, Six Basins Water Construction Trip Generation Memo, July 2019.*

Notes:

1. Employee shifts occur outside of the typical 7-9 am and 4-6 pm peak periods.
2. Conservatively assumed 350,000 cubic yards/year and 16 cubic yard haul trucks over 365-days for a total of 120 two-way truck trips. Trucks during the peak hour are assumed to be evenly spread throughout the 10-hour work day.
3. Total Trips = Passenger Cars + Truck Trips.

This does not take into account projects such as new groundwater production and monitoring wells that may be proposed in the future, but at this time no specific sites have been identified (see below for a discussion of Project Category 3 projects).

Table 4.11-1 shows that the projects are anticipated to generate fewer than 50 morning and evening peak hour trips. As such, traffic impacts associated with employee and construction-related activities is considered to be less than significant. However, there may be short-term impacts such as road detours or lane closures associated with pipeline construction well drilling, or equipment deliveries. Therefore, mitigation measures were identified in the project's Trip Generation Memo to ensure that impacts can be minimized in the short term. No transportation/traffic impacts associated with the operation/maintenance of well sites, treatment facilities, spreading grounds, etc., were anticipated as these activities would be intermittent and be limited to one or two vehicles on site.

Mitigation measures were first identified in this Program EIR in Section 4.8, *Hazards and Hazardous Materials/Wildfire Hazards*, therefore, the numbering of these measures are reflective of that section. Mitigation measures HAZ-7 through HAZ-9 set forth the requirements for the Construction Traffic Management Plans to be approved by jurisdictions in which a project is proposed; delivering and removing heavy equipment during off peak hours; and during site grading, if material is to be exported, and limiting vehicle trips to off peak hours.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects represents improvements that would be undertaken at the SASG and TCSG to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the PSG site; to develop a new underground infiltration gallery for the recharge of stormwater and supplemental water at the LA County Fairplex; and to identify opportunities for stormwater recharge through compliance with the Municipal Separate Storm Sewer System (MS4). The two MS4 projects that have been identified in the Strategic Plan and evaluated in this Program EIR are at the PSG site and the LA County Fairplex site.

Section 3.6.1 of Chapter 3, *Project Description*, identifies the typical construction activities that would occur during the creation of new recharge basins in the existing spreading grounds sites, or at the Fairplex site. Construction would be done using a combination of large construction equipment, including graders, backhoes, dozers, and haul trucks (if export of material is required). Smaller construction equipment would generally consist of vehicles including delivery trucks, pick-up trucks and water trucks. For the TCSG, PSG and Fairplex sites construction is anticipated to take 60 to 120 days (2 to 4 months). For the SASG site, Holliday Rock has indicated that the excavation of the new recharge basin would take 3 to 5 years. For the purposes of this Program EIR, it was assumed to take five years to complete at a rate of 2.5 million tons per year for a total of 20 million tons. However, for this project, no on-road trips are proposed except for the initial startup where the equipment is brought to the site, and again with the cessation of excavation and removal of the equipment. The excavated material would be conveyed across the SASG to the Holliday Rock site in Upland.

Table 4.14-1 shows the number of larger vehicles (4+ axles) that would be arriving/leaving a project site. To provide a worst-case evaluation of traffic trips, the recharge basins at the SASG site (original proposal) was used in the assessment of vehicle trips because it represented the largest estimated export of material - 350,000 cubic yards/year carried in 16 cubic yard haul trucks, evenly spread over a 10-hour work day. This represents 192 vehicle trips per day or the passenger car equivalent of 432 trips. Only a fraction of these trips were estimated to occur during peak hours, 12 am and 12 pm vehicles or 36 am 36 pm peak hour trips.

Similar to projects in Project Category 1, mitigation measures for *Stormwater and Supplemental Water Recharge* projects, mitigation measures include the development and implementation of Construction Traffic Management Plans to be approved by jurisdictions in which a project is proposed; delivery and removal of heavy equipment during off peak hours; and during site grading, if material is to be exported, limit vehicle trips to off peak hours. With implementation of these plans, impacts associated with short-term construction traffic would be less than significant.

Finally, similar to projects in Project Category 1, no transportation/traffic impacts associated with the operation/maintenance of stormwater and supplemental water recharge projects were anticipated as these activities would be intermittent and be limited to one or two vehicles on site. However, periodically, recharge basins require maintenance that includes grading or scraping the bottom of the basins to ensure maximum percolation rates. At such time as a basin requires this type of maintenance, implementation of HAZ-7 through HAZ-9 shall be implemented.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

Projects in this category include: (1) rehabilitating Pomona's P-20 wellhead treatment facility (including constructing an interconnect between the site and the TVMWD Miramar WTP); (2) the development of up to 12 new production wells interconnected to a new treatment facility and up to 3 new monitoring wells; and (3) constructing an interconnect between the Pomona WRP (recycled water) and the new recharge basins in the SASG.

Impacts associated with the rehabilitation of the P-20 well site would be similar to Project Category 1 projects.

For new production and/or monitoring wells a total of 6 workers was assumed to be on a project site at any one time. This results in approximately 12 passenger car trips per day (6 employees x 2-way trip [inbound and outbound] = 12 trips per day). Based on the hours of construction, the employees were assumed to arrive on-site prior to the morning peak period (7-9 am) and depart after the evening peak period (4-6 pm). A new well site would be constructed in phases beginning with well drilling. It was assumed that equipment and material would be brought on site and remain throughout the drilling and well development

process. Once this is completed, the remaining site development activities – construction of the pump house, site paving, perimeter wall and gate; landscaping - would all occur consecutively. Therefore, the total number of 6 workers on a project site at any given time is reasonable.

However, because the sites of future projects are unknown at this time, it is reasonable to assume that construction related traffic may require the implementation of a Construction Traffic Management Plan at each site. Therefore, mitigation measures HAZ-7 through HAZ-9 would apply to these projects as well. No transportation/traffic impacts associated with the operation/maintenance of well sites are anticipated as these activities would be intermittent and be limited to one or two vehicles on site.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.14-2

Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (Threshold 2)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

CEQA Guidelines Section 15064.3(b) sets forth the criteria for analyzing transportation impacts. Specifically, this section of the Guidelines focuses on land use projects and associated vehicle miles traveled. This assumes a project has either residents or employees that travel to and from a project site on a daily basis. Subsection (b)(4) describes a lead agency's discretion in choosing the most appropriate methodology to evaluate a project's vehicle miles traveled.

Upon completion of construction activities, proposed Project Category 1 projects would generate negligible vehicle miles traveled because once constructed, vehicle trips would be limited to daily site inspections and periodic scheduled maintenance requiring one or two vehicles at a site. No substantial number of daily vehicle trips are associated with *Pump and Treat* projects because there are no permanent residents or employees associated with project operation at any of the sites. Therefore, these projects would not conflict or be inconsistent with the intent of CEQA Guidelines Section 15063(b).

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

Upon completion of construction activities, proposed Project Category 2 projects would generate negligible vehicle miles traveled because once constructed, vehicle trips would be limited to scheduled maintenance. No substantial number of daily vehicle trips are associated with the ongoing operation of *Stormwater and Supplemental Water Recharge Projects* because there are no permanent residents or employees associated with project operation at any of the sites. Therefore, operation of these projects would not conflict or be inconsistent with the intent of CEQA Guidelines Section 15063(b).

However, as described under Impact 4.14-1, periodically, recharge basins require maintenance that includes grading or scraping the bottom of the basins to ensure maximum percolation rates. At such time as a basin requires this type of maintenance, implementation of HAZ-7 through HAZ-9 shall be implemented. Therefore, this temporary operational impact would be less than significant.

Project Category 3: Temporary Surplus

Determination: No Impact.

Upon completion of construction activities, proposed Project Category 3 projects would generate negligible vehicle miles traveled because once constructed, vehicle trips would be limited to scheduled maintenance. No substantial number of daily vehicle trips are associated with *Temporary Surplus* projects because there are no permanent residents or employees associated with project operation at any of the sites. Therefore, these projects would not conflict or be inconsistent with the intent of CEQA Guidelines Section 15063(b).

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan

projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.14-3

Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

There are no new road development projects associated with this set of projects. Improvements to project sites include rehabilitation and upgrades to wells and treatment facilities that are currently accessible from existing roads. Parking of construction and maintenance vehicles and equipment would occur on each of the project sites, or for brief periods during construction or scheduled maintenance during operation, may be parked at the curb adjacent to a project site. At such times, the construction contractor would be required to develop and implement a Construction Traffic Management Plan, approved by the respective jurisdiction in which the project site is located. Implementation of mitigation measures TR-1 through TR-3 for each project, as appropriate, would ensure that impacts would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact with Mitigation Incorporated.

There are no new road development projects associated with this set of projects. Improvements to project sites include expansion or creation of recharge basins for spreading water within each of the three spreading ground sites, and the development of underground infiltration gallery at the Fairplex site to capture stormwater from on-site, surrounding streets, and the Thompson Creek channel adjacent to the Fairplex site. There is adequate area at each of the sites for parking of construction and maintenance vehicles and equipment to occur on each of the project sites. Prior to beginning construction, or maintenance (e.g. desilting basins), the construction contractor would be required to develop and implement a Construction Traffic Management Plan, approved by the respective jurisdiction in which the project site is located. Implementation of a Construction Traffic Management Plan for each project, as appropriate, would ensure that impacts would be less than significant.

*Project Category 3: Temporary Surplus***Determination: Less Than Significant Impact with Mitigation Incorporated.**

There are no new road development projects associated with this set of projects. Improvements to project sites include rehabilitation and upgrades to Pomona's P-20 well site, the development and operation of new groundwater production and monitoring wells, and the construction of new pipelines between well sites and treatment plants or between the Pomona WRP and the new SASG recharge basin. For the purposes of this Program EIR, it was assumed that all sites are currently accessible from existing roads. Parking of construction and maintenance vehicles and equipment would occur on each of the project sites, or for brief periods during construction or scheduled maintenance during operation, may be parked at the curb adjacent to a project site. At such times, the construction contractor would be required to develop and implement a Construction Traffic Management Plan, approved by the respective jurisdiction in which the project site is located. Implementation of the Construction Traffic Management Plan for each project, as appropriate, would ensure that impacts would be less than significant.

*Project Category 4: Monitoring Programs in Support of the Strategic Plan***Determination: No Impact.**

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.14-4

Result in inadequate emergency access? (Threshold 4)

Substantiation

*Project Category 1: Pump and Treat Groundwater in the Pomona Basin***Determination: Less than Significant Impact with Mitigation Incorporated.**

In order to ensure that project construction at each of the project sites would not result in impacts to emergency access, mitigation measures have been identified (see Section 4.11.5 below) that include the development and implementation of Construction Traffic Manage-

ment Plans to be approved by the jurisdiction in which a project is proposed; delivering and removing heavy equipment during off peak hours; and limiting vehicle trips to off peak hours. Therefore, with implementation of these mitigation measures, impacts would be less than significant.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact with Mitigation Incorporated.

In order to ensure that project construction at each of the project sites would not result in impacts to emergency access, mitigation measures have been identified (see Section 4.11.5 below) that include the development and implementation of Construction Traffic Management Plans to be approved by jurisdictions in which a project is proposed; delivering and removing heavy equipment during off peak hours; and during site grading, if material is to be exported; and limiting vehicle trips to off peak hours. Therefore, with implementation of these mitigation measures, impacts would be less than significant.

Project Category 3: Temporary Surplus

Determination: Less than Significant Impact with Mitigation Incorporated.

In order to ensure that project construction at each of the project sites would not result in impacts to emergency access, mitigation measures have been identified (see Section 4.11.5 below) that include the development and implementation of Construction Traffic Management Plans to be approved by jurisdictions in which a project is proposed; delivering and removing heavy equipment during off peak hours; and limiting vehicle trips to off peak hours. Therefore, with implementation of these mitigation measures, impacts would be less than significant.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3), and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 and 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.14.4 Cumulative Impacts

Because under future conditions when all projects are operational vehicle trips and vehicle miles traveled would be negligible (no permanent residents or employees), implementation of the Strategic Plan and related projects would not contribute to cumulative impacts on transportation and traffic circulation.

4.14.5 Mitigation Measures

TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.

Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.

Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.

TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off-peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.

TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:

$$50 \text{ PCE truck trips} / 3.0 \text{ PCE factor} = 16 \text{ total trucks during the peak hour}$$

4.14.6 Level of Significance After Implementation

Implementation of mitigation measures HAZ-7 through HAZ-9 would ensure that impacts associated with project-related construction activities, or basin maintenance activities would be less than significant. Due to the nature of the proposed Strategic Plan projects, operation of the various projects ranging from groundwater production wells, monitoring wells, treatment facilities, water pipelines and spreading grounds generate minimal traffic at project sites as there are no permanent residents or employees associated with these activities.

4.14.7 References

Urban Crossroads, July 2019, *Six Basins Water Construction Trip Generation Memo*.

WEI, Inc., 2017, *Final Strategic Plan for the Six Basins*.

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4.15 Utilities/Service Systems/Energy

4.15.1 Introduction

This section describes the environmental setting for Public Utilities and Service Systems including water supply, wastewater treatment and stormwater/drainage, electric power, natural gas, and solid waste management; and evaluates the potential significant impacts associated with implementation of the Strategic Plan and related projects on these Utilities and Service Systems. This section also evaluates the projects' use of Energy and evaluates whether energy would be used in a wasteful or inefficient manner during construction and operation. The *Energy Analysis* prepared for the Strategic Plan is included in Appendix H. In addition, Urban Water Management Plans for the cities of La Verne, Pomona and Upland, and water companies serving the Six Basins project area, were used to prepare this Regional Setting summary.

4.15.2 Environmental Setting

Regional Setting

Water Agencies

The Six Basins are six interconnected groundwater basins located along the base of the San Gabriel Mountains. The basins are Canyon Basin, Upper Claremont Heights Basin (UCHB), Lower Claremont Heights Basin (LCHB), Pomona Basin, Live Oak Basin and Ganesha Basin. The limits of the Six Basins area are the San Gabriel Mountains to the north, the San Jose Hills to the south, the Main San Gabriel Basin to the west, and the Chino Basin to the east. Figure 2-2 in Chapter 2, *Existing Conditions*, shows the location of the Six Basins within the larger San Gabriel Valley region, and the agencies that provide water in the area.

These purveyors include the cities of La Verne, Pomona and Upland; the Golden State Water Company (GSWC); Pomona College; the San Antonio Water Company (SAWCo); the Three Valleys Municipal Water District (TVMWD); and the West End Consolidated Water Company (WECWCo). To meet the water demands of their service areas, these agencies also rely on surface water from San Antonio and Evey Canyons; groundwater from the Chino, Cucamonga, and Spadra Groundwater Basins; and State Water Project (SWP) and Colorado River Aqueduct (CRA) water imported by the Metropolitan Water District of Southern California (MWDSC) and distributed by TVMWD and the Inland Empire Utilities Agency (IEUA). According to the Strategic Plan, the total water demands of the Six Basins Watermaster Parties are projected to increase from about 104,000 acre-ft in 2011 to about 128,000 acre-ft in 2035. Excluding the imported water demands of TVMWD's member agencies outside of the Six Basins, the total water demands of the Six Basins Parties are projected to increase from approximately 67,000 acre-ft/yr in 2011 to about 77,000 acre-ft/yr by 2035; an increase of 10,000 acre-ft/yr (Strategic Plan for the Six Basins, p 3-14). Note: the water purveyors with production rights to groundwater in the Six Basins also have

rights to or buy water from other groundwater basins in the region, and these numbers reflect their overall total.

Table 4.15-1, *Base Annual Production Rights of the Six Basins Parties*, shows the rights these purveyors have to groundwater in the Six Basins which represents a part of the total water supply identified above.

Table 4.15-1 Base Annual Production Rights of the Six Basins Parties

Six Basins Watermaster Party ¹	% Share	Base Annual Production Right (afy)
City of Claremont	2.772	535
City of La Verne	7.601	1467
City of Pomona	20.798	4,014
City of Upland	9.544	1,842
Golden State Water Company	34.741	6,705
Pomona College	1.850	357
San Antonio Water Company	7.166	1,383
Three Valleys Municipal Water District	0.130	25
West End Consolidated Water Company	15.399	2,972
Totals	100%	19,300

Source: WEI Environmental, *Six Basins Watermaster Annual Report CY 2018*, page 1-2.

Notes:

1. Although PVPA is a Watermaster Party, it does not produce or distribute water to customers or other agencies, only conduct spreading and replenishment activities on land owned by PVPA in support of other Watermaster Parties. Therefore, PVPA does not have production rights.

The 19,300 acre-ft/yr identified in Table 4.15-1 represents the Base Annual Production Right for each Watermaster Party as a percentage of the Safe Yield based on historical groundwater production for a period between 1985 and 1996 (note: the Judgement establishing this Safe Yield was made in 1998. However, the Safe Yield (acre-ft/yr) is established on an annual basis so that although the Base Annual Production Rate is 19,300 acre-ft/yr, the actual number fluctuates. For example, the Operating Safe Yield for 2019 was set at 13,000 acre-ft, due to the prolonged drought in Southern California. Table 4.15-2, *2019 Operating Safe Yield by Party*, shows the allocated share by Party.

City of La Verne

Water supplies and water distribution infrastructure in the City of La Verne are provided by the City Public Works Water and Sewer Division and Golden State Water Company (GSWC) San Dimas System. GSWC provides water service to a small portion of the City generally in the southwestern portion. The City also provides water services in unincorporated areas within its sphere of influence north of the City. Water sources for the City are from eight groundwater wells pumping from Pomona Basin and Live Oak Basin; and imported water conveyed from TVMWD's Miramar Water Treatment Plant (WTP), that is blended with the

groundwater. TVMWD’s Miramar WTP is discussed in more detail in a separate section below.

Table 4.15-2 Operating Safe Yield by Party

Six Basins Watermaster Party¹	% Share	Base Annual Production Right (afy)
City of Claremont	2.772	360.4
City of La Verne	7.601	988.1
City of Pomona	20.798	2,703.7
City of Upland	9.544	1,240.7
Golden State Water Company	34.741	4,516.3
Pomona College	1.850	240.5
San Antonio Water Company	7.166	931.6
Three Valleys Municipal Water District	0.130	16.9
West End Consolidated Water Company	15.399	2,001.9
Totals	100%	13,000

Source: WEI Environmental, Six Basins Watermaster Annual Report CY 2018, page 3-7.

City of Pomona

Water service to much of the City of Pomona is provided by the City’s Public Works Department. The City’s water supply mix is a combination of groundwater, treated surface water, imported water, and recycled water. The City’s 2015 UWMP (adopted in 2016) identified the mix as follows: 70 percent groundwater; 18 percent imported water, 8 percent recycled water; and 4 percent surface water. Potable water is made up of MWD imported water deliveries, groundwater, and surface water from San Antonio Canyon. Recycled water comes from the Los Angeles County Sanitation Districts’ Pomona Water Reclamation Plant (Pomona WTP) and is used for non-potable uses such as parks and a golf course.

City of Upland

Water service in the City of Upland is provided by the city’s Public Works Department supplied from various sources. The City obtains its potable water from groundwater basins (Cucamonga Basin, Six Basins, and Chino Basin) through its own wells, San Antonio Water Company (SAWCo) wells, and West End Consolidated Water Company (WECWCo) wells. WECWCo and SAWCo are wholesalers with no retail customers; only shareholders (see further discussion below). San Antonio Creek water is obtained from SAWCo and treated at Upland’s San Antonio Canyon Surface Water Treatment Plant (WTP) south of the dam. Imported surface supplies are purchased from MWD through IEUA and treated by the Water Facilities Authority (WFA) at Aqua de Lejos WTP. The WFA is a Joint Powers Authority entity that purchases and treats imported MWD water from IEUA for the cities of Upland, Ontario, Chino, Chino Hills, and the Monte Vista Water District. Finally, the City recently began receiving recycled water from IEUA.

Golden State Water Company

Golden State Water Company (GSWC) is a wholesale water provider that provides water in two service areas, GSWC San Dimas and GSWC Claremont.

GSWC - Claremont

GSWC's Claremont System serves the City of Claremont; portions of the cities of Montclair, Pomona, and Upland; and a portion of adjacent unincorporated Los Angeles County. The Claremont System is bordered by the San Bernardino County line to the east, by the City of La Verne to the west, and by the City of Pomona to the south. The service area is primarily characterized by residential and institutional land uses (e.g., Claremont Colleges), with some commercial and industrial land use. Approximately 95 percent of the GSWC Claremont service area is within the City of Claremont. Therefore, the GSWC – Claremont UWMP used SCAG demographic data for the City of Claremont to represent service population in the GSWC Claremont System. Also see Section 4.12, *Population/Housing* for a discussion of demographics in the Six Basins project area.

GSWC – San Dimas

GSWC's San Dimas System serves residents in portions of La Verne, San Dimas, Covina, Glendora, Walnut and Charter Oak. The system serves over 16,000 residential customers. Water delivered to customers is a blend of groundwater pumped from the Main San Gabriel Basin and purchased water from MWDSC and TVMWD. SCAG city level demographic projections most closely match the City of San Dimas; therefore, the GSWC-San Dimas UWMP focuses on this City for its projections. As noted above in the discussion of the City of La Verne, GSWC-San Dimas serves only the westerly most portion of La Verne.

San Antonio Water Company

San Antonio Water Company (SAWCo), incorporated in 1882, is a wholesale water purveyor owned by shareholders. There are 6,389 outstanding shares and no more shares will be issued, therefore, this number is finite. Because SAWCo is a wholesale water purveyor, providing water to shareholders, the fluctuation in its entitlement results in a prorated distribution of water to each of its shareholder owners.

West End Consolidated Water Company

The West End Consolidated Water Company (WECWCo) is a wholesale water company with two shareholders. The City of Upland receives 91.43 percent of the allocation of entitlement and GSWC receives 8.56 percent allocation of entitlement. WECWCo has water rights in three groundwater basins, Six Basins, Chino Basin and Cucamonga Basin. WECWCo is staffed by City of Upland Public Works Department staff.

Three Valleys Municipal Water District

TVMWD is a special district formed by public election in 1950 and is one of 26-member agencies of MWD that is authorized to deliver wholesale water supplies from the Colorado River and Northern California. The region served by TVMWD spans over 133 square miles and serves 13 retail member agencies, that in turn serve a population of over 500,000.

TVMWD’s operations consist of a surface water treatment plant, a state certified laboratory, two groundwater wells, five hydroelectric generators rated with a potential of 1.1 megawatts, residual solids removal, groundwater recharge pipelines, spreading grounds, pump stations, and transmission pipelines. Water is treated at the Miramar WTP and wholesaled to local agencies by way of several miles of pipeline. Approximately 30 percent of TVMWD’s total treated sales are from the Miramar WTP, while the remaining 70 percent is from MWD’s Weymouth WTP.

Inland Empire Utilities Agency

IEUA is a regional wholesale water distributor. Approximately 65 percent of IEUA’s water is obtained locally from the groundwater, and 30 percent is purchased from MWD. Of the local groundwater supplies, approximately 35 percent is utilized to support agricultural use and 65 percent is utilized to support municipal and industrial uses. IEUA provides wholesale imported water from MWD to seven retail agencies: the cities of Chino, Chino Hills, Ontario, and Upland; Cucamonga Valley Water District (CVWD), located in the City of Rancho Cucamonga; Fontana Water Company (FWC), located in the City of Fontana; and the Monte Vista Water District (MVWD), located in the City of Montclair. The IEUA has historically delivered up to approximately 60,000 acre-ft of imported water supplies to the local retail water supply agencies annually. IEUA serves approximately 830,000 people over 242 square miles in western San Bernardino County.

IEUA also operates groundwater recharge facilities in cooperation with the Chino Basin Watermaster (CBWM), San Bernardino County Flood Control District (SBCFCD), and the Chino Basin Water Conservation District. The Chino I Desalter is managed by IEUA under an agreement with the Chino Basin Desalter Authority (CDA).

Water Facilities Authority

The Water Facilities Authority (WFA) is a Joint Powers Authority governed by its member agencies: Chino, Chino Hills, Monte Vista Water District, Ontario, and Upland. Its service area covers approximately 135 square miles within the upper Santa Ana River watershed. WFA owns and operates the Agua de Lejos Treatment Plant a surface water treatment plant which began operations in 1988 and is located in the City of Upland. This treatment plant treats and disinfects imported water supplies, primarily state project water, purchased from MWDSC to supplement local groundwater supplies. Through its members, WFA indirectly serves more than 450,000 people in the west-end of San Bernardino County, including the City of Upland.

Wastewater Treatment

Each of the cities within the project area provide local sewer service to residential and non-residential customers. These systems generally consist of sewer laterals and mains, and associated interceptors and lift stations for the conveyance of wastewater to a regional system. For the cities of Claremont, La Verne and Pomona, sewage effluent is conveyed and treated at the Pomona Water Reclamation Plant (Pomona WRP); located in the City of

Pomona at 295 Humane Way. The plant site is approximately 14 acres northeast of the intersection of the Pomona (60) and Orange (57) Freeways.

The Pomona WRP is owned and operated by the Los Angeles County Sanitation Districts (LACSD) and provides primary, secondary and tertiary treatment for 15 million gallons of wastewater per day. The plant serves a population of approximately 130,000 people. Approximately 8 million gallons per day of the recycled water is used at over 190 different sites. Reuse applications include landscape irrigation of parks, schools, golf courses, greenbelts, etc.; irrigation and dust control at the Spadra Landfill (closed landfill in the City of Walnut); and industrial use by local manufacturers. The remainder of the recycled water is discharged into the San Jose Creek, where it is allowed to percolate into the groundwater basin in the unlined portions of the San Gabriel River.

The City of Upland and unincorporated San Antonio Heights area (not on septic) are within the service area of the Inland Empire Utilities Agency. IEUA is a regional wastewater treatment agency and wholesale distributor of imported water and recycled water. IEUA's service area covers 242 square miles in western San Bernardino County, and services approximately 800,000 people. The City owns and operates the local sewage collection system that delivers sewage effluent into IEUA's regional sewer trunk lines to IEUA's Regional Water Recycling Plant No. 1 located at 2662 East Walnut Street in the City of Ontario. The plant has been in operation since 1948 and has undergone several expansions to increase the design hydraulic wastewater treatment capacity to 44 million gallons per day (mgpd). Its service area encompasses seven cities including Upland, Chino, Fontana, Montclair, Ontario and Rancho Cucamonga. With the exception of the City of Upland, all of these cities are outside the Six Basins project area. The plant treats an average effluent flow of approximately 28 mgpd and includes both liquid and solid treatment processes.

Storm Drains

Each of the cities within the Six Basins project area maintain storm water drainage infrastructure within their respective city limits. For the San Antonio Heights community, the storm drain system is operated and maintained by the County of San Bernardino. Curb and gutter throughout the project area convey stormwater into the storm drain system that ultimately drains to one of the local creeks, e.g., San Antonio Creek, Thompson Creek, or San Jose Creek.

Solid Waste Management

The California Department of Resources Recycling and Recovery (CalRecycle) maintains a Solid Waste Information System (SWIS) that lists disposal sites in the State by disposal facility activity, regulatory status, and operational status. According to SWIS, there are two active Class III landfills within a 20-mile radius of the Six Basins project area that conduct municipal solid waste disposal activities and also accept construction and demolition material. These are the El Sobrante Landfill, a private facility in the City of Corona (Riverside County) operated by Waste Management, Inc.; and the Mid-Valley Sanitary Landfill, in the

City of Rialto, owned by the County of San Bernardino. As a private landfill, El Sobrante will accept solid waste that is generated in another County and the County of San Bernardino no longer limits where the solid waste is generated. So solid waste generated in the Eastern San Gabriel Valley of Los Angeles County could be transported to either landfill. El Sobrante is permitted to accept the following solid waste types: construction/demolition, contaminated soil, mixed municipal, and tires. The Mid Valley Landfill is permitted to accept the following solid waste types: construction/demolition, mixed municipal, industrial, and tires.

Table 4.15-3, *Landfills in Proximity to the Six Basins Project Area*, shows the closure dates, daily permitted tonnage, and remaining permitted capacities of the two landfills.

Table 4.15-3 Landfills in Proximity to the Six Basins Project Area

Landfill	Location	Estimated Closure Date	Permitted Daily Capacity (tons per day) ¹	Remaining Permitted Capacity (cubic yards)
Mid-Valley 36-AA-0055	2390 Alder Ave Rialto, CA 92377	April 1, 2033	7,500	67,520,000
El Sobrante 33-AA-0217	10910 Dawson Canyon Rd Corona, CA 92883	January 1, 2045	16,054	103,950,000

Source: California Department of Resources Recycling and Recovery, *Solid Waste Information System (SWIS)*, accessed January 14, 2020.

Energy

Urban Crossroads prepared an Energy Analysis for the Strategic Plan (see Appendix H). The most recent data for California’s estimated total energy consumption and natural gas consumption is from 2018, released by the United States Energy Information Administration’s (EIA) California State Profile and Energy Estimates in 2020 and included:

- Approximately 7,967 trillion British Thermal Unit (BTU) of energy was consumed
- Approximately 681 million barrels of petroleum
- Approximately 2,137 billion cubic feet of natural gas
- Approximately 1 million short tons of coal

The California Energy Commission’s (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation Energy Demand Forecast 2018-2030 lays out graphs and data supporting their projections of California’s future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)
 - Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2017 and is reported as follows:

- Approximately 40.3 percent transportation;
- Approximately 23.1 percent industrial;
- Approximately 18.0 percent residential; and
- Approximately 18.7 percent commercial

Electricity

In 2019, total system electric generation for California was 277,704 gigawatt-hours (GWh). California's electricity in-state generation system generated approximately 200,475 GWh which accounted for approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (9 percent) and the Southwest (19 percent). Natural gas is the main source of energy used for electricity generation at 47 percent of the total in-state electric generation system power as shown in Table 4.15-4, *Total Electricity System Power (California 2017)*.

A summary of, and context for, energy consumption and energy demand within the State is presented in the EIA's, *California State Profile and Energy Estimates, Quick Facts*" excerpted herein:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018.
- California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar photovoltaic (PV) and solar thermal installations provided 19 percent of California's net electricity generation.

Table 4.15-4 Total Electricity System Power (California 2019)¹

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix	Total California Power Mix
Coal	248	0.12%	219	7,765	7,985	10.34%	8,233	2.96%
Natural Gas	86,136	42.97%	46	8,859	8,906	11.53%	95,042	34.22%
Oil	36	0.02%	0	0	0	0.00%	36	0.01%
Other (Waste Heat/Petroleum Coke)	411	0.20%	0	11	11	0.01%	422	0.15%
Nuclear	16,163	8.06%	0	8,743	8,743	11.32%	24,906	8.97%
Large Hydro	33,145	16.53%	5,071	1,071	6,142	7.95%	39,287	14.15%
Unspecified	0	0.00%	7,979	13,767	21,746	28.16%	21,746	7.83%
Non-Renewable and Unspecified Totals	136,139	67.91%	13,315	40,218	53,533	69.32%	189,672	68.30%
Biomass	5,851	2.92%	903	33	936	1.21%	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	2,318	3.00%	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	296	0.38%	5,646	2.03%
Solar	28,513	14.22%	282	5,295	5,577	7.22%	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	14,569	18.87%	28,249	10.17%
Renewable Totals	64,336	32.09%	10,615	13,081	23,696	30.68%	88,032	31.70%
System Totals	200,475	100.00%	23,930	53,299	77,229	100.00%	277,704	100.00%

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-1*

Notes:

1. Data from the California Energy Commission's 2019 Total System Electric Generation

As indicated above, California is one of the nation’s leading energy-producing states, and its per capita energy use is among the nation’s most efficient. For the purpose of evaluating energy use associated with implementation of the Strategic Plan, the projects were characterized as industrial uses. Therefore, the focus of the *Energy Analysis* was on the three sources of energy that are most relevant to industrial uses — electricity, natural gas, and transportation fuel for vehicle trips.

Electricity is provided in the project area by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.

Table 4.15-5, *SCE 2019 Power Content Mix*, identifies SCE’s specific proportional shares of electricity sources in 2019.

Table 4.15-5 SCE 2019 Power Content Mix

Energy Resources	2019 SCE Power M (percent of total)
<i>Eligible Renewable</i>	35.1
Biomass & Waste	0.6
Geothermal	5.9
Eligible Hydroelectric	1.0
Solar	16.0
Wind	11.5
<i>Coal</i>	0.0
<i>Large Hydroelectric</i>	7.9
<i>Natural Gas</i>	16.1
<i>Nuclear</i>	8.2
<i>Other</i>	0.1
Unspecified Sources of power ¹	32.6
Total	100

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 2-2*

Notes:

1. Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

As shown in Table 4.15-5, the 2019 SCE Power Mix has renewable energy at 35 percent of the overall energy resources. These sources include biomass and waste resources at 0.6 percent, geothermal resources are at 5.9 percent, wind power at 11.5 percent and wind at 11.5 percent. Other energy sources include large hydroelectric sources at 7.9 percent, natural gas at 16.1 percent, nuclear at 8.2 percent. The use of coal has been reduced to 0.

Natural Gas

Natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the State in response to market supply and demand. The CPUC has indicated that in addition to natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Based on information in Chapter 3, Project Description, no natural gas will be used as a result of the project, and as such use of natural gas was not considered in the Strategic Plan Energy Analysis.

Transportation Energy Resources

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels. Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million cubic feet of natural gas as a transportation fuel, or the equivalent of 183 billion gallons of gasoline.

Regulatory Framework

Utilities

Federal

Clean Water Act

The federal Clean Water Act (CWA) serves to restore and maintain water quality standards for surface waters in the US by providing the structure for regulating discharges of pollutants that may enter surface waters. CWA was enacted in 1972, and then amended in 1977, and again in 1987 when the National Pollutant Discharge Elimination Permit (NPDES) Program was created. CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's NPDES Program ensures the control of such discharges. Point sources are discrete conveyances such as pipes or man-made

ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Section 402 of the CWA requires that all construction sites of one-acre or greater, and any municipal, industrial, or commercial facilities discharging wastewater or stormwater directly from a point source (pipe, ditch or channel) into a surface water of the US must obtain permission under the NPDES permit. All NPDES permits are written to ensure the nation’s receiving waters will achieve specified Water Quality Standards (WQS).

Compliance monitoring under the NPDES Program occurs largely at the state level. See below for an expanded discussion of CWA requirements implemented in California.

CWA Section 303 (d) states that “each state shall identify those waters within its boundaries for which the effluent limitations required by section 301(b)(1)(A) and section 301 (b)(1)(B) are not stringent enough to implement any water quality standard applicable to such waters. The state shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such water.” This is described in greater detail in Program EIR Section 4.9, *Hydrology and Water Quality*).

Safe Drinking Water Act

The federal Safe Drinking Water Act (SFWA) establishes standards for contaminants in drinking water supplies. Contaminants regulated by SFWA include metals, nitrates, asbestos, total dissolved solids and microbes. EPA issues rules and requirements for the monitoring and treatment of groundwater and surface water used as drinking water.

State

California Water Code

Senate Bills 1168 and 1319 and Assembly Bill 1739, signed by Governor Brown in September 2014, amended to California Water Code to establish the “Sustainable Groundwater Management Act.” The SGMA requires the development of sustainable groundwater management plans for all medium- and high-priority basins, as defined by the Department of Water Resources (DWR); mandates the creation of local groundwater sustainability agencies to oversee and implement the plans; and outlines the guidelines and schedule for complying with the Act. Section 10721.8 of the amended California Water Code exempts adjudicated areas and local agencies that conform to the requirements of an adjudication of water rights from the provisions of the SGMA (specifically naming the Six Basins as exempt) except for the following annual reporting requirements:

By April 1, submit to the DWR a report containing the following information to the extent available for the portion of the basin subject to the adjudication:

- a. Groundwater elevation data unless otherwise submitted pursuant to Section 10932.2
- b. Annual aggregated data identifying groundwater extraction for the preceding water year.
- c. Surface water supply used for or available for use for groundwater recharge or in-lieu use for the preceding water year.
- d. Total water usage for the preceding water year.
- e. Change in groundwater storage.
- f. The annual report submitted to the court.

Pursuant to the requirements of the SGMA, the Six Basins Watermaster incorporates reporting items “a” through “e” within its Annual Reports, submitted to DWR prior to April 1st each year.

National Pollutant Discharge Elimination System (NPDES)

Stormwater pollution occurs when debris, chemicals, sediment or other pollutants are washed into storm drains and flows into water bodies. The Clean Water Act, and its implementing regulations, requires that certain industrial facilities, construction sites, and municipal separate storm sewer systems (MS4) obtain coverage for their stormwater discharges under an NPDES permit, develop a Stormwater Pollution Prevention Plan (SWPPP) or Stormwater Management Plan (SWMP) and put measures in place to prevent discharges of pollutants in stormwater runoff.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (AB 939) redefined solid waste management in terms of both objectives and planning responsibilities for local jurisdictions and the State. AB 939 was adopted in an effort to reduce the volume and toxicity of solid waste that is landfilled and incinerated by requiring local governments to prepare and implement plans to improve the management of waste resources. AB 939 required each of the cities and unincorporated portions of the counties to divert a minimum of 25 percent of the solid waste sent to landfills by 1995 and 50 percent by the year 2000. To attain goals for reductions in disposal, AB 939 established a planning hierarchy utilizing new integrated solid waste management practices. These practices include source reduction, recycling and composting, and environmentally safe landfill disposal and transformation. Other State statutes pertaining to solid waste include compliance with the California Solid Waste Reuse and Recycling Act of 1991 (AB 1327), which requires adequate areas for collecting and loading recyclable materials within a project site.

Energy

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level the Department of Transportation (DOT), Department of Energy (USDOE), and EPA have substantial influence over energy policies and programs. In California, the Public Utilities Commission (CPUC) and the California Energy Commissions

(CEC) are two agencies with authority over different aspects of energy. Relevant federal and State energy-related laws and plans are summarized below.

Federal

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) such as the Southern California Association of Governments (SCAG) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

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Transportation and access to Strategic Plan project site is provided primarily by the local and regional roadway systems. Implementation of the Strategic Plan would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Six Basins project area.

The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

The Six Basins project area is located along major transportation corridors with proximate access to the Interstate freeway system and supports the strong planning processes emphasized under TEA-21. Implementation of the Strategic Plan is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21

California

Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301a)]. The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report. The 2019 IEPR was adopted January 31, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast. The 2020 IEPR Update is currently in progress but has not been adopted.

Electricity would be provided to Strategic Plan projects by SCE. SCE's Clean Power and Electrification Pathway (CPEP) white paper builds on existing state programs and policies. As such, implementation of the Strategic Plan is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2019 IEPR.

State of California Energy Plan

CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access. Implementation of the Strategic Plan would not generate a substantive amount of vehicular travel and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore,

increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions.

The 2019 version of Title 24 was adopted by CEC and became effective on January 1, 2020. The 2019 Title standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. CEC anticipates that single-family homes built with the 2019 standards will use approximately 7 percent less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will about 53 percent less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30 percent less energy due to lighting upgrades compared to the prior code. As a conservative measure, the Energy Analysis assumed compliance with the 2016 Title 24 Standards and no additional reduction for compliance with the 2019 standards were taken.

4.15.3 Project Impacts

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines as amended through 2018. For purposes of this Program EIR, implementation of the Strategic Plan projects may have a significant impact on Public Utilities and Service Systems, and Energy. or conflict with a program, plan, ordinance or policy addressing the same if it would result in any of the following:

Utilities/Service Systems

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater, drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?
2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
3. 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?
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?
5. Comply with federal, state, and local management and reduction regulations related to solid waste?

Energy

6. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
7. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

In addition, Appendix F of the *State CEQA Guidelines*, states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Impact Evaluation

Utilities and Service Systems

Impact 4.15.1

Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater, drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects? (Threshold 1)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact with Mitigation Incorporated.

This category of projects consists of improvements to existing facilities in the Pomona Basin including: (1) increasing groundwater production at some existing wells and increasing treatment capacity at existing sites either through the construction of ion exchange (IX) or (2) biological treatment facilities to remove Cr-6, nitrate and perchlorate; or expanding the existing air stripping facility or construct a granular activated carbon (GAC) facility to remove constituents.

The project sites are all located in urban areas so that the extension of utility systems to serve the sites would not likely be necessary. Construction activities associated with the installation of proposed improvements to sites in this project category include drilling, trenching, excavation or other ground disturbing activities to upgrade existing production wells and related pumps, monitoring systems, etc.; and new treatment facilities (ion exchange, biological treatment, or granular activated carbon treatment).

Wastewater Treatment

During construction of improvements at the project sites there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility. During operation, no employees will be working on site on a daily basis, so no restroom facilities would be required. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits would be short, and no extended stay is anticipated that would require restroom facilities. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider. Therefore, there would be no impacts to wastewater treatment systems.

Water Treatment

Implementation of the Strategic Plan would result in the upgrade and operation of existing groundwater wells and related treatment facilities in the Pomona Basin, to allow for the increase in pumping and treating groundwater. Proposed improvements would result in increased groundwater production at some existing wells; and increased treatment capacity at existing sites either through the construction of or expansion of air stripping facilities; or ion exchange (IX), biological treatment facilities or granular activated carbon (GAC) facilities to remove constituents. The purpose is to provide additional pumping and treating of groundwater in the Pomona Basin that would result in a more reliable and sustainable water resource for existing water customers. Therefore, implementation of projects in Project Category 1, would not require or result in the relocation or construction of new water treatment facilities, and a less than significant impact would occur.

Stormwater/Drainage

Project Category 1 project sites are all located in an urban area where storm drain infrastructure is in place. Upgrades to existing wells and treatment facilities, or development of new treatment facilities at existing sites could affect on-site drainage patterns as well as off-site drainage volume and require the construction and operation of new and/or expanded stormwater drainage facilities. However, because Project Category 1 sites are all located in an urban area where storm drain facilities are in place, the issue is one of control of stormwater runoff from a project site. Mitigation Measure USS-1 requires that prior to construction at a Project Category 1 site, the proposing Watermaster Party shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting a site so that the capacities of the existing downstream drainage facilities are not exceeded. Such design features may include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities. Therefore, implementation of a site-specific drainage plan as set forth in mitigation measure USS-1, would ensure that impacts associated with on-going operation of a Project Category 1 site would be less than significant.

Electric Power

During construction, electric power is available from local SCE power lines. Equipment that requires additional power will be from diesel generators. Some equipment may also use gasoline. None of these fuels will be stored on site, instead they will be brought to the site when needed to refuel equipment. Once construction is completed, operation of the facility will utilize electric power from the grid. Energy consumption during long-term operation is evaluated below under Impact 4.15.5.

Natural Gas

During construction and operation, no natural gas is anticipated to be used at any of the project sites. Therefore, there would be no impact.

Telecommunications

During construction and operation, no telecommunications infrastructure would be required. Therefore, there would be no impact.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

This category of projects represents improvements that would be undertaken in the San Antonio Spreading Grounds (SASG) to develop a new recharge basin, in the Thompson Creek Spreading Grounds (TCSG) to enhance stormwater recharge and supplemental water recharge; enhance stormwater recharge at the Pedley Spreading Grounds (PSG); and to create an area for the recharge of stormwater and supplemental water at the LA County Fairplex in an underground infiltration gallery. The Pedley and Fairplex projects were identified as opportunities for stormwater recharge through compliance with Los Angeles County's Municipal Separate Storm Sewer System (MS4) permit. Other MS4 projects may be identified in the future that would require their own environmental review.

Wastewater Treatment

Similar to Project Category 1 projects, during construction of improvements at the project sites there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility. Likewise, during long-term operation of water recharge facilities, there would be no employees on site on a daily basis that would require restroom facilities. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits would be short, and no extended stay is anticipated that would require restroom facilities. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider. Therefore, there would be no impacts to wastewater treatment systems.

Water Treatment

Implementation of the Strategic Plan would result in the creation of new recharge basins – SASG and TCSG, the expansion of existing groundwater recharge basins at the PSG site, and the creation of a new underground infiltration gallery at the Fairplex site. Proposed improvements would result in increased groundwater recharge capacity in the Canyon Basin (TCSG) the Upper Claremont Heights Basin (SASG and PSG) and in the Pomona Basin (Fairplex site). There are no water treatment facilities associated with the SASG or TCSG *Stormwater and Supplemental Water Recharge* projects. However, both the PSG and Fairplex projects are groundwater recharge projects that would use stormwater from existing storm drains and channels for recharge (MS4 projects). This water would be pretreated at each site prior to being released for recharge. Water treatment is inherent in the implementation of the two MS4 recharge projects that would not result in the need to construct new separate water treatment facilities. Therefore, this impact would be less than significant and no mitigation is required.

Stormwater/Drainage

Two of the Project Category 2 project sites (SASG and TCSG) are located in wash areas where no storm drain facilities exist. The purpose of these two projects is to develop new groundwater recharge basins in order to receive an increased amount of stormwater, supplemental water, and at the SASG site, to receive recycled water from the Pomona WRP to recharge the groundwater basin. The intent is to capture, pretreat, and detain this water on site in order to recharge the groundwater basin, so that no stormwater runoff is anticipated.

The PSG site is located in an urban area where storm drain infrastructure is in place. The existing basins would be deepened to accommodate local urban runoff from existing storm drain pipes in the surrounding neighborhood. The intent of this project is to receive and detain this water on site in order to recharge the groundwater basin, so that no stormwater runoff is anticipated.

Finally, the Fairplex project would be developed as an underground infiltration gallery that would be located under the new soccer fields at the Fairplex grounds. Drainage from Arrow Highway would flow via gravity into the infiltration gallery. A second gravity connection is proposed at a new catch basin to be located adjacent to Thompson Creek (concrete channel running adjacent on the east side of the Fairplex), which will flow into a hydrodynamic separator for pretreatment before being conveyed into the infiltration gallery. A third connection would flow via pump well from McKinley Avenue into the infiltration basin. Water in the infiltration gallery would be captured and used on site to recharge groundwater. During storm events where the inflow exceeds outflow, water from the infiltration gallery would flow into Thompson Creek.

Each of the Project Category 2 projects are intended to capture surface water, accept supplemental water, or accept recycled water in order to detain and percolate water to

recharge the groundwater basin. Therefore, there would be no impact to existing storm drain systems with the development of this category of project.

Electric Power

During construction, electric power may be available from local SCE power lines. However, equipment that requires additional power will be from diesel generators. Some equipment may also use gasoline. None of these fuels will be stored on site, instead they will be brought to the site when needed to refuel equipment. Once construction is completed, operation of the facility will utilize electric power from the grid. Energy consumption during long-term operation is evaluated below under Impact 4.15.5.

Natural Gas

During construction and operation, no natural gas will be use at any of the project sites. Therefore, there would be no impact.

Telecommunications

During construction and operation, no telecommunications infrastructure would be required. Therefore, there would be no impact.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact with Mitigation Incorporated.

These projects consist of rehabilitating the existing Pomona’s P-20 Wellhead and Treatment Facility in Claremont, constructing new production wells and a treatment facility in the Pomona Basin, and production and monitoring wells in the Upper Claremont Heights basin; and constructing new interconnects between wells, and one between the existing Pomona Water Treatment Plant and the San Antonio Spreading Grounds.

Wastewater Treatment

The rehabilitation of Pomona’s P-20 well, construction of new monitoring wells, production wells and pipelines/interconnects would not require or result in the relocation of an existing wastewater treatment plant or construction of a new wastewater treatment plant. Similar to Project Category 1 projects, during construction of improvements at Project Category 3 project sites, there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility.

During operation, no employees will be working on site on a daily basis, so no restroom facilities would be required. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits would be short, and no extended stay is anticipated that would require restroom facilities. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider. Therefore, there would be no impacts to wastewater treatment systems.

Water Treatment

Implementation of Project Category 3 projects would result in the development of up to 12 new groundwater production wells and related pipelines and interconnects between the new wells and a new water treatment facility, or existing water treatment facilities in the Six Basins project area. Up to 3 new monitoring wells in the vicinity are also proposed. The purpose of Project Category 3 projects is to address high groundwater problems in the lower portion of the Upper Claremont Heights Basin (UCHB) that can occur in the Six Basins during wet periods when high volumes of stormwater recharge within the existing basins in the San Antonio Creek wash can occur. High groundwater in the UCHB migrates to the south and can cause or contribute to high groundwater conditions in the southern portion of this basin as well as the Lower Claremont Heights Basin (LCHB), and the northern portion of the Pomona Basin. Proposed improvements would result in increased groundwater production in the project area during periods of high groundwater in these basins. There is one new treatment facility proposed in the Temporary Surplus project category. Therefore, proposed new groundwater wells along with related new pipelines and interconnects with the proposed new water treatment facility, or between the P-20 well site and TVMWD's Miramar WTP would not result in the need to construct new water treatment facilities beyond what is identified in the Strategic Plan.

Stormwater/Drainage

Similar to Project Category 1, Project Category 3 projects will be located in an urban area where storm drain infrastructure is in place. Development of new wells and underground pipelines to connect to existing or new treatment facilities at existing sites (Project Category 1) could affect on-site drainage patterns as well as off-site drainage volume and require the construction and operation of new and/or expanded stormwater drainage facilities. However, because Project Category 3 sites would likely be located in an urban area where storm drain facilities are in place, the issue is one of control of stormwater runoff from a project site. Mitigation Measure USS-1 requires that prior to construction at a Project Category 1 or 3 site, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting a site so that the capacities of the existing downstream drainage facilities are not exceeded. Such design features may include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities. Therefore, implementation of a site-specific drainage plan as set forth in mitigation measure USS-1, would ensure that impacts associated with on-going operation of a Project Category 3 site would be less than significant.

Electric Power

During construction, electric power may be available from local SCE power lines. However, equipment that requires additional power will be from diesel generators. Some equipment may also use gasoline. None of these fuels will be stored on site, instead they will be brought to the site when needed to refuel equipment. Once construction is completed, operation of

the facility will utilize electric power from the grid. Energy consumption during long-term operation is evaluated below under Impact 4.15.5.

Natural Gas

During construction and operation, no natural gas will be use at any of the project sites. Therefore, there would be no impact.

Telecommunications

During construction and operation, no telecommunications infrastructure would be required. Therefore, there would be no impact.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities (Project Categories 1 and 3) and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts to *Utilities and Service Systems*, and *Energy*. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.15.2

Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (Threshold 2)

Determination: Less Than Significant Impact.

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

The goal of the Strategic Plan for the Six Basins is to increase groundwater recharge, increase groundwater storage, improve water quality, and decrease the reliance on State supplied water within the Six Basins project area. The intent to undertake projects in this category is to upgrade existing wells and treatment facilities or develop new treatment facilities at existing well sites in the Pomona Basin, in order to increase groundwater production. The results would be the improvement of water quality and reliability of the local groundwater supplies, especially during dry periods, by increasing groundwater production, decreasing

uncontrolled losses of sub- surface outflow to the Chino Basin and rising groundwater; and removing groundwater contaminants. Therefore, Project Category 1 projects would assist the Watermaster Parties in having sufficient water supplies available to meet the needs within the Six Basins project area during normal, dry and multiple dry years, resulting in a less than significant impact to water supply.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

Similar to Project Category 1, Stormwater and Supplemental Water Recharge projects, are intended to ensure the continued availability of water supplies in the Six Basins project area. For example, not all of the available surface-water runoff from the San Antonio Creek and Thompson Creek watersheds is captured and recharged. In addition, virtually all surface-water runoff that occurs downstream of the existing SASG and TCSG recharge facilities exits the Six Basins in concrete lined channels. Failure to divert and recharge stormwater is a permanently lost opportunity to recharge the basins. Expanding the TCSG and PSG recharge basins, developing a new recharge basin at the SASG and developing a new underground infiltration gallery at the LA County Fairplex would increase the area for groundwater recharge of surface water, supplemental water, and recycled water that would be conveyed between the Pomona WRP and the new recharge basin at the SASG. In addition, the PSG and Fairplex projects would divert stormwater from existing storm drain systems, pretreat the water prior to release for recharge. Increasing the size of groundwater recharge basins (TCSG and PSG), developing a new recharge basin (SASG) or developing a new facility at the Fairplex would assist the Watermaster Parties in maintaining and enhancing the sustainable yield and water quality in the Six Basins project area to meet the service needs of Watermaster Parties during normal, dry and multiple dry years.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

Historically, high groundwater problems have occurred in the Six Basins because during wet periods, high volumes of stormwater recharge within the SASG can cause groundwater levels to rapidly increase in the UCHB. The mound of high groundwater migrates to the south and can cause or contribute to high groundwater conditions in the southern portion of the UCHB, the LCHB, and the northern portion of the Pomona Basin. High groundwater conditions are undesirable because they increase the threat of rising groundwater and liquefaction potential, and they reduce the yield of the Six Basins by increasing subsurface outflow to the Chino Basin and by limiting the volume of stormwater recharge that can occur during wet periods.

The intent of this category of projects is to develop new groundwater wells in the UCHB, rehabilitate Pomona's P-20 well and wellhead treatment facility in the LCHB; and construct interconnects to increase flexibility in the conveyance of surplus water between water

supply agencies. Rehabilitation of the P-20 well and related treatment facility would be similar to improvements to existing facilities identified under Project Category 1.

Similar to Project Category 1 projects, Project Category 3 projects would assist the Watermaster Parties in increasing the reliability of water supplies available to meet the needs within the Six Basins project area during normal, dry and multiple dry years. This would be accomplished by developing new wells in the UCHB, and new pipeline conveyance systems in the UCHB, LCHB and Pomona Basin, in order to move water between water agencies' facilities as needed.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.15.3

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? (Threshold 3)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: No Impact.

The projects in this category represent improvements to existing water facilities in the Pomona Basin. During construction of improvements at the project sites there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility. During operation, no employees will be working on site on a daily basis, so no restroom facilities would be required. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits

would be short, and no extended stay is anticipated that would require restroom facilities. Therefore, none of the projects in Project Category 1 represent a projected demand for wastewater treatment, and there is no impact on a wastewater treatment provider's ability to serve existing commitments. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: No Impact.

Similar to Project Category 1 projects, during construction of improvements at the project sites there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility. Likewise, during long term operation of water recharge facilities, there would be no employees on site on a daily basis that would require restroom facilities. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits would be short, and no extended stay is anticipated that would require restroom facilities. Therefore, none of the projects in Project Category 2 represent a projected demand for wastewater treatment, and there is no impact on a wastewater treatment provider's ability to serve existing commitments. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider.

Project Category 3: Temporary Surplus

Determination: No Impact.

The construction of new production wells and pipelines/interconnects would not require or result in the relocation or construction of a new wastewater treatment plant. Similar to Project Category 1 projects, during construction of improvements at Project Category 3 project sites, there would be no discharge to existing wastewater systems associated with the proposed projects. Portable toilets would be used at each site, and the sanitary wastes would be hauled from each site for appropriate disposal at a regional wastewater treatment facility. During operation, no employees will be working on site on a daily basis, so no restroom facilities would be required. Site inspections may occur on a daily basis where a water district or water company employee would enter the site to inspect operating conditions, but these site visits would be short, and no extended stay is anticipated that would require restroom facilities. Therefore, none of the projects in Project Category 3 represent a projected demand for wastewater treatment, and there is no impact on a wastewater treatment provider's ability to serve existing commitments. During construction, portable toilets and hand wash stations would be delivered to a site and serviced (pumped and transported off site) by a professional service provider.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Impact 4.15.4

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; and Comply with federal, state, and local management and reduction regulations related to solid waste? (Threshold 4 and 5)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less than Significant Impact with Mitigation Incorporated.

Construction activities for Project Category 1 projects would all occur within sites that are already developed with wells and some treatment facilities. Therefore, solid waste generated during construction of the proposed Category 1 projects would mainly consist of small quantities of general construction and demolition (C&D) debris such as concrete or asphalt (if construction requires the removal of pavement to develop new treatment facilities), cardboard and wrapping material, worker personal waste (food wrappers, newspapers), and possibly green waste and excavated soils. Even small volumes of construction-related waste and inert demolition debris will require disposal during proposed project construction. The California Green Building Standards Code (CGBSC), requires that when construction and/or demolition is proposed, a Construction Waste Management Plan be implemented that results in the recycling and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated by a construction project. The Code Section states that where a local jurisdiction has more stringent ordinance, that ordinance would supersede the CGBSC. Therefore, mitigation measure USS-2 has been identified that requires the construction contractor to submit a C&D disposal plan to a City Public Works Department for review and approval, that identifies the

C&D waste to be diverted from a landfill, and a facility where the C&D waste will be taken. Implementation of a site-specific C&D Disposal Plan would ensure that this impact would be less than significant.

During operation, the generation of solid waste would be minimal as most site visits would be for inspection only. Periodic maintenance may result in the generation of small amounts of material such as cardboard or other wrapping materials. This material would be taken off-site to a Watermaster Parties' corporate yard, or construction contractor's yard to be recycled along with other recyclable material in a recycling bin. Therefore, a less than significant impact is anticipated during operation of groundwater wells and treatment facilities.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less than Significant Impact with Mitigation Incorporated.

Impacts associated with construction of new or expansion of existing groundwater recharge facilities regarding the creation of C&D waste would be similar to impacts identified under Project Category 1. Implementation of mitigation measure USS-2 would ensure that diversion of C&D waste from landfills would result in a less than significant impact. Operation of groundwater recharge basins would consist of site visits for inspection of facilities, and periodic maintenance involving no or minimal generation of solid waste. Therefore, a less than significant is anticipated during operation of groundwater recharge facilities.

Project Category 3: Temporary Surplus

Determination: Less than Significant Impact with Mitigation Incorporated.

Impacts associated with Project Category 3 projects regarding the creation of C&D waste would be similar to impacts identified under Project Category 1. Implementation of mitigation measure USS-2 would ensure that diversion of C&D waste from landfills would result in a less than significant impact. Operation of new groundwater wells would consist of site visits for inspection of facilities, and periodic maintenance involving no or minimal generation of solid waste. Therefore, a less than significant impact is anticipated during operation of new wells and new treatment facility. Regarding new pipelines, these will all be underground so that no maintenance requiring the generation of solid waste would occur. Therefore, there would be not impact associated with pipeline operation.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties,

supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

Energy

Evaluation Criteria

In compliance with Appendix G of the *State CEQA Guidelines*, the *Energy Analysis* report analyzed the anticipated energy use to determine if the implementation of the Strategic Plan would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the *State CEQA Guidelines*, states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Methodology

Information from the CalEEMod data for the *Air Quality Impact Analysis* (see Section 4.3) was utilized to evaluate Energy usage, detailing project related construction equipment, transportation energy demands, and facility energy demands. These outputs can be referenced in Appendix 3.1 of the *Energy Analysis* (EIR Appendix H).

Impact 4.15.5

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or conflict with or obstruct a State or local plan for renewable energy or energy efficiency? (Thresholds 6 and 7)

Substantiation

Project Category 1: Pump and Treat Groundwater in the Pomona Basin

Determination: Less Than Significant Impact.

Note: Because the Strategic Plan is a long-range plan (20 years), it is unknown when projects would be developed during this period. Therefore, to provide a worst-case analysis of air emissions, GHG emissions, and Noise levels, Urban Crossroads evaluated the following construction scenario:

- the construction of a treatment facility with related infrastructure;
- up to 8,500 linear feet of pipeline construction; and
- the construction of the San Antonio Spreading Grounds would occur. Construction of the spreading grounds includes the disturbance approximately 50 acres to a depth of up to 200 feet, and the removal of 2.5 million tons of aggregate material that would be conveyed across the SASG to the existing Holliday Rock aggregate mine site east of the San Antonio Creek channel.

For purposes of analysis of air emissions, construction of the above features is expected to commence in August 2021 and will last through September 2022 (13 months). The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

Construction Energy Demands

Project Construction Power Cost

The *2020 National Construction Estimator* identifies a typical power cost per 1,000 square feet of construction per month of \$2.38, which was used to calculate total construction power cost for the worst-case scenario describe above. As shown on Table 4.15-6, *Construction Power Costs*, the total power cost of the on-site electricity usage during the construction is estimated to be approximately \$72,745.51.

Table 4.15-6 Construction Power Cost

Land Use	Power Cost (per 1,000 SF of construction per month)	Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
Treatment Facility	\$2.38	130.680	13	\$4,043.24
Pipeline	\$2.38	42.500	13	\$1,314.95
Recharg Basins at the SASG	\$2.38	2,178.000	13	\$67,387.32
Total Construction Power Cost				\$72,745.51

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-1.*

Construction Electricity Usage

Total construction electricity usage is the summation of the products of the power cost estimated in Table 4.15-6 by the utility provider cost per kilowatt hour (kWh) of electricity. SCE’s general service rate schedules were used to determine construction electrical usage. As of October 1, 2020, SCE’s general service rate is \$0.10 per kilowatt hours (kWh) of electricity for industrial/commercial services. As shown on Table 4.15-7, *Construction Electrical Usage*, the total electricity usage from construction related activities is estimated to be approximately 759,467 kWh.

Table 4.15-7 Construction Electricity Usage

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Treatment Facility	\$0.10	42,212
Pipeline	\$0.10	13,728
Spreading Grounds	\$0.10	703,527
CONSTRUCTION ELECTRICITY USAGE		759,467

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-2.*

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 4.15-8, *Construction Equipment Assumptions*, would operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the city or county code in which the construction activity is taking place. It should be noted that most pieces of equipment would likely operate for fewer hours per day as reflected in Table 4.15-8. Construction equipment fuel consumed would be the primary energy resource expended over the course of construction of Strategic Plan projects.

Construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4.15-9, *Construction Equipment Fuel Estimates*. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB’s 2018 Emissions Factors tables and cited fuel consumption rate factors. For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the Project area and region.

Table 4.15-8 Construction Equipment Assumptions

Equipment	Amount	Hours Per Day
Bore/Drill Rigs	1	6
Cranes	1	6
Crushing/Proc. Equipment	1	6
Excavators	2	6
Generator Sets	1	6
Graders	1	6
Off-Highway Trucks	1	4
Pavers	2	6
Paving Equipment	1	6
Rollers	1	6
Rubber Tired Dozers	1	6
Tractors/Loaders/Backhoes	2	6
Welders	1	6

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-3.*

Table 4.15-9 Construction Equipment Fuel Estimates

Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption ¹ (gal. diesel fuel)
Bore/Drill Rigs	221	1	6	0.50	663	13,081
Cranes	231	1	6	0.29	402	7,930
Crushing/Proc. Equipment	85	1	6	0.78	398	7,848
Excavators	158	2	6	0.38	720	14,215
Generator Sets	158	1	6	0.38	373	7,358
Graders	187	1	6	0.41	460	9,076
Off-Highway Trucks	402	1	4	0.38	611	12,056
Pavers	130	2	6	0.42	655	12,927
Paving Equipment	132	1	6	0.36	285	5,625
Rollers	80	1	6	0.38	182	3,599
Rubber Tired	247	1	6	0.40	593	11,696
Tractors/Loaders/Backhoes	97	2	6	0.37	431	8,497
Welders	46	1	6	0.45	124	2,450
Construction fuel Demand (gallons diesel fuel)						116,359

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-4.*

Notes:

- ¹ Based on Appendix A of the CalEEMod User's Guide construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

To evaluate a worst-case scenario, the duration of grading was assumed to be 365 days, and eight-hour daily use of all equipment was also assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp/hour/gallon, obtained from CARB’s 2018 Emissions Factors tables and cited fuel consumption rate factors. For the purposes of the *Energy Analysis*, the calculations were based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the cities and the region.

As presented in Table 4.15-9 construction activities for Strategic Plan projects would consume an estimated 116,359 gallons of diesel fuel. Construction would represent a “single-event” diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose, once construction activities have ceased.

Construction Worker Fuel Estimates

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of workers, hauling, and vendor trips are presented Table 4.15-10, *Construction Trips and Vehicle Miles Traveled (VMT)*. Worker trips were based on CalEEMod default parameters. It should be noted that for Vendor Trips, specifically, CalEEMod only assigns Vendor Trips to the Building Construction phase. For this Energy Analysis, vendor trips were calculated consistent with CalEEMod methodology.

Table 4.15-10 Construction Trips and Vehicle Miles Traveled (VMT)

Phase Type	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Grading	40	22	0

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-5.*

With respect to estimated vehicle miles traveled (VMT), construction worker trips would generate an estimated 179,340 VMT during the construction period. Based on CalEEMod methodology, it is assumed that 50 percent of all vendor trips are from light-duty-auto vehicles (LDA), 25 percent are from light-duty-trucks (LDT1), and 25 percent are from light-duty-trucks (LDT2). Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs. Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs. Data regarding project related construction worker trips were based on CalEEMod defaults utilized in the Air Quality Impact Analysis.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2014 version of the EMFAC developed by CARB. EMFAC2014 is a

mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. EMFAC2014 was run for the LDA, LDT1, and LDT2 vehicle class within the California sub-area for the 2021 through 2022 calendar years. Note: Construction worker trips would represent a “single-event” gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

Table 4.15-11, *Construction Worker Fuel Consumption Estimates – LDA*, shows the estimated annual fuel consumption resulting from LDAs related to construction worker trips in auto vehicles. The table shows that construction worker trips during full construction would consume an estimated 2,945 gallons of fuel.

Table 4.15-11 Construction Worker Fuel Consumption Estimates – LDA

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
<i>2021</i>						
Grading	110	20	14.7	32,340	29.67	1,090
<i>2022</i>						
Grading	195	20	14.7	57,330	30.91	1,855
Project Construction Worker Fuel Consumption (LDA)						2,945

Source: *Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-6.*

Table 4.15.12, *Construction Worker Fuel Consumption Estimates - LDT1*, shows the estimated annual fuel consumption resulting from LDT1s related to the construction worker trips. The table shows that construction worker trips during full construction would consume an estimated 1,840 gallons of fuel.

Table 4.15-13, *Construction Worker Fuel Consumption Estimates – LDT2* shows the estimated annual fuel consumption resulting from LDT2s related to the construction worker trips. The table shows that construction worker trips during full construction would consume an estimated 2,050 gallons of fuel.

Construction Vendor Fuel Estimates

With respect to estimated VMT, the construction vendor trips would generate an estimated 46,299 VMT along area roadways over the duration of construction activity. It was assumed that 50 percent of all vendor trips are from medium-heavy duty trucks (MHDT) and 50 percent are from heavy-heavy duty trucks (HHDT). These assumptions are consistent with the CalEEMod defaults utilized within the project’s *Air Quality Impact Analysis*.

Table 4.15-12 Construction Worker Fuel Consumption Estimates – LDT1

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021						
Grading	110	10	14.7	16,170	23.90	677
2022						
Grading	195	10	14.7	28,665	24.64	1,163
Project Construction Worker Fuel Consumption – LDT1						1,840

Source: Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-7.

Table 4.15-13 Construction Worker Fuel Consumption Estimates – LDT2

Phase Name	Duration (Days)	Worker Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021						
Grading	110	10	14.7	16,170	21.39	756
2022						
Grading	195	10	14.7	28,665	22.15	1,294
Project Construction Worker Fuel Consumption – LDT2						2,050

Source: Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-8.

Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2014. EMFAC2014 was run for the MHDT and HHDT vehicle classes within the California sub-area for the 2021 through 2022 calendar years.

Table 4.15-14, *Construction Vendor Fuel Consumption Estimates – MHDT*, shows that an estimated 2,708 gallons of fuel would be consumed related to construction vendor trips (MHDTs) during full construction of the project.

Tables 4.15-15, *Construction Vendor Fuel Consumption Estimates – HHDT*, shows that an estimated 3,881 gallons of fuel would be consumed related to construction vendor trips (HHDTs) during full construction of the project.

Table 4.15-14 Construction Vendor Fuel Consumption Estimates – MHDT

Phase Name	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021						
Grading	110	11	6.9	8,349	8.52	980
2022						
Grading	195	11	6.9	14,801	8.56	1,729
Project Construction Worker Fuel Consumption – MHDT						2,708

Source: Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-9.

Table 4.5-15 Construction Vendor Fuel Consumption Estimates – HHDT

Phase Name	Duration (Days)	Vendor Trips / Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021						
Grading	110	11	6.9	8,349	5.92	1,411
2022						
Grading	195	11	6.9	14,801	5.99	2,470
Project Construction Worker Fuel Consumption – MHDT						3,881

Source: Urban Crossroads, Six Basins Energy Analysis, Cities of Claremont, La Verne, Pomona, and Upland, and the County of Los Angeles, Six Basins Watermaster, February 2021, Table 4-10.

Notes:

Project construction vendor trips would represent a “single-event” diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Energy Efficiency/Conservation Measures

The equipment used for construction of Strategic Plan projects would conform to CARB regulations and California emissions standards. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of Strategic Plan projects would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Watermaster Parties proposing projects would utilize construction contractors that practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the

Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, California Code of Regulations Title 13, *Motor Vehicles*, Section 2449(d), *Idling*, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To this end, “grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling.” In this manner, construction equipment operators are informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints. These requirements are included as mitigation measure USS-3, Construction Requirements for the Operation of Construction Equipment.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed development through energy efficiencies realized from bulk purchase, transport and use of construction materials.

A full analysis related to the energy needed to form construction materials was not included in the *Energy Analysis* due to a lack of detailed project-specific information on construction materials. At this time, an analysis of the energy needed to create project-related construction materials would be extremely speculative and thus was not prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

In summary, the estimated power cost of on-site electricity usage during the construction of Strategic Plan projects is estimated to be approximately \$72,745.51. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction is calculated to be around 759,467 kWh.

Construction equipment used by the project would result in single event consumption of approximately 116,359 gallons of diesel fuel. Construction equipment use of fuel would not

be atypical for the type of construction proposed because there are no aspects of the project's proposed construction process that are unusual or energy-intensive, and project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Best available control measures inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction worker trips would result in the estimated fuel consumption of 6,834 gallons. Additionally, fuel consumption from construction vendor trips will total approximately 6,590 gallons. Diesel fuel would be supplied by local and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport and use of construction materials. The 2019 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements. As supported by the preceding discussions, construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Project Category 2: Stormwater and Supplemental Water Recharge

Determination: Less Than Significant Impact.

See discussion under *Project Category 1: Pump and Treat in the Pomona Basin*.

Project Category 3: Temporary Surplus

Determination: Less Than Significant Impact.

The rehabilitation of the P-20 well and wellhead treatment and construction/operation of new pipelines and interconnects was included in the *Energy Analysis* summarized in Project Category 1 above. For new groundwater wells, the location, number and timing of development is unknown at this time. However, recently (February 2020), TVMWD adopted a Mitigated Negative Declaration for a new well site within the UCHB at the corner of Miramar and Grand Avenues in the City of Claremont. The project is the development of a new groundwater well on a one-acre site and related pipeline and interconnect to a pipeline that terminates at TVMWD's Miramar water treatment plant, approximately one-mile northeast of that site. As part of the environmental evaluation of this project, an energy analysis was conducted. The new groundwater well would be typical of the type of well envisioned by the Watermaster Parties to take advantage of Temporary Surplus conditions in the UCHB as identified in the Strategic Plan.

Project Construction

Energy use during project construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electrical construction equipment. The anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site is approximately 1,200 gallons of gasoline fuel and approximately 30,100 gallons of diesel fuel.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In the interest of cost efficiency, construction contractors are not anticipated to utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and no construction-related energy impact would occur.

The pipeline itself would not generate new demand for electricity. The well pump would be served by existing Southern California Edison (SCE) infrastructure. During operation, the proposed project would require approximately 602,250 kWh (or 602.25 MWh) of electricity per year to power the pump station. At completion of project design, the pump design and associated fuel usage would be the most efficient technology available at the time.

Operation/Maintenance

Maintenance of the proposed project would include remote monitoring via TVMWD's computer system, meter reading, routine inspections and maintenance of facilities, periodic testing, and emergency repairs. Maintenance activities would occur on an as-needed basis (1 trip per week was assumed). The operation of the pump station as well as vehicle trips by maintenance staff would require the consumption of energy resources in the form of electricity and vehicle fuels. However, electricity and fuel consumption would not be wasteful, inefficient, or unnecessary as maintenance activities would only occur as necessary for well pump operation. Therefore, no operational energy impacts would occur.

In recognition of the project's objective which is to construct facilities necessary for TVMWD to meet its customers' current and projected water demands, the required energy use is not anticipated to result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

SB 100 mandates 100 percent clean electricity for California by 2045. SCE has achieved over 46 percent Carbon-Free energy sources as of the 2018 Suitability Report. As the proposed project would be powered by the existing electricity grid (SCE), the project would eventually be powered by renewable energy mandated by SB 100 (50 percent by 2026 and 100 percent by 2045) and would not conflict with the statewide plan. TVMWD has not yet adopted specific renewable energy or energy efficiency plans with which the project could comply.

Nonetheless, the project would not conflict with or obstruct the State plan for renewable energy; therefore, no impact would occur.

Project Category 4: Monitoring Programs in Support of the Strategic Plan

Determination: No Impact.

This category of projects consists of the development and implementation of groundwater monitoring programs to support the design of new wells and treatment facilities, and provide groundwater production and water-level data to the Watermaster Parties, supporting well-siting investigations, and other support functions to monitor and develop new strategies and projects for conjunctive water use. Strategic Plan projects that would result in a physical change in the environment are evaluated under Project Categories 1 through 3. Future projects that may be identified during well siting investigations for example, but are not a part of the current list of Strategic Plan projects, would be subject to subsequent environmental review including the potential impacts associated with construction/operation related noise and vibration. Therefore, there are no impacts associated with *Monitoring Programs in Support of the Strategic Plan*.

4.15.4 Cumulative Impacts

Wastewater Treatment

Future cumulative development in the Six Basins project area could exceed wastewater treatment requirements of the Los Angeles RWQCB and Santa Ana River RWQCB potentially resulting in cumulatively significant impact on wastewater treatment facilities. However, because the Strategic Plan and related projects does not include any new residential, commercial, industrial or institutional uses that would generate new residents or employees, implementation would result in no impacts or less than significant impacts. Therefore, improvements to or development of new water supply/water quality projects in the Six Basins project area would not contribute to cumulative impacts.

Water Treatment

The intent of the Strategic Plan and related projects is to increase the reliability and sustainability of the water resources in the Six Basins project area. Implementation of the Strategic Plan includes the rehabilitation of existing wells and water treatment facilities; the development of additional groundwater recharge basins; and the development of a new water treatment facility, up to 12 new groundwater production wells and interconnects between the new wells and the new treatment facility or existing facilities (e.g. Pomona's P-20 well connected to TVMWD's Miramar WTP), an interconnect between the Pomona WRP and the new SASG recharge basins, and additional interconnects between agencies. Therefore, improvements to or development of new water supply/water quality projects in the Six Basins project area would not contribute to cumulative impacts.

Stormwater/Drainage

Future cumulative development within the Six Basins project area would increase the quantity of stormwater generated on impervious urban sites. Project Categories 1 and 3 would result in an increase the amount of impervious surfaces where new well sites and the new treatment facility would be located, that could contribute to a cumulative increase ins stormwater runoff. However, most of the sites would be small and where sites are greater than an acre, the footprint of the project would be less than an acre. Mitigation measures for the control of stormwater from a Strategic Plan project site would reduce a project’s impact on the local and regional storm drain system to a less than significant level and would not significantly contribute to the cumulative need for the construction of new and/or expanded stormwater drainage facilities.

Project Category 2 projects would increase the size of existing recharge basins or create new recharge basins, designed to retain and percolate stormwater, supplemental water or recycled water. None of these projects would result in the creation of new impervious surfaces that could adversely affect stormwater runoff volumes. Therefore, projects in this category would not contribute to a significant cumulative impact.

Landfill Capacity

Solid waste generated during construction of the proposed Strategic Plan projects would mainly consist of small quantities of general construction and demolition (C&D) debris such as concrete or asphalt (if construction requires the removal of pavement to develop new treatment facilities), cardboard and wrapping material, worker personal waste (food wrappers, newspapers), and possibly green waste and excavated soils.

The California Green Building Standards Code (CGBSC), requires the implementation of a Construction Waste Management Plan that results in the recycling and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste generated by a construction project. Mitigation measure USS-2 has been identified that requires a construction contractor to submit a C&D disposal plan to a city Public Works Department for review and approval, that identifies the C&D waste to be diverted from a landfill, and a facility where the C&D waste will be taken. Implementation of a site-specific C&D Disposal Plan would ensure that this impact would be less than significant. Therefore, proposed Strategic Plan projects would not contribute significantly to a cumulative impact on landfill capacity.

During operation, the generation of solid waste would be minimal as most site visits would be for inspection only. Periodic maintenance may result in the generation of small amounts of material such as cardboard or other wrapping materials. This material would be taken off-site to a Watermaster Parties’ corporate yard, of construction contractor’s yard to be recycled along with other recyclable material in a recycling bin. Therefore, a less than significant is anticipated during operation of groundwater wells and treatment facilities.

4.15.5 Mitigation Measures

Mitigation Measures

- USS-1 Implementation of a Drainage Plan to Reduce Downstream Flows. Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.
- USS-2 Implementation of a Construction and Demolition Disposal Plan. Prior to commencement of construction, the contractor shall prepare a Construction and Demolition (C&D) disposal plan for review and approval by the local jurisdiction where construction will occur. Per CGBC Section 45.408.1.1, *Construction Waste Management Plan*, the C&D Disposal Plan shall include the following elements:
1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
 3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.15.6 Level of Significance After Implementation

Implementation of mitigation measures USS-1 and USS-2 in concert with implementation of other measures identified in Sections 4.8 and 4.9 that address water supply and water quality would ensure that impacts on Utilities and Service Systems would be less than significant. The *Energy Analysis* determined that implementation of the Strategic Plan and related projects would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

4.15.7 References

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5.0 Other CEQA Issues

This chapter provides the evaluation of environmental issues that must be addressed in an EIR, as required by CEQA Section 21100(b) and CEQA Guidelines Section 15126, that are not otherwise considered in other chapters of this Program EIR. CEQA requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. Therefore, this Chapter of the Program EIR identifies and evaluates the following impacts: (1) significant environmental effects that cannot be avoided if the proposed project is implemented; (2) significant irreversible environmental effects that would result from implementation of the proposed project; (3) growth-inducing impacts of the proposed project, (4) effects found not to be significant, or that would not occur if the proposed project is implemented.

5.1 Energy Impacts

CEQA Guidelines Section 15126.2(b) requires that a lead agency evaluate a project's energy use and provided guidance in *CEQA Guidelines* Appendix F. If the analysis of a project's energy use concludes that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, effects must be mitigated. The analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. An Energy Analysis was prepared for the Program EIR that is included in Appendix H. Section 4.15, *Utilities/Service Systems/Energy*, includes an evaluation of energy use during construction and operation of Strategic Plan projects. The conclusion of the Energy Analysis is that implementation of the Strategic Plan and related projects would not result in any significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources.

5.2 Significant and Unavoidable Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented

As required by *CEQA Guidelines* Section 15126.2(c), an EIR must identify any significant environmental effects that cannot be avoided if the proposed Strategic Plan is implemented. The findings of the environmental analyses completed in Chapter 4, *Environmental Impact Evaluation*, for each of the environmental issues identified in Appendix G of the *CEQA Guidelines*, are summarized in Table ES-2, *Summary of Environmental Impacts and Mitigation Measures*, which is included in Environmental Summary (ES) Chapter. Sections 4.1 through 4.15 provide a comprehensive evaluation of the potential environmental effects associated with the implementation of the Strategic Plan and related projects, including the level of significance both before and after mitigation measures are implemented. After conducting environmental analyses for each of the environmental issues identified in Appendix G of the

CEQA Guidelines, it was determined that implementation of the proposed Strategic Plan and development of future water supply/water quality projects identified in the Strategic Plan would not result in any significant and unavoidable adverse environmental impacts.

5.3 Significant Irreversible Environmental Changes Which Would be Caused from Implementation of the Proposed Project

CEQA Section 21100(b)(2) and CEQA Guidelines 15126.2(d) require that any significant effect on the environment that would be irreversible if the proposed project is implemented must be identified. This is a requirement for the adoption of the Six Basins Strategic Plan per CEQA Section 21100(b)(2)(B) “... when the project is the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency.”

A project would generally result in a significant irreversible impact if:

- Primary and secondary impacts (such as roadway improvements that provide access to previously inaccessible areas, etc.) would commit future generations to similar uses.
- The project would involve a large commitment of nonrenewable resources.
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.

Development of the proposed project would result in the continued commitment of the Six Basins Watermaster Parties to increase the reliability and reduce the cost of water supply within the Six Basins project area by: (1) capturing, spreading and storing native water from the local canyons emanating from the San Gabriel Mountains; (2) spreading and storing surplus imported State Water Project (SWP) water in the Four Basin portion of the Six Basins Area aquifer when water is available; and(3) increasing the amount of recycled water than can be used to recharge at the SASG.

Section 4.15, *Utilities/Service Systems/Energy*, includes an evaluation of energy consumption including the consumption of fuels and electricity during construction of Strategic Plan projects. The *Energy Analysis* (Appendix H) determined that implementation of the Strategic Plan and related projects would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, this analysis is limited to the commitment of other nonrenewable resources, and/or the irreversible damage that could result from a potential environmental accident associated with the project.

Construction of proposed Strategic Plan projects in Project Categories 1 and 3 would require the use and consumption of nonrenewable resources including steel (e.g., well casings) and aggregate material (e.g., concrete, asphalt, masonry block). Renewable resources, such as

lumber and other wood byproducts, may also be used. Unlike renewable resources, these nonrenewable resources cannot be regenerated over time. However, the relatively small quantity of building materials used during implementation of the Strategic Plan and related projects would not result in a significant impact because such resources are anticipated to be in adequate supply into the foreseeable future, particularly aggregate material which locally sources from the east side of the SASG at the Holliday Rock aggregate mine site. In addition, the proposed recharge basin at the SASG would be developed by excavating aggregate material from an approximately 50-acre site to a depth of up to 200 feet. This material will be crushed on-site then conveyed across the SASG to the Holliday Rock site for stockpiling/processing. The proposed recharge basin represents an opportunity to recover the non-renewable aggregate resource. Therefore, impacts due to the irreversible environmental change to the environment regarding non-renewable resources are considered less than significant.

Construction and operation of new recharge basins in existing spreading grounds (SASG, TCSG, PSG) or a new underground infiltration gallery (Fairplex project), does not represent a significant consumption of non-renewable materials because these projects consist of the development of new or deepening of recharge basins. These basins have earthen bottoms and sides designed to capture and retain stormwater or supplemental water, to allow percolation into the groundwater basins. Material removed from the new or expanded basins or infiltration gallery may be used at other the locations on a project site or removed for processing into aggregate products. Therefore, impacts due to the irreversible environmental change to the environment regarding non-renewable resources are considered less than significant.

Regarding the potential for which irreversible damage could result from an environmental accident associated with the project, these issues are addressed in Section 4.7, *Geology/Soils/Paleo Resources/Mineral Resources*; Section 4.8, *Hazards/Hazardous Materials/Wildfire Hazards*; and Section 4.9, *Hydrology/Water Quality*. Mitigation measures are proposed for each of these issues that would reduce potentially significant impacts to less than significant levels.

Finally, regarding operational activities at a project site, compliance with all applicable California Building Code sections, and applicable State and federal regulations (i.e., *Endangered Species Act* and *Porter-Cologne Water Quality Control Act*), as well as project mitigation measures, would ensure that environmental changes associated with the operation of Strategic Plan projects would be less than significant.

5.4 Growth Inducing Impacts

CEQA Guidelines Section 15126.2(d) require that an EIR discuss the potential growth-inducing impacts of a proposed project. The CEQA Guidelines provide the following guidance for such discussion:

“Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

An example of direct growth inducement is if a project would result in the construction of new housing. A project could have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental land uses) or if it would involve a substantial construction effort with substantial short-term employment opportunities such as the construction of a new freeway or freeway interchange, and indirectly stimulate the need for additional housing and services to support the new employment demand. In addition, a project could indirectly induce growth if it would remove an obstacle to additional growth and development, such as the extension of a road, potable water line or sewer line.

Table 3-2 in Chapter 3, *Project Description*, provides a complete list of the goals, impediments and actions for successful implementation of the Strategic Plan, outlines the Strategic Plan goals, impediments to the goals, actions to remove the impediments, and the implications of taking such actions. Implementation of the Strategic Plan would result in changes in the current management of the Six Basins, improvements to existing facilities, and development of new facilities. Each project has elements of storage and yield management, recharge management and water quality management, and will require new monitoring for both design and implementation. Achievement of the Strategic Plan goals would result in the long-term sustainability (considering current use and future availability) of the water supply and the quality of that resource in order to guarantee a safe supply of potable water for the residential, commercial and industrial water users in the future. Therefore, although implementation of the proposed Strategic Plan would result in a more sustainable water supply for future water users, it would not directly or indirectly induce growth not already planned through the general plans of the cities overlying the Six Basins project area.

5.5 Effects Found Not to be Significant or that Would Not Occur with Strategic Plan Implementation

Effects found to not be significant or where no impact was identified, are addressed within the following sections of Chapter 4, Environmental Impact Evaluation, and are summarized in Chapter ES, *Executive Summary*, in Table 1-2, *Summary of Impacts and Mitigation Measures*.

6.0 Alternatives

6.1 Introduction

In accordance with CEQA Guidelines Section 15126.6, an EIR must describe and evaluate a range of reasonable alternatives to a project, or alternative locations for a project, that could feasibly attain most of the basic project objectives but avoid or substantially lessen any significant environmental impacts associated with the project. An EIR need not consider every conceivable alternative to a project and is not required to consider alternatives which are deemed to be infeasible. The lead agency shall select a range of project alternatives and disclose its reasoning for selecting those alternatives. This Draft Program EIR considers a reasonable range of feasible alternatives to facilitate informed decision making and public participation. A lead agency must select a range of project alternatives, governed only by the rule of reason, and disclose its reasoning for selecting those alternatives.

6.2 Development and Evaluation of Alternatives

CEQA Guidelines Section 15126.6(b) states that because an EIR must identify ways to mitigate or avoid significant environmental effects of a project, the analysis of alternatives shall focus on alternatives that are capable of avoiding or substantially lessening one or more significant environmental effects. In addition, Section 15126.6(c) states that an EIR must explain the rationale for selecting the alternatives to be evaluated and identify alternatives that were considered but rejected. Further, the lead agency is required to explain the reasons for rejecting alternatives (CEQA Guidelines, Section 15126.6(f)(1)). The factors that may be used to eliminate alternatives from detailed consideration in an EIR include, but are not limited to: (1) failure to meet most of the basic project objectives, (2) inability to avoid significant environmental impacts, and (3) infeasibility. When considering the feasibility of an alternative, the following factors may be considered: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability to reasonably acquire, control, or otherwise have access to the alternative site.

CEQA Guidelines Section 15126.6(d) states that an EIR shall include sufficient information about each alternative to allow a meaningful evaluation, analysis, and comparison with the proposed project, or in the case of the Strategic Plan, the proposed program for the future management of water resources in the Six Basins project area. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

CEQA Guidelines Section 15126.6(e)(1) states that the specific alternative of “no project” shall also be evaluated along with its impact. The purpose of describing and analyzing a no

project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline. CEQA Guidelines Section 15126.6 (3)(A) states that: *When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically, this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.*

For the evaluation of the Strategic Plan, the No Project Alternative is the Baseline Alternative which is the continuation of coordinated water management activities of the Six Basins Watermaster Parties as currently conducted under the Judgment, without implementation of the Strategic Plan. The pumping and storage rights for the Six Basins were adjudicated in 1998 through a stipulated judgment (Judgment) titled *Southern California Water Company vs. City of La Verne, et al.*, in the Superior Court of California for the County of Los Angeles (Case No. KC029152). The Judgment prescribes a physical solution for the coordinated management of the Six Basins with the objective that the Parties to the Judgment can reliably pump their respective rights and maximize the beneficial use of groundwater. While the Court maintains continuing jurisdiction over the Judgment, the Judgment also established a Watermaster to implement the physical solution.

Finally, CEQA Guidelines Section 15126.6(e)(2) states that ... If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

6.2.1 Alternatives Considered and Rejected

In response to the Notice of Preparation, the California Department of Fish and Wildlife (CDFW), requested that an alternative location to the development of a new recharge basin at the SASG be considered. In the past, Watermaster has considered utilizing one of the existing aggregate mine pits located in the SASG on the east side of the San Antonio Creek channel. Figure 2-8 in Chapter 2, *Existing Conditions*, shows the entirety of the SASG including a number of existing man-made features such as the San Antonio Dam; LACFCD spreading grounds; SAWCo spreading grounds; San Antonio Creek channel; Southern California Edison (SCE) transmission lines, towers and footings; and the four existing aggregate mine pits that are a part of the larger Holiday Rock Foothill mine site. Currently, Pit 6 is not being excavated and there may be an opportunity to utilize that pit for groundwater recharge. However, this alternative site was rejected from consideration for the following reasons:

1. Although no mining is currently conducted in this pit, there is an opportunity for the mine operator, Holliday Rock, to recommence mining by breaching the wall between pits 5 (active mine site) and 6 to recover aggregate material. This would allow the operator to continue mining and conveying the material for processing to the existing Foothill Plant, located south of Baseline Road.
2. Because Pit 6 is inactive but not closed/reclaimed, utilizing it for stormwater recharge and supplemental (recycled) water recharge would preclude the site from being used for its intended purpose.
3. In the future, when excavation of aggregate material from these pits is completed, the site would be reclaimed by the operator and would revert back to PVPA to be used for groundwater recharge. However, this scenario is not anticipated to occur for several years, and it is the Watermaster’s intention to implement the Strategic Plan, including the development of a new recharge basin at the SASG in the reasonably foreseeable future, thus the need for a new recharge basin dedicated for groundwater recharge.

6.3 Strategic Plan Program

6.3.1 Strategic Plan Goals

The Strategic Plan is included in the Program EIR in Appendix I.1, and the Draft Technical Memo on Conjunctive Water Management (CWM) Alternatives is included in Appendix I.2. Finally, the Reconnaissance-Level Recharge Study prepared to identify and evaluate potential locations for new MS4 stormwater recharge basins, is included in Appendix I.3.

The Six Basins Strategic Plan is a long-term conjunctive water management (CWM) program proposed by the Watermaster Parties to increase groundwater recharge, increase water storage and decrease the reliance on State supplied water within a portion of the eastern San Gabriel Valley known as the Six Basins. Implementation of the Strategic Plan includes two elements: 1) a planning element consisting of the development of an updated Operating Plan (last updated in 2012) for storage and recovery agreements, special projects and temporary surplus; and 2) a physical element consisting of the construction of new facilities and/or improvements to existing facilities, and on-going operation/maintenance of those facilities.

Watermaster Parties goals include the following:

Goal No. 1 – Enhance Water Supplies. Watermaster Parties desire to have a diverse, cost-effective water supply portfolio that will allow them to reliably meet their water demands now and into the future. Imported water has long been a vital supply but is becoming increasingly more expensive, and its reliability is threatened by natural disasters, climate change, and changing environmental regulations. Maximizing the sustainable use of local water supplies, including groundwater, surface water, and recycled water to meet future demands is the focus of the Watermaster Parties.

Goal No. 2 – Enhance Basin Management. Enhancing the groundwater supply means increasing the yield which will require advanced basin management beyond that which is provided for in the Judgment. To achieve this goal, the Parties must find ways to increase recharge, increase storage, increase pumping rates, and reduce losses in a coordinated and cost-effective manner. Maximizing the use of local water supplies may necessitate partnerships with other local groundwater basins or water-supply agencies to maximize the use of assets, such as surface-water availability, storage capacity, recharge capacity, and funding. No harm must come without mitigation to the Parties, the groundwater basins, or the environment from the activities to enhance basin management.

Goal No. 3 – Protect and Enhance Water Quality. Watermaster Parties desire to improve groundwater quality in the Six Basins and deliver water that is safe and suitable for the intended beneficial use and meets all applicable regulatory standards. Management of groundwater quality, through the cleanup of point-source contamination and control of salt and nutrient accumulation, is essential to ensuring the long-term reliability of the groundwater supply in a cost-effective manner.

Goal No. 4 – Equitably Finance the Strategic Plan. The primary source of revenue to finance the development and implementation of the Strategic Plan are the consumers of Six Basins groundwater, but other sources of revenue will be aggressively pursued. The policies and agreements to implement the Strategic Plan will ensure an equitable distribution costs relative to the benefits.

6.4 Evaluation of Alternatives

Conjunctive water management is currently practiced in the Six Basins largely through PVPA's efforts to divert and recharge stormwater and the Parties' efforts to recover that recharge via groundwater production pursuant to the physical solution in the Judgment. In practice, conjunctive water management has worked well with two exceptions: (1) PVPA generally diverts all the stormwater discharge from San Antonio Creek except for the largest storm events and when the threat of high groundwater conditions is manifested; and (2) existing production capacity and conveyance are not adequate to manage high and low groundwater conditions. Stated another way, the recharge capability at the SASG is large compared to the storage space in the basin to regulate recharge, and the location and production capacity of wells are not currently optimized to prevent high groundwater conditions in wet periods and to maintain production during dry periods.

The main source of groundwater replenishment to the Six Basins is surface-water runoff from precipitation that falls on the San Gabriel Mountains and recharges at spreading grounds located along the foot of the mountain range predominantly at the SASG, but to a lesser extent at the TCSG and LOSG. The Watermaster Parties that pump groundwater from the Six Basins also use imported surface water from MWDSC for artificial recharge at the spreading grounds and for direct consumptive uses.

In the preparation of the Strategic Plan the project engineer took into consideration the availability of current and future water supplies and considered possible fluctuations in demand forecasts due to historic climate patterns as well as potential impacts associated with climate change which is altering hydrologic conditions statewide. Therefore, the focus of the Alternatives analysis is to evaluate alternative CWM programs including the Baseline Alternative which is currently practiced in the Six Basins under the Judgement, largely through PVPA's stormwater diversion and recharge activities in the SASG and TCSG, and the Watermaster Parties efforts to recover that recharged water via groundwater pumping pursuant to the physical solution in the Judgement. However, under current practices CWM is constrained by a number of impediments including:

- Not all stormwater runoff is diverted and recharged during very wet years, which is considered a permanent lost opportunity for recharge.
- The threat of high groundwater conditions can limit the amount of stormwater spread in spreading grounds in wet years, which limits the ability to “maximize” the use of local and imported surface-water supplies during wet periods.
- The location, pumping capacity, and operation of wells are not coordinated or optimized among the Parties to increase pumping during dry periods or to prevent high groundwater conditions during wet periods.
- Poor groundwater quality in the Pomona Basin (the largest of the Six Basins) is a barrier to increasing pumping during dry periods.
- High groundwater in the Pomona Basin limits its unused storage space that is necessary to store water during wet periods.
- There is no Watermaster-approved Storage and Recovery Agreement between Parties for managing groundwater storage in the Pomona Basin.

The planning period evaluated for the Alternatives is between 2018 and 2075, a period of 58 years, and is based on the historical calibration period of 1960 -2017.

The Strategic Plan also identified a number of environmental impacts associated with groundwater recharge and groundwater pumping in the Six Basins that may occur should the Strategic Plan not be implemented (Baseline Alternative). The Strategic Plan describes various projects, that if constructed and operated in a coordinated fashion with existing water-supply infrastructure, could minimize or eliminate these constraints to implement a more robust CWM program in the Six Basins (the Project), and thereby, achieve the objectives of the Strategic Plan. These impacts are as follows:

1. *Chronic Lowering of Groundwater Levels.* Chronic lowering of groundwater levels indicates overdraft. Potential adverse impacts of overdraft include (1) increased pumping lifts that result in increased pumping costs, (2) land subsidence, (3) water of unusable quality migrating and making a groundwater supply unusable.
2. *Threat of High Groundwater.* Historically, high groundwater problems have occurred in the City of Claremont, in the active sand and gravel mining pits on the east side of the SASG, and within the City of Pomona in the Palomares Cienega (see Figure 2-12 in

Chapter 2, *Existing Conditions*, for the location of this feature). High groundwater is problematic because it can (1) impact infrastructure through flooding, (2) reduce the yield of the Six Basins by increasing outflow from the Six Basins and/or limiting the volume of stormwater recharge that can occur during wet periods, and (3) cause liquefaction hazards during earthquakes. In 2017 the Watermaster Board-adopted a methodology to evaluate the threat of high groundwater conditions, high groundwater conditions are defined to occur when groundwater levels rise to within 40 feet of the ground surface and is referred as the “liquefaction threshold.”

3. *Pumping Sustainability at Wells.* Sustainability refers specifically to the ability to pump water from a specific well at a desired production rate, given the groundwater level at that well, its specific well construction, and current equipment details. Pumping sustainability becomes a concern if a Strategic Plan project would cause groundwater levels to fall below the sustainability metric at the Parties’ wells when the stored water is removed.
4. *Developed Yield.* The developed yield in the Six Basins is the annual average yield that is pumped from the basin over a finite period of time then corrected for the change in groundwater storage and the volume of supplemental water recharge that occurs during the period. The developed yield is reflective of the hydrology and water management practices of that period. Developed yield is a key factor in the calculation of the Operating Safe Yield (OSY) of the Six Basins, and therefore a reduction in developed yield would cause a reduction on the OSY (water available for distribution).
5. *Subsurface Outflow from the Six Basins to the Chino Basin.* Subsurface outflow to the Chino Basin occurs across the San Jose Fault (southeast portion of the project area). An increase in subsurface outflow to the Chino Basin suggests a loss of developed yield for the Six Basins. A decrease in subsurface outflow to the Chino Basin could be a significant impact to the beneficial uses and users in the Chino Basin.

Table 6-1, *Strategic Plan Projects – Capacity and New Facilities by Project Type*, lists the proposed projects by project type and the new facilities that would be developed at each project site under the Strategic Plan program. As shown in this table, the approximate increase in capacity for projects in Project Category 2 is unknown at this time. Project Category 4 consists of the development and implementation of groundwater monitoring programs to support the design of new projects in Project Categories 2 and 3. The objectives of the Watermaster’s cooperative data collection and monitoring programs are to support the implementation of the Judgment, improve the understanding of the Six Basins hydrogeology, and support the implementation of the Strategic Plan program. For example, the first project in Project Category 2 is to develop monitoring facilities at the SASG in order to determine the optimum location, size and depth of the proposed new recharge basin. The results of this monitoring activity would be used to identify the approximate increase in the capacity at the SASG.

Table 6-1 Strategic Plan Projects – Capacity and New Facilities by Project Type

Project Name	New Facilities¹	Approximate Increase in Capacity
<i>Project Category 1 Pump and Treat</i>		
Pomona Reservoir 5	Treatment facilities	2,000 acre-ft/yr
La Verne Lincoln/Mills	Treatment facilities	1,000 acre-ft/yr
Del Monte 4	Treatment facilities	800 acre-ft/yr
La Verne Old Baldy	Treatment and conveyance facilities	800 acre-ft/yr
Durward 2	Well and treatment facilities	600 acre-ft/yr
<i>Total Pump and Treat Capacity</i>		<i>5,200 acre-ft/yr of increased pumping</i>
<i>Project Category 2 Stormwater and Supplemental Recharge</i>		
Stormwater at the SASG	Recharge and monitoring facilities	Unknown
Stormwater at the TCSG	Recharge and conveyance facilities	
Supplemental water at PSG	Conveyance facilities	
Stormwater and supplemental water at the Fairplex	Recharge and conveyance facilities	
MS4 recharge projects	Recharge and conveyance facilities	
Supplemental water at SASG	Conveyance facilities for recycled water. None for imported water	
Supplemental water at TCSG	Conveyance facilities	
<i>Total Recharge Capacity</i>		<i>Unknown</i>
<i>Project Category 3 Temporary Surplus</i>		
Existing unused pumping capacity	Conveyance facilities	< 500 acre-ft/month
P-20	None	80 acre-ft/month
New well(s)	Well(s) and conveyance facilities	< 125 acre-ft/month
<i>Total Temporary Surplus Capacity</i>		<i>6,345 acre-ft/yr of increased pumping during wet periods (April to December)</i>

Source: WEI, Inc., *Development and Evaluation of Conjunctive Water Management Alternatives to Support the Program Environmental Impact Report (PEIR) for the Strategic Plan for the Six Basins, October 2020, Table 2.*

Notes:

1. New facilities under Project Category 3 include interconnects between new wells and treatment facilities, or between the Pomona WRP and the new recharge basin at the SASG.

Implementation of the one of the three CWM alternatives including Alternative CWM-2 -the Strategic Plan - would result in changes in the current management of the Six Basins, improvements to existing facilities, and development of new facilities. Each project has elements of storage and yield management, recharge management and water quality management, and will require new monitoring for both design and implementation. Therefore, the focus of this Alternatives analysis is on the impacts associated with the implementation of the Strategic Plan, and how each of the CWM alternatives would meet the Parties goals while addressing the five impacts to groundwater hydrology identified above.

Table 6-2, *Projects Developed Under the Strategic Plan and CWM Alternatives*, lists the projects that would be implemented under the Strategic Plan and each of the CWM alternatives. The Baseline Alternative is the No Project Alternative where Watermaster Parties would continue with existing programs with no implementation of the Strategic Plan. Therefore, there are no new projects proposed in the Baseline Alternative.

Table 6-2 Projects Developed Under the Strategic Plan and CWM Alternatives

PID ¹	Descriptions ²	Strategic Plan (Alternative CWM-2)	Baseline Alternative	Alternative CWM-1	Alternative CWM-3
<i>Pump and Treat²</i>					
a	Pomona Reservoir 5	X	--	X	X
b	La Verne Lincoln/Mills	X	--	X	X
c	Del Monte 4	X	--	X	X
d	La Verne Old Baldy	X	--		X
e	Durward 2	X	--		X
<i>Recharge Improvements</i>					
f	Enhance Stormwater Recharge at the SASG	X	--	--	X
g ³	Enhance Supplemental-Water Recharge at the SASG	X	--	--	X
h ⁴	Enhance Stormwater Recharge at the TCSG	X	--	--	X
i	Supplemental-Water Recharge at the TCSG	X	--	--	X
j ⁵	Enhance Stormwater Recharge at the PSG	X	--	--	X
k ⁶	Recharge Stormwater/Supplemental Water at the LA County Fairplex	X	--	--	X
n	Enhance Stormwater Recharge through MS4 Compliance		--	--	X
o ⁷	Create a Conservation Pool Behind San Antonio Dam	--	--	--	--
<i>Temporary Surplus</i>					
l ⁸	Construct Interconnections between water supply agencies	X	--	--	X
m ⁹	Rehabilitate P-20 and a Wellhead Treatment Facility	X	--	--	X
p ¹⁰	Construct New Production Wells	X	--	--	X

Source: Wildermuth Environmental, Inc., *Final Strategic Plan for the Six Basins, November 2017, Table 6-2*, and Wildermuth Environmental, Inc., *Draft Memorandum of Alternatives, November 220, Table 6*.

Notes:

1. Project Identification Number. Projects that would be developed under each of the CWM alternatives are shown in Figures 6-2.
2. For CWM Alternatives, it was assumed that unused capacity at existing well sites (Project Category 1) would be maximized. For CWM-2 and CWM-3, this assumption also applies to the P-20 well site.

6.4.1 Baseline Alternative

The groundwater model developed to evaluate potential hydrologic impacts associated with increased recharge and pumping rates, identified four alternatives including the Baseline Alternative. The Baseline Alternative represents the continuation of coordinated water management activities of the Six Basins Watermaster Parties as currently conducted, without implementation of the Strategic Plan. At the end of this section is a series of tables summarizing the model data for each alternative and the relationship between the alternatives and the Baseline Alternative. Table 6-3, *Model Estimated Rising Groundwater in the Six Basins (acre-ft/yr)*, Table 6-4, *Model Estimated Developed Yield in the Six Basins (acre-ft/yr)*, and 6-5, *Model-Estimated Subsurface Outflow to the Chino Basin (acre-ft/yr)*.

Under the Baseline Alternative, the model showed that the following would occur:

- *Chronic Lowering of Groundwater Levels.* The groundwater model found that in the Baseline Alternative there is no chronic lowering of water levels.
- *Threat of Rising Groundwater Levels.* The iterative modeling process to determine the appropriate OSY formula for the Baseline Alternative indicated that rising groundwater could not be mitigated through the OSY. Therefore, the future occurrence of rising groundwater would be best mitigated through the implementation of the Strategic Plan or one of the two other CWM alternatives that include the pumping of a Temporary Surplus and/or pump-and-treat projects in the Pomona, Live Oak and Ganesha Basins.
- *Pumping Sustainability.* The wells with pumping sustainability challenges during dry periods are mostly located in the UCHB, where water levels tend to fluctuate significantly between wet and dry periods. Therefore, under the Baseline Alternative, pumping sustainability, at least in the UCHB would continue to be problematic.
- *Developed Yield.* The long-term average developed yield was about 18,500 acre-ft/yr for the Baseline Alternative—about 500 acre-ft/yr more compared to the historical calibration period.
- *Subsurface Outflow to the Chino Basin.* The long-term average subsurface outflow to the Chino Basin was approximately 6,400 acre-ft/yr for the Baseline Alternative – about 800 acre-ft/yr less compared to the historical calibration period 1960-2017.

6.4.2 Alternative Conjunctive Water Management - 1

CWM Alternative 1 represents the first permutation on the Strategic Plan evaluated in the Draft Memorandum of Alternatives, utilizing a set of operating rules for puts (recharge), takes (pumping), and holds (storage) based on a statistical characterization of the precipitation and recharge of the planning period hydrology. Under Alternative CWM-1, no new recharge facilities (Project Category 2) were included. Therefore, under this alternative, construction and operation of the new recharge basin at the SASG, expansion of the recharge pits at the TCSG, expansion of the existing basins at the PSG, or the new underground infiltration gallery would not occur, however recharge would continue in existing basins. In

addition, three out of the five pump and treat projects in Project Category 1 would be implemented (Reservoir 5, Lincoln/Mills, and Del Monte 4) and the Old Baldy and Durward 2 wells would not be upgraded. Finally, Temporary Surplus (Project Category 3) projects would not be implemented. Instead, Alternative CWM-1 assumed that temporary surplus would come from the unused capacity in existing wells in the UCHB. No improvements to Pomona’s P-20 well site would be made, and no new wells would be developed.

Under the CWM-1 Alternative, the model showed that the following would occur:

Chronic Lowering of Groundwater Levels. Alternative CWM-1 is projected to result in a less than significant impact relative to chronic lowering of groundwater levels.

Threat of Rising Groundwater. Alternative CWM-1 is projected to result in a less than significant impact. This is due to the increase in pumping capacity at sites identified in Project Category 1 – Pump and Treat – to lower groundwater levels and reduce occurrences of high groundwater in a more predictable and controlled manner relative to the Baseline Alternative.

Pumping Sustainability. Alternative CWM-1 is not projected to cause greater pumping sustainability impacts relative to the Baseline Alternative resulting in a less than significant impact.

Developed Yield. Alternative CWM-1 is projected to result in an increase in developed yield relative to the Baseline Alternative resulting in a less than significant impact.

Subsurface Outflow to the Chino Basin. Alternative CWM-1 is projected to result in a negligible change in subsurface outflow to the Chino Basin relative to the Baseline Alternative resulting in a less than significant impact.

6.4.3 Alternative Conjunctive Water Management – 2 (Strategic Plan)

Alternative CWM-2 is the implementation of the Strategic Plan program as listed in Table 6-1. The groundwater model concluded that under Alternative CWM-2, the potential for adverse hydrologic impacts is less than significant.

Chronic Lowering of Groundwater Levels. Alternative CWM-2 is projected to result in chronic a less than significant impact relative to lowering of groundwater levels.

Threat of Rising Groundwater. Alternative CWM-2 is projected to result in a less than significant impact. This is due to the increase in pumping capacity at sites identified in Project Category 1 – Pump and Treat – to lower groundwater levels and reduce occurrences of high groundwater in a more predictable and controlled manner relative to the Baseline Alternative.

Pumping Sustainability. Alternative CWM-2 is not projected to cause greater pumping sustainability impacts relative to the Baseline Alternative resulting in a less than significant impact.

Developed Yield. Alternative CWM-2 is projected to result in an increase in developed yield relative to the Baseline Alternative resulting in a less than significant impact.

Subsurface Outflow to the Chino Basin. Alternative CWM-2 is projected to result in no change in subsurface outflow to the Chino Basin relative to the Baseline Alternative resulting in a less than significant impact.

6.4.4 Alternative Conjunctive Water Management - 3

Alternative CWM-3 is similar to the Strategic Plan Alternative (CWM-2), except that the expected stormwater recharge from future MS4 recharge projects whereby urban stormwater is captured in storm drains and conveyed to new recharge facilities, not known at the time of the publication of the Notice of Preparation for the Program EIR. There are two MS4 projects that were identified in Chapter 3, *Project Description*. The expansion of the Pedley Spreading Grounds project and the development of an underground infiltration gallery at the Los Angeles County Fairplex site. Adding these additional MS4 projects provides an additional recharge source to the Six Basins. Under CWM-3, it is assumed that the recharge from the MS4 recharge projects is recovered (pumped) the same year as it is recharged.

The groundwater model concluded that under Alternative CWM-3, the potential for adverse hydrologic impacts is less than significant. The reasons behind this conclusion are summarized herein for each potential adverse impact.

Chronic Lowering of Groundwater Levels. Alternative CWM-3 is projected to result in a less than significant impact relative to chronic lowering of groundwater levels.

Threat of Rising Groundwater. Alternative CWM-3 is projected to result in a less than significant impact. This is due to the increase in pumping capacity at sites identified in Project Category 1 – Pump and Treat – to lower groundwater levels and reduce occurrences of high groundwater in a more predictable and controlled manner relative to the Baseline Alternative.

Pumping Sustainability. Alternative CWM-3 is not projected to cause greater pumping sustainability impacts relative to the Baseline Alternative resulting in a less than significant impact.

Developed Yield. Alternative CWM-3 is projected to result in an increase in developed yield relative to the Baseline Alternative resulting in a less than significant impact.

Subsurface Outflow to the Chino Basin. Alternative CWM-3 is projected to result in a negligible change in subsurface outflow to the Chino Basin relative to the Baseline Alternative resulting in a less than significant impact.

Tables 6-3 Model Estimated Rising Groundwater in the Six Basins (acre-ft/yr)

Sub-Basin	Baseline Average	CWM-1			Strategic Plan (CWM-2)			CWM-3		
		Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline
UCHB	83	19	-64	-77%	28	-55	-66%	34	-49	-59%
Two Basins ¹	918	825	-93	-10%	879	-39	-4%	915	-3	-0.3%
Pomona Basin	508	335	-173	-34%	269	-239	-47%	228	-280	-55%
Six Basins	1,509	1,179	-330	-22%	1,176	-333	-22%	1,177	-332	-22%

Source: WEI, Inc., Development and Evaluation of Conjunctive Water Management Alternatives to Support the Program Environmental Impact Report (PEIR) for the Strategic Plan for the Six Basins, October 020, Table E.

Notes:

1. Two Basins refers to the Ganesha and Lie Oak Basins, the two basins that are solely used by the City of La Verne.

Table 6-4 Model Estimated Developed Yield in the Six Basins (acre-ft/yr)

Sub-Basin	Baseline Average	CWM-1			CWM-2			CWM-3		
		Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline
UCHB	9,568	10,139	570	6%	9,759	190	2%	10,373	805	8%
Two Basins ¹	1,994	1,956	-39	-2%	2,082	88	4%	2,188	194	10%
Pomona Basin	6,988	6,763	-225	-3%	7,062	74	1%	7,837	849	12%
Six Basins	18,551	18,858	307	2%	18,903	352	2%	20,398	1,847	10%

Source: WEI, Inc., Development and Evaluation of Conjunctive Water Management Alternatives to Support the Program Environmental Impact Report (PEIR) for the Strategic Plan for the Six Basins, October 020, Table F.

Notes:

1. Two Basins refers to the Ganesha and Lie Oak Basins, the two basins that are solely used by the City of La Verne.

Table 6-5 Model Estimated Subsurface Outflow to the Chino Basin (acre-ft/yr)

Sub-Basin	Baseline Average	CWM-1			CWM-2			CWM-3		
		Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline	Average	Change from Baseline	Percent Change from Baseline
UCHB	3,093	3,062	-31	-1%	3,067	-26	-0.8%	3,073	-20	0.6%
Pomona Basin	3,299	3,354	55	2%	3,307	8	0.2%	3,273	-26	-0.8%
Six Basins	6,392	6,416	24	0.3%	6,374	-18	-0.2%	6,346	-46	-0.7%

Source: WEI, Inc., *Development and Evaluation of Conjunctive Water Management Alternatives to Support the Program Environmental Impact Report (PEIR) for the Strategic Plan for the Six Basins, October 020, Table G.*

6.4.5 Summary of CWM Alternatives Analysis

Table 6-3 shows that rising groundwater discharge increases as total storage increases, and vice versa. The table summarizes the average rising groundwater discharge from the UCHB, Ganesha Basin, Live Oak Basin and Pomona Basin, and the Six Basins for the Baseline and each CWM alternative. All Project alternatives cause decreases in rising groundwater discharge compared to the Baseline.

Chronic Lowering of Groundwater Levels. The groundwater model showed that each of the Strategic Plan alternatives generally result in lower groundwater levels compared to the Baseline alternative.

Alternative CWM-1 – analysis of this alternative showed that there was a water-level decrease of up to 60 feet in the UCHB in the southern part of the SASG – compared to 30 feet in the Baseline. The additional 30-foot decrease in water levels compared to the Baseline is likely as a result of the Temporary Surplus pumping. Alternative CWM-1 resulted in a water-level decrease of up to 40 feet in the Pomona Basin and 20 feet in the Ganesha and Live Oak Basins – compared to 30 feet and 10 feet. The additional 10 feet of water level decrease in these subbasins is likely due to both the Temporary Surplus, which may reduce the subsurface outflow from the UCHB to those basins and the Pomona Basin, and due to the takes in the storage program.

Alternative CWM-2 (Strategic Plan) – analysis of this alternative showed that there were water-level decreases in the UCHB similar to those observed in CWM-1. This suggests that the additional Temporary Surplus pumping in CWM-2 compared to CWM-1 did not significantly impact water levels in the UCHB. The CWM-2 Alternative resulted in a water-level decrease of up to 90 feet in the Pomona Basin and 70 feet in the Ganesha and Live Oak

basins – compared to 30 feet and 10 feet – as a result of the larger storage program compared to CWM-1.

Alternative CWM-3 – analysis of this alternative showed that there was a water-level decrease of up to 40 feet in the UCHB in the southern part of the SASG – compared to 30 feet in the Baseline Alternative and 60 feet in CWM-1 and CWM-2 alternatives. This suggests that the recharge from the MS4 facilities helped mitigate some of the lowering of water levels observed in CWM-1 and -2. The CWM-3 alternative resulted in a water-level decrease in the Ganesha and Live Oak basins and Pomona Basin similar to that observed in CWM-2. This suggests that the recharge from the MS4 facilities within the Ganesha and Live Oak basins and the Pomona Basin did not significantly impact water-levels in this area.

Based on the observations from the Draft Memorandum of Alternatives, implementation of any of the CWM alternatives would result in operating at lower groundwater levels when compared to the Baseline Alternative, but no indication of chronic lowering of persistent downward trend of groundwater levels.

Threat of Rising Groundwater. The results of the groundwater model on the threat of rising groundwater are shown in Table 6-3. The groundwater model showed that each of the CWM alternatives generally result in lower groundwater levels compared to the Baseline Alternative, which reduces the occurrences and duration of high groundwater levels during wet periods. The lower groundwater levels of the CWM alternatives in the UCHB are caused by the pumping of the Temporary Surplus and in the Pomona and Ganesha basins due to increased pumping during takes from the storage program.

Pumping Sustainability. The groundwater model estimated water levels at selected wells in each of the primary subbasins for the Baseline and the three CWM alternatives. The result was that implementation of any of the CWM alternatives would generally result in lower groundwater levels compared to the Baseline Alternative. However, this does not appear to impact the pumping sustainability at wells that were selected for analysis.

Developed Yield. The results of the groundwater model on the developed yield are shown in Table 6-4. The developed yield of the Six Basins is estimated to be higher under the CWM alternatives when compared to the Baseline Alternative.

Alternative CWM-1 – the analysis showed that with implementation of Alternative CWM-1 there would be a decrease in developed yield in the Ganesha and Live Oak basins and the Pomona Basin, but an increase in developed yield in the UCHB; the overall increase in developed yield in the Six Basins was approximately 300 acre-ft or 2 percent over the Baseline Alternative.

Alternative CWM-2 (Strategic Plan) – the analysis showed that with implementation of the Strategic Plan there would be an increase in developed yield in all sub-basins; the overall increase in developed yield in the Six Basins was approximately 350 acre-ft or 2 percent over the Baseline Alternative.

Alternative CWM-3 – the analysis showed that with implementation of Alternative CWM-3 the largest increase in developed yield would occur in the Six Basins; 1,847 acre-ft/yr or 10 percent over the Baseline Alternative. This suggests that the recharge from the MS4 projects, and the subsequent recovery of this recharge, result in an increase in yield in the Six Basins.

Subsurface Outflow to the Chino Basin. The increases in developed yield are likely due to the operation of the basins at a lower storage level, which reduces the outflow through rising groundwater and, in the case of CWM-2 and -3, the subsurface outflow to the Chino Basin. Table 6-5 shows a minimal change in subsurface outflow to the Chino Basin for each alternative when compared to the Baseline Alternative.

6.4.6 Conclusions and Recommendations for Implementation of a CWM Alternative

Implementation of the Strategic Plan (CWM-2) or one of the other two CWM alternatives are physically feasible based on the model-estimated hydrologic responses and the potential adverse impacts that were evaluated in the Strategic Plan or in the Draft Memorandum of Alternatives. Additionally, implementation of the Strategic Plan or one of the CWM alternatives would improve the water-supply reliability of the Six Basins Parties by (1) providing an additional local groundwater supply during dry periods through the operation of a dry-year storage account and (2) increasing the yield of the basin. Finally, implementation of the Strategic Plan or one of the CWM alternatives would maximize the use of local resources during wet periods by implementing a Temporary Surplus.

The potential for adverse hydrologic impacts associated with the Strategic Plan or either of the two other CWM alternatives have been evaluated and have been found to result in less than significant impacts for the groundwater impacts identified in the Strategic Plan. The reasons behind this conclusion are summarized below for each potential adverse impact, along with potential monitoring strategies.

Threat of High Groundwater

- Implementation of the Strategic Plan or either of the CWM alternatives are projected to decrease the threat of high groundwater in the Six Basins relative to the Baseline alternative due to lower groundwater levels and reduced occurrences of high groundwater.
- Under existing conditions Watermaster conducts comprehensive groundwater-level monitoring and modeling. Additionally, Watermaster has a methodology to curtail spreading to mitigate the threat of rising groundwater. The information developed from these efforts (Project Category 4) will be used to identify potential for high groundwater and to develop requirements to minimize for these impacts. Potential operating requirements includes: (1) modifying the put and take cycles to minimize impacts the threat of rising groundwater, (2) strategically re-distributing supplemental water recharge to minimize the threat of rising groundwater, (3) curtail

spreading per Watermaster’s methodology and deduct the estimated reductions in spreading from the responsible party’s Storage and Recovery account, (4) construct and operate pumping facilities in the areas of concern to eliminate the threat of rising groundwater, (5) a combination of (1) through (4), and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Pumping Sustainability

- Implementation of the Strategic Plan or either of the other CWM alternatives are not projected to cause greater pumping sustainability impacts relative to the Baseline alternative.
- Under existing conditions Watermaster conducts a comprehensive groundwater-level monitoring program across the basin. The information developed from this monitoring program (Project Category 4) will be used to identify potential impacts on pumping sustainability and to develop operating requirements to mitigate for these impacts. Potential operating strategies includes: (1) modifying the put and take cycles to minimize impacts to pumping sustainability, (2) strategically increasing supplemental water recharge to mitigate loss of pumping sustainability, (3) modifying a party’s affected well (e.g., lowering pump bowls), (4) providing an alternate supply to the affected party to ensure it can meet its demands, (5) a combination of (1) through (4), and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Chronic Lowering of Groundwater Levels

- Implementation of the Strategic Plan or one of the other CWM alternatives are projected to result in lower groundwater levels compared to the Baseline Alternative, but in neither the Strategic Plan nor one of the other alternatives is there evidence of chronic lowering of groundwater levels that would indicate a persistent state of overdraft.
- Under existing conditions, Watermaster conducts a comprehensive groundwater-level monitoring program. The information developed from this monitoring program (Project Category 4) will be used to identify potential impacts on groundwater-levels in the basin and to develop operating requirements for these impacts. Potential operating strategies include: (1) modifying the put and take cycles to minimize the potential chronic lowering of groundwater levels, (2) strategically increasing supplemental water recharge to mitigate chronic lowering of groundwater levels, (3) a combination of (1) and (2), and (4) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

Developed Yield

- Implementation of the Strategic Plan or one of the other CWM alternatives are projected to result in an increase in developed yield relative to the Baseline Alternative.
- The information developed from the Watermaster’s monitoring programs will be used to identify potential impacts on the developed yield of the basin and to develop operating requirements to minimize these impacts. Potential operating strategies include: (1) modifying the put and take cycles to minimize impacts to developed yield, (2) strategically increasing supplemental water recharge to mitigate any reductions in developed yield, (3) deduct the estimated decrease in developed yield from the storage account, (4) strategically increase pumping in areas that will eliminate the decrease in developed yield, (5) a combination of (1) through (4), and (6) a periodic model recalibration and use of the model to estimate the impacts of the Strategic Plan program on developed yield.

Subsurface Outflow to the Chino Basin

- Implementation of the Strategic Plan or one of the other CWM alternatives is projected to result in a negligible change in subsurface outflow to the Chino Basin relative to the Baseline alternative.
- Under existing conditions, Watermaster conducts comprehensive groundwater-level monitoring and modeling. If the data collected through the monitoring program indicate chronic lowering of groundwater levels along the Chino Basin boundary, Watermaster will evaluate potential impacts to the Chino Basin through modeling and develop operating strategies to minimize, if appropriate.

In addition to the proposed operating strategies described above, Watermaster is in the process of updating its Operating Plan to include procedures that will enable the Watermaster to identify potential impacts and additional strategies or measures when projects are proposed and as they are implemented:

- A procedure to analyze projects for the potential to cause substantial injury. The objective of the procedure is to establish a standard process to decide whether a project should be evaluated for the potential to cause substantial injury, and if so, to conduct the evaluation. This procedure will allow Watermaster to review the potential impacts of specific projects prior to their implementation. And for projects that require Watermaster approval, it will enable Watermaster to develop terms and conditions for the approval of such projects.
- A procedure for developing storage and recovery agreements that takes into consideration the potential impacts described herein.
- A procedure for implementing a Temporary Surplus. The objective of the procedure is to establish the process to determine the timing and volume of implementing a Temporary Surplus to protect against the threat of high groundwater.

6.5 CEQA Required Evaluation of Alternatives

The Baseline Alternative and three CWM alternatives were selected for detailed analysis to determine how each alternative would affect groundwater hydrology in the Six Basins over the continuation of existing operating activities (Baseline Alternative). Tables 6-3, 6-4 and 6-5 compare the CWM Alternatives to the Baseline Alternative for impacts associated with groundwater hydrology.

The CEQA analysis of alternatives then compares the Baseline Alternative, Alternative CWM-1 and Alternative CWM-3 to the Strategic Plan (Alternative CWM-2) to determine how each of the alternatives would avoid or lessen the significant environmental effects of the Strategic Plan program (Alternative CWM-2), while attaining most of the Strategic Plan's goals and objectives. There were a number of significant impacts identified in Chapter 4, *Environmental Impact Analysis*, however, mitigation measures have been identified that would reduce these impacts to less than significant levels. Table ES-2 in Chapter ES, *Executive Summary*, is a summary matrix of environmental impacts, proposed mitigation measures, and the level of significance of the impact after mitigation has been implemented.

The following sections provide a general description of each alternative, its ability to meet the program objectives, and a qualitative discussion of its comparative environmental impacts. As provided in Section 15126.6(d) of the CEQA Guidelines, the significant effects of these alternatives are identified in less detail than the analysis of the Strategic Plan program in Chapter 4. Table 6-6, *Summary of Alternatives and Environmental Impacts*, compares the Baseline and CWM Alternatives 1 and 3 to the Strategic Plan.

6.5.1 Baseline (No Project) Alternative

For the Strategic Plan Program EIR, the Baseline (No Project) Alternative is the continuation of the Watermaster Parties water supply/water quality operations under the Judgement and in the absence of the implementation of the Six Basins Strategic Plan program. The Baseline alternative does not include the implementation of the Strategic Plan. As a result, there would be no construction activity when compared to the proposed Strategic Plan program. No new facilities or upgrades to existing facilities would result in no construction-related impacts to practically all resources. Impacts associated with siting of new wells and treatment facilities as well as the development of a new recharge basin in the SASG, and the expansion of recharge facilities in the TCSG and PSG would also be avoided. A comparison between the Baseline Alternative and the Strategic Plan is provided herein.

Aesthetics

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Aesthetics with mitigation (see Section 4.1). Under the Baseline Alternative, the project sites would remain the same as existing conditions, retaining their current visual character; therefore, no views of the site would be altered. Additionally, no new sources of light and glare would be created. Therefore, this alternative would have no

impacts to aesthetics, and would have fewer impacts compared to the proposed Strategic Plan program.

Agriculture and Forestry Resources

Implementation of the proposed Strategic Plan program would have no impact on agriculture and forestry resources (see Section 4.2). Under the Baseline Alternative there would be no impact to agriculture and forestry resources because no new pump and treat, water recharge or temporary surplus projects would be developed.

Table 6-6 Summary of Alternatives and Environmental Impacts

Environmental Topic	Strategic Plan (Alternative CWM-2)	Baseline Alternative	Alternative CWM-1	Alternative CWM-3
Aesthetics	LTSM	NI	Less	Similar
Agricultural/Forestry Resources	NI	NI	NI	NI
Air Quality	LTSM	Less	Less	Similar
Biological Resources	LTSM	NI	Less	Greater
Cultural/Tribal Cultural Resources	LTSM	NI	Less	Similar
Energy	LTSM	Less	Less	Similar
Environmental Justice	LTSM	NI	Similar	Similar
Geology/Soils	LTSM	NI	Less	Similar
Greenhouse Gas Emissions	LTSM	Less	Less	Similar
Hazards/ Hazardous Materials	LTSM	Less	Less	Similar
Hydrology/Water Quality	LTSM	NI	Less	Similar
Land Use/Planning	LTS	NI	Less	Similar
Mineral Resources	LTS	NI	Less	Similar
Noise and Vibration	LTSM	Less	Less	Similar
Paleontological Resources	LTSM	NI	Less	Similar
Population/Housing	NI	NI	NI	NI
Public Services	LTSM	Less	Similar	Similar
Recreation	NI	NI	NI	NI
Transportation	LTSM	Less	Similar	Similar
Utilities/Service Systems	LTSM	Less	Less	Similar
Wildfire	LTSM	Less	Less	Similar

Source: *Six Basins Program EIR, March 2021, Chapter 4, Environmental Impact Evaluation, Chapter 5, Other CEQA Required Sections, and Chapter 6, Alternatives.*

Notes: LTS= Less than Significant; LTSM = Less than Significant with Mitigation Incorporated; NI = No Impact

Air Quality and Greenhouse Gas Emissions

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Air Quality/Greenhouse Gas Emissions with mitigation (see Section 4.3). Under the Baseline Alternative, there would be no construction-related emissions (from construction activities, vehicles and equipment), and operations of existing facilities would not change from existing conditions. Therefore, the Baseline Alternative would have fewer impacts to air quality and greenhouse gas emissions (related to on-going operation of existing facilities only) compared to the proposed Strategic Plan program.

Biological Resources

Implementation of the proposed Strategic Plan and related projects would result in a less than significant impact to Biological Resources with mitigation (see Section 4.4). Under the Baseline Alternative, the project sites would not undergo construction or operation of new facilities on open land that may contain habitat, and therefore would not put candidate, sensitive, or special-status species at risk or impede any biological resource regulation, ordinance, or conservation plans. Therefore, the Baseline Alternative would have no impacts to biological resources or areas that may contain biological resources compared to the proposed Strategic Plan program.

Cultural Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Cultural Resources and Tribal Cultural Resources with mitigation (see Section 4.5). Construction of proposed projects have the potential to uncover archaeological resources and tribal cultural resources during ground disturbing activities. Under the Baseline Alternative, no ground disturbing activities would occur. Therefore, the Baseline Alternative would have no impacts to Cultural Resources and Tribal Cultural Resources compared to the proposed Strategic Plan program.

Energy

Implementation of the proposed Strategic Plan and related projects would result in a less than significant impact on Energy resources (see Section 4.15). The Energy Analysis prepared for the Strategic Plan concluded that required energy use for construction and operation of new projects is not anticipated to result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Under the Baseline Alternative, only existing facilities would be operation and no construction of new projects would occur. Therefore, there would be no change from existing conditions in the amount of energy consumed.

Environmental Justice

Implementation of the proposed Strategic Plan and related projects would result in a less than significant impact on low income and minority communities with mitigation (see Section 4.6). These measures are related to Air Quality, Hazards/Contamination, and Emergency Response. Regarding air quality and construction traffic control, under the Baseline Alternative, there would be no construction-related emissions (from construction activities, vehicles and equipment), and operations of existing facilities would not change compared with the proposed Strategic Plan program. However, under the Baseline Alternative, no upgrades to existing pump and treat sites, including upgrades to treatment facilities, or the development of new wells treatment facilities would occur. This represents a lost opportunity to identify sites where contaminated soils that may be contributing to groundwater contamination compared to the proposed Strategic Plan program. Thus, regarding groundwater contamination, the Baseline Alternative may result in a greater impact than that associated with the Strategic Plan.

Geology and Soils

Implementation of the proposed Strategic Plan program would result in a less than significant impact from hazards associated with Geology (seismic activity) and Soils (erosion) with mitigation (see Section 4.7). Under the Baseline Alternative, there would be no development and the potential effects associated with geology and soils, such as soil erosion during construction would occur. Therefore, the Baseline Alternative would have no impacts related to geology and soils compared to the proposed Strategic Plan program.

Hazards and Hazardous Materials

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Hazards and Hazardous Materials with mitigation (see Section 4.8). This section also evaluated Strategic Plan projects Airport Land Use Plan Compatibility and the potential for a new project to interfere with an Emergency Response Plan. Under the Baseline Alternative, no construction would occur and no new facilities would be placed on potential hazardous material sites, expose structures or persons to hazardous materials, be located within an Airport Safety Zone, or interfere with an agency's ability to respond to emergencies (e.g., police and fire). Therefore, the Baseline Alternative would have no impacts related to hazards and hazardous materials, airport safety zones, or emergency response planning efforts compared to the proposed Strategic Plan program.

Hydrology and Water Quality

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Hydrology and Water Quality with mitigation (see Section 4.9). Under the Baseline Alternative, there would be no development and thus no changes to the natural drainage patterns of any site, or to the potential to contribute to runoff into existing stormwater drainage systems that may exceed capacity or contribute additional pollution

into storm drains. However, there would be no opportunity to increase groundwater supplies, increase capacity at treatment facilities, or develop new wells and treatment facilities. This alternative would result in no new surface water quality impacts, but greater groundwater impacts by not implementing projects proposed to address groundwater contamination, and fluctuations in groundwater levels that could result in rising groundwater. Thus, regarding groundwater contamination, the Baseline Alternative may result in a greater impact than that associated with the Strategic Plan.

Land Use and Planning

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Land Use and Planning and no mitigation is required (see Section 4.10). The Strategic Plan program would not physically divide a community, or conflict with any applicable land use plan, policy, or regulations. Under the Baseline Alternative, no development would occur and project sites with existing facilities would remain in their current state. Sites where future projects may have been developed would not be developed with new wells or treatment facilities. As such, this alternative would not change existing land uses or have an effect on land use plans and policies related to the Six Basins project area, including Airport Safety Plans and SCAG's Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS).

Mineral Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Mineral Resources (see Section 4.7). Within the Six Basins project area, the eastern side of the SASG is used for extraction of aggregate resources (rock, gravel and sand associated with the alluvial plain). Similar aggregate material is also known in the TCSG. Development of a new recharge basin at the SASG and expansion of recharge facilities at the TCSG would result in the recovery of aggregate materials. Operation of the new basins would not preclude extraction of additional aggregate material in other areas within the SASG. Under the Baseline Alternative aggregate resources would be available for extraction in the future because no permanent structures such as buildings or roads would be developed at these site that would preclude extraction if proposed.

Noise

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Noise and Vibration with mitigation (see Section 4.11). Under the Baseline Alternative, there would be no construction or operation of new facilities so there would be no change to existing ambient noise levels, or new sources of vibration. Therefore, the Baseline Alternative would result in no new impacts from noise and vibration compared to the proposed Strategic Plan program.

Paleontological Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Paleontological Resources with mitigation (see Section 4.7). Construction of proposed projects have the potential to uncover paleontological resources during ground disturbing activities. Under the Baseline Alternative, no ground disturbing activities would occur to any known or unknown resources. The Baseline Alternative would have no impacts to Paleontological Resources compared to the proposed Strategic Plan program.

Population and Housing

Implementation of the proposed Strategic Plan program would not result in an increase in Population or directly induce growth that would require additional housing to be developed (see Section 4.12). Under the Baseline Alternative construction and operation of the projects would not occur, and accordingly there would be no potential impacts associated with construction. Therefore, similar to the proposed Strategic Plan, the Baseline Alternative would have no impacts on Population and Housing.

Public Services/Recreation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Public Services/Recreation with mitigation (see Section 4.13). The mitigation identified for Public Services is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. No other impacts were identified. Under the Baseline Alternative, there would be no construction activities that could impede access to and area in an emergency. Therefore, under the Baseline Alternative there would be no increased demand on existing fire protection, police protection, public schools, or recreational activities facilities.

Transportation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Transportation (Traffic) with mitigation (see Section 4.14). This section focused on traffic circulation, particularly during construction of new projects. The mitigation identified for Transportation is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. There were no impacts associated with the operation of new projects identified. Under the Baseline Alternative, there would be no construction of new projects, so no additional traffic would be generated, and no impacts related to traffic circulation would occur.

Utilities/Service Systems

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Utilities and Service Systems with mitigation (see Section 4.14). Mitigation was identified to address future site drainage and the generation of solid waste during construction. Under the Baseline Alternative no construction would occur so no disposal of construction/demolition refuse would be required. In addition, because no new sites would be developed, there would be no future impacts to downstream drainage facilities. Therefore, the Baseline Alternative would result in no new impacts.

6.5.2 Alternative CWM-1

Alternative CWM-1 represents the continuation of the Watermaster Parties water supply/water quality operations under the Judgement as well as the development and operation of the following Strategic Plan projects:

Project Category 1- Pump and Treat. Alternative CWM-1 includes the following projects: (1) increase groundwater production and treatment capacity at the Reservoir 5 Treatment Facility; (2) increase groundwater production and treatment capacity at the Lincoln Mills Treatment Facility; and (3) rehabilitate Del Monte 4 and add arsenic treatment. No upgrades at the Durward 2 or Old Baldy sites are included in Alternative CWM-1. Figure 6-1, *Locations of CWM-1 Projects*, shows where project sites are located within the larger Six Basins project area.

Project Category 2 – Recharge Improvements. No new recharge facilities are included in Alternative CWM-1.

Project Category 3 – Temporary Surplus. No new temporary surplus projects are included in Alternative with the exception of Watermaster Parties utilizing unused capacity in existing operating wells.

Project Category 4 – Monitoring Programs. Monitoring programs would continue to be implemented however no new monitoring wells would be developed.

Under CWM-1, there would be less construction activity when compared to the proposed Strategic Plan program (Alternative CWM-2). Fewer new facilities or upgrades to existing facilities would result in fewer construction-related impacts to practically all resources. Impacts associated with siting of new wells, treatment facilities, and interconnects (Project Category 3) as well as the development of a new recharge basin in the SASG the expansion of recharge facilities in the TCSG and PSG would also be avoided. A comparison between Alternative CWM-1 and the Strategic Plan (Alternative CWM-2) is provided herein.

Aesthetics

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Aesthetics with mitigation (see Section 4.1). Under the Alternative

CWM-1, three existing project sites would be upgraded which may include new treatment facilities that may be seen from existing public streets. Mitigation measure AES-1 calls for the coordination between the Watermaster Party proposing the project and the local city with regard to screening and landscaping, in order to discuss how to integrate the facilities with the surrounding area to the extent feasible taking into consideration the needs of the project. All other existing facilities would remain the same as under existing conditions, retaining their current visual character; therefore, no views of those site would be altered. Additionally, no new sources of light and glare would be created. Therefore, Alternative CWM-1 would have fewer impacts compared to the proposed Strategic Plan program.

Agriculture and Forestry Resources

Implementation of the proposed Strategic Plan program would have no impact on agriculture and forestry resources (see Section 4.2). Under Alternative CWM-1 there would be no impact to agriculture and forestry resources because no new pump and treat, water recharge or temporary surplus projects would be developed.

Air Quality and Greenhouse Gas Emissions

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Air Quality/Greenhouse Gas Emissions with mitigation (see Section 4.3). Under Alternative CWM-1, there would be considerably less construction-related emissions (from construction activities, vehicles and equipment), and operations of existing facilities would not change considerably from existing conditions. Therefore, Alternative CWM-1 would have fewer impacts to air quality and greenhouse gas emissions compared to the proposed Strategic Plan program.

Biological Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Biological Resources with mitigation (see Section 4.4). Under Alternative CWM-1, only three existing sites would be disturbed and all located in urban areas. Other projects identified in the Strategic Plan would not undergo construction or operation of facilities on undeveloped land that may contain habitat. Specifically, because no water recharge projects are proposed for the SASG and TCSG where habitat has been identified, or at the PSG where proposed improvements may impact nesting birds, proposed improvements under Alternative CWM-1 would not put candidate, sensitive, or special-status species at risk or impede any biological resource regulation, ordinance, or conservation plans. Therefore, Alternative CWM-1 would have less than significant impacts to biological resources or areas that may contain biological resources compared to the proposed Strategic Plan program. Only projects that may require trimming or removing trees would be subject to mitigation measure BIO-1 related to tree removal, or BIO-2 related to conducting preconstruction nesting bird surveys would apply to projects under Alternative CWM-1.

Cultural Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Cultural Resources and Tribal Cultural Resources with mitigation (see Section 4.5). Construction of proposed projects have the potential to uncover archaeological resources and tribal cultural resources during ground disturbing activities. Under Alternative CWM-1, no ground disturbing activities would occur to any known or unknown resources on most project sites identified in the Strategic Plan. Under this alternative, projects would be limited to upgrades to three existing well sites identified under Project Category 1 and utilizing the unused capacity at other existing well sites. Where ground disturbing activities at the three pump and treat projects – Reservoir 5, Lincoln/Mills and Del Monte 4 – mitigation measure CUL-1 shall be implemented. This measure requires the retention of a qualified archaeologist to conduct a site-specific cultural resources assessment. In addition, the lead agency is required to undertake consultation with Native American tribes under AB-52, prior to approving a project. During consultation, new information may become available that would be utilized by the archaeologist in the preparation of the cultural resources assessment. This is similar to that which is required of new projects being implemented under the Strategic Plan program, except that Alternative CWM-1 identifies fewer sites where disturbance of unknown resources could occur. Therefore, Alternative CWM-1 would have considerably fewer potential impacts to Cultural Resources and Tribal Cultural Resources compared to the proposed Strategic Plan program.

Energy

Implementation of the proposed Strategic Plan program would result in a less than significant impact on Energy resources (see Section 4.15). The Energy Analysis prepared for the Strategic Plan concluded that required energy use for new projects is not anticipated to result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Under Alternative CWM-1, only existing facilities would be operating with upgrades to three of these facilities to add production capacity and new treatment facilities and no construction of new projects would occur. This alternative also utilizes the unused capacity in existing wells than re already in operation. Therefore, there would be a less than significant change in the amount of energy consumed under Alternative CWM-1 vs the Strategic Plan program.

Environmental Justice

Implementation of the proposed Strategic Plan program would result in a less than significant impact on low income and minority communities with mitigation (see Section 4.6). Impacts associated with Environmental Justice would occur if a project (1) results in a disproportionate human health or significant environmental impact on minority and/or low-income populations; (2) results in a disproportionate decrease in the employment and/or economic base of minority and/or low-income populations of working or residing in the area

surrounding the project area; or (3) presents opportunities to address existing disproportionate impacts on minority, low-income, or indigenous populations that are addressable through the project. The proposed Strategic Plan program is neutral on the issue of disproportionate human health impacts or disproportionate impacts on minority, low-income, or indigenous populations, and would not result in a decrease in employment opportunities. The intent of the Strategic Plan is to address water supply and water quality issues throughout the Six Basins project area regardless of the demographic makeup of a census tract or set of census tracts. The three projects identified in this alternative, represent an opportunity to increase groundwater supply by upgrading existing treatment plants or adding additional treatment facilities at well sites where groundwater has been shown to be contaminated by past industrial uses. This would allow Watermaster Parties to increase in the production of clean drinking water at the local level. Mitigation measures identified for Air Quality/GHG, Hazards/Contamination, Noise, and Transportation impacts to human health and safety associated with the implementation of the Strategic Plan program can be reduced to less than significant levels. Implementation of Alternative CWM-1 would have fewer impacts due to the reduction in the number of projects proposed in this alternative.

Geology and Soils

Implementation of the proposed Strategic Plan program would result in a less than significant impact regarding Geology and Soils with mitigation (see Section 4.7). Under Alternative CWM-1, there would be no development at most project sites and the potential effects associated with geology and soils, such as soil erosion during construction. The three new projects identified in this alternative are all existing wells/treatment facilities that would be upgraded. Therefore, Alternative CWM-1 would have fewer impacts related to geology and soils compared to the proposed Strategic Plan program.

Hazards and Hazardous Materials

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Hazards and Hazardous Materials with mitigation (see Section 4.8). This section also evaluated Strategic Plan projects Airport Land Use Plan Compatibility and the potential for a new project to interfere with an Emergency Response Plan. Under Alternative CWM-1, no new facilities would be placed on potential hazardous material sites, expose structures or persons to hazardous materials, be located within an Airport Safety Zone, or interfere with an agency's ability to respond to emergencies (e.g., police and fire). Under Alternative CWM-1 improvements would be limited to the upgrades to three existing well sites, including treatment facilities. The three existing sites that would be improved would be subject to mitigation measures identified for the Strategic Plan program. These include HAZ-1 for permits to construct/operate new equipment and HAZ-3 that may require the preparation of a Phase I Environmental Site Assessment (Phase 1 ESA) if soil contamination is suspected at a project site. Therefore, Alternative CWM-1 would have considerably fewer impacts related to hazards and hazardous materials, airport safety zones, or emergency response planning efforts compared to the proposed Strategic Plan program.

Hydrology and Water Quality

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Hydrology and Water Quality with mitigation (see Section 4.9). Under Alternative CWM-1, there would be no development of new sites and thus no changes to the natural drainage patterns of any site, or to the potential to contribute to runoff into existing stormwater drainage systems. Regarding improvements to three existing well sites where improvements to the wells and treatment facilities would be completed, these projects would be subject to mitigation measures identified for the Strategic Plan program. These would include HWQ-2 to implement a SWPPP during construction on any site where one acre or greater would be disturbed; HWQ-3 to implement a drainage plan to control stormwater runoff on sites where less than one acre would be disturbed; and HWQ-4 requiring compliance with the State’s Dewatering General Permit if improvements to a well require release of water during dewatering of a well. Under Alternative CWM-1 there would be less opportunity to increase groundwater supplies, increase capacity at other treatment facilities, or develop new recharge basins, wells and treatment facilities. This alternative would result in fewer surface water quality impacts, but may not address groundwater contamination, and fluctuations in groundwater levels that could result in rising groundwater to the extent that the Strategic Plan program would.

Land Use and Planning

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Land Use and Planning and no mitigation is required (see Section 4.10). The Strategic Plan program would not physically divide a community, or conflict with any applicable land use plan, policy, or regulations. The issue of compatibility with an Airport Land Use Plan was evaluated in Section 4.8. Under Alternative CWM-1, no development would occur and project sites with existing facilities would remain in their current state, with the exception of the three pump and treat projects identified for improvements. Therefore, this alternative would not change existing land uses or have an effect on land use plans and policies related to the Six Basins project area.

Mineral Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Mineral Resources with mitigation (see Section 4.7). Within the Six Basins project area, the eastern side of the SASG is used for extraction of aggregate resources (rock, gravel and sand associated with the alluvial plain). Similar aggregate material is also known in the TCSG. Development of a new recharge basin at the SASG and expansion of recharge facilities at the TCSG would result in the recovery of aggregate materials. Under Alternative CWM-1 aggregate resources would continue be available for extraction in the future not related to the Strategic Plan program. Therefore, Alternative CWM-1 would have not impact on Mineral Resources.

Noise

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Noise and Vibration with mitigation (see Section 4.11). Under Alternative CWM-1, there would be no construction or operation of new facilities so there would be no change to existing ambient noise levels, or new sources of vibration at sites identified in the Strategic Plan program that would not be developed. At the three existing sites, construction associated with upgrades to wells and treatment facilities at these sites would be subject to the same mitigation measures as required under the Strategic Plan program. These include NOI-1 requiring the preparation of a project-specific construction noise and vibration mitigation plan. Other construction mitigation measures such as identifying staging areas and equipment delivery routes (NOI-2 through NOI-5) would be incorporated into this plan. Mitigation measure NOI-6 addresses operational noise including enclosing new well and treatment equipment to reduce sound levels. Therefore, because Alternative CWM-1 represents fewer projects and those projects are subject to the same mitigation measures as those identified in the Strategic Plan, Alternative CWM-1 would result in fewer impacts from noise and vibration compared to the proposed Strategic Plan program.

Paleontological Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Paleontological Resources with mitigation (see Section 4.7). Construction of proposed projects have the potential to uncover paleontological resources during ground disturbing activities. Under Alternative CWM-1, no ground disturbing activities would occur to any known or unknown resources on sites not identified in this alternative. The three existing well sites represent a minimal amount of site disturbance compared to the Strategic Plan program, however, surface disturbance at these sites could still uncover buried resources. Therefore, mitigation measure GEO-3 would be implemented prior to any site disturbance. This measure requires that for project-level development involving ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If the paleontologist determines that there could be resources, a mitigation plan would be developed. Therefore, Alternative CWM-1 would have no impacts to Paleontological Resources on sites that would not be developed compared to the proposed Strategic Plan program, and a less than significant impact with implementation of mitigation measure GEO-3.

Population and Housing

Implementation of the proposed Strategic Plan program would not result in an increase in Population or directly induce growth that would require additional housing to be developed (see Section 4.12). Under Alternative CWM-1 construction and operation of most of the Strategic Plan projects would not occur, and accordingly there would be considerably fewer

construction jobs created, and because projects implemented under this alternative would all be at existing operational facilities, no new permanent jobs would likely be created. In addition, no housing would be displaced either with implementation of the Strategic Plan program or Alternative CWM-1, there would have no impacts on Population and Housing.

Public Services/Recreation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Public Services/Recreation with mitigation (see Section 4.13). The mitigation identified for Public Services is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. No other impacts were identified. Under Alternative CWM-1, there would be no construction activities that could impede access to the area in an emergency since all construction was assumed to occur at existing sites where access and staging of vehicles and equipment is available. Therefore, under Alternative CWM-1 there would be no increased demand on existing fire protection, police protection, public schools, or recreational activities facilities.

Transportation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Transportation with mitigation (see Section 4.14). This section focused on traffic circulation, particularly during construction of new projects. The mitigation identified for Transportation (Traffic) is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. Under Alternative CWM-1, there would be no construction of new projects, so no additional traffic would be generated, and no impacts related to traffic circulation would occur at sites identified in the Strategic Plan program. For the three sites that would be upgraded, the assumption was made that construction activities would not impede access to the area in an emergency since all construction would occur at existing sites where access and staging of vehicles and equipment is available.

Utilities/Service Systems

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Utilities and Service Systems with mitigation (see Section 4.14). Mitigation was identified to address future site drainage and the generation of solid waste during construction. Under Alternative CWM-1 construction on only three sites would occur so disposal of construction/demolition refuse would be less than under the Strategic Plan program. In addition, because no new sites would be developed, there would be no future impacts to downstream drainage facilities, and on sites where improvements would be made, these would be subject to the requirements of a SWPPP or project drainage plan to control stormwater flows from a site. Therefore, Alternative CWM-1 would result in considerably fewer impacts than development under the Strategic Plan program.

6.5.3 Alternative CWM-2

This alternative is the implementation of the Strategic Plan program. Figure 6-2, *Locations of CWM-2 Projects*, shows where project sites are located within the larger Six Basins project area.

6.5.4 Alternative CWM-3

For the Strategic Plan Program EIR, Alternative CWM-3 is the continuation of the Watermaster Parties water supply/water quality operations under the Judgement, as well as implementation of the Strategic Plan program (Alternative CWM-2), plus eight new MS4 projects that would be brought on-line in conjunction with other proposed projects. Figure 6-3, *Locations of CWM-3 Projects*, shows where Alternative CWM-3 project sites are located within the larger Six Basins project area.

The project engineer evaluated eight sites for stormwater harvesting and recharge potential to satisfy the MS4 permit requirements and augment recharge in the Six Basins. Two of these sites were also included in the Strategic Plan program. These are improvements at the Pedley Spreading Grounds and the new underground infiltration gallery at the Fairplex site. The project engineer concluded the following:

- For MS4 projects, new stormwater recharge is estimated to range between 14 acre-ft/yr to 336 acre-ft/yr as a long-term annual average. Together, these projects are estimated to increase stormwater recharge by approximately 1,219 acre-ft/yr as a long-term annual average. The project with the largest potential for stormwater recharge is the Fairplex Stormwater Infiltration Project.
- All eight projects meet the minimum criteria to apply for the Safe Clean Water Program funding. The project with the highest estimated score was the Pedley Spreading Grounds project.
- A cost-benefit analysis was performed to characterize the cost per acre-ft of new stormwater recharge by project over a 30-year amortization period. The most cost-effective project is the Pedley Spreading Grounds project.
- All projects could be utilized to divert and recharge dry-weather runoff and/or supplemental waters during non-storm periods.

Aesthetics

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Aesthetics with mitigation (see Section 4.1). Under Alternative CWM-3, all Strategic Plan projects plus an additional six new MS4 projects (Pedley and Fairplex projects are already included in the Strategic Plan program) would be developed. Mitigation measure AES-1 calls for the coordination between the Watermaster Party proposing the project and the local city with regard to screening and landscaping, in order to discuss how to integrate the facilities with the surrounding area to the extent feasible taking into consideration the needs of the project. Then, because there are a number of new projects

associated with the Strategic Plan and the additional MS4 projects, mitigation measures AES-2 through AES-4 would be implemented for Alternative CWM-3. These measures address new sources of light and glare, however, because the new MS4 projects would all be developed at ground level and there are no structures associated with these projects, it is unlikely that these particular projects would be subject to measures AES-2 through AES-4. However, this would be determined as each new project is evaluated in a project specific subsequent CEQA document. Therefore, under Alternative CWM-3, impacts associated with Aesthetics would be similar to the proposed Strategic Plan program.

Agriculture and Forestry Resources

Implementation of the proposed Strategic Plan program would have no impact on agriculture and forestry resources (see Section 4.2). Under Alternative CWM-3 there would be no impact to agriculture and forestry resources because no new projects are proposed for development in agricultural or forested areas.

Air Quality and Greenhouse Gas Emissions

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Air Quality/Greenhouse Gas Emissions with mitigation (see Section 4.3). Under Alternative CWM-3, all Strategic Plan projects plus an additional six new MS4 projects (Pedley and Fairplex projects are already included in the Strategic Plan program) would be developed. Construction-related emissions (from construction activities, vehicles and equipment), and operations of existing and new facilities would be similar to those associated with Strategic Plan projects. Mitigation measures identified for the Strategic Plan program would be implemented with Alternative CWM-3. Therefore, under Alternative CWM-3, impacts associated with Air Quality and Greenhouse Gas Emissions would be similar to the proposed Strategic Plan program.

Biological Resources

Implementation of the proposed Strategic Plan programs would result in a less than significant impact to Biological Resources with mitigation (see Section 4.4). Under Alternative CWM-3, all Strategic Plan projects plus an additional six new MS4 projects (Pedley and Fairplex projects are already included in the Strategic Plan program) would be developed. The MS4 projects identified by the project engineer are all located in urban areas with the exception of the Rancho Santa Ana Botanical Gardens, located immediately west of the Pedley Spreading Grounds site. Mitigation measures BIO-1 through BIO-4 identified for the Strategic Plan program would also apply to projects under Alternative CWM-3. Mitigation measure BIO-1 addresses tree removal/trimming. This measure is more about replacement of trees in urban areas, however, tree removal or trimming may affect nesting birds. Mitigation measure BIO-2 addresses nesting birds and the need to conduct a preconstruction nesting bird survey if construction occurs during nesting season, and the development of a buffer zone if birds are located within a project area. Mitigation measure BIO-3 addresses the need to conduct site-specific Biological Resources Assessments at sites

identified for new projects (e.g., SASG, TCSG, new well sites) where sensitive biological resources may be located. Finally, mitigation measure BIO-4 requires an applicant to consult with USACE, RWQCB or CDFW if construction activities may occur in areas identified as jurisdictional wetlands, Waters of the US or Waters of the State. In summary, impacts associated with the implementation of Alternative CWM-3 would be similar to those associated with the implementation of the Strategic Plan program (Alternative (CWM-2) for projects identified in the Strategic Plan. However, implementation of Alternative CWM-3 may result in a significant impact to downstream habitat or special status species because stormwater currently flowing in channels to downstream location would be diverted to groundwater recharge facilities through future MS4 projects, resulting in a loss of water that may be assisting in the effort to maintain the viability of habitat downstream. This would be determined as each new project is evaluated in a project specific subsequent CEQA document. Therefore, impacts associated with the implementation of Alternative CWM-3 may be greater with regard to Biological Resources.

Cultural Resources

Implementation of the proposed Strategic Plan programs would result in a less than significant impact to Cultural Resources and Tribal Cultural Resources with mitigation (see Section 4.5). Construction of proposed projects have the potential to uncover archaeological resources and tribal cultural resources during ground disturbing activities. Under Alternative CWM-3, ground disturbing activities would be similar to those associated with implementation of the Strategic Plan program. Mitigation measure CUL-1 requires the retention of a qualified archaeologist to conduct a site-specific cultural resources assessment on sites where ground disturbing activities would occur. Mitigation measure CUL-2 would apply to any site where structures may exceed 45 years in age. This measure requires that a historic structure survey be completed, and if historic resources are identified a treatment plan shall be prepared prior to demolition or substantial alteration of the resource. CUL-3 addresses the inadvertent uncovering of human remains. Finally, CUL-4 requires that prior to commencing with a new project, a lead agency shall conduct AB 52 consultation with Native American tribes based on a list provided by the Native American Heritage Commission. Such consultation may result the identification of additional mitigation measures that would apply to projects associated with both CWM-2 and CWM-3. Therefore, Alternative CWM-3 would have similar potential impacts to Cultural Resources and Tribal Cultural Resources compared to the proposed Strategic Plan program.

Energy

Implementation of the proposed Strategic Plan programs would result in a less than significant impact on Energy resources (see Section 4.15). The Energy Analysis prepared for the Strategic Plan concluded that required energy use for new projects is not anticipated to result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Under Alternative CWM-3 project would be similar with the exception of the additional MS4

projects. However, once construction is complete, operation of new basins for the retention and percolation of stormwater represents a passive activity not requiring the utilization of significant amounts of energy or the wasteful use of energy. Therefore, similar to the implementation of the Strategic Plan program, there would be a less than significant change in the amount of energy consumed under Alternative CWM-3.

Environmental Justice

Implementation of the proposed Strategic Plan programs would result in a less than significant impact on low income and minority communities with mitigation (see Section 4.6). Impacts associated with Environmental Justice would occur if a project (1) results in a disproportionate human health or significant environmental impact on minority and/or low-income populations; (2) results in a disproportionate decrease in the employment and/or economic base of minority and/or low-income populations of working or residing in the area surrounding the project area; or (3) presents opportunities to address existing disproportionate impacts on minority, low-income, or indigenous populations that are addressable through the project. The proposed Strategic Plan program is neutral on the issue of disproportionate human health impacts or disproportionate impacts on minority, low-income, or indigenous populations, and would not result in a decrease in employment opportunities. The intent of the Strategic Plan is to address water supply and water quality issues throughout the Six Basins project area regardless of residents' race or income status. Projects identified in the Strategic Plan along with additional MS4 projects identified in a separate study (Appendix I.3), would be located throughout the Six Basins project area regardless of income level or demographic makeup (see Figure 6-3). Mitigation measures identified for Air Quality/GHG, Hazards/Contamination, Noise, and Transportation, impacts would reduce impacts to human health and safety to less than significant levels similar to the Strategic Plan program (Alternative CWM-2).

Geology and Soils

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Geology (geologic hazards) and Soils (wind and water erosion) with mitigation (see Section 4.7). New wells and treatment facilities have the potential to be most affected by geologic hazards such as seismic shaking or liquefaction, while new or expanded recharge basins have the potential to contribute to the most significant soil erosion or loss of topsoil due to the size and volume of the basins and the length of time they may remain dry. In addition, increased recharge into the new basins could contribute to increased liquefaction hazards due to increased saturation of soils. Under Alternative CWM-3, construction and operation of new projects would be similar, including new MS4 projects to collect, treat and percolate stormwater into the sub-basins. Mitigation measures have been identified for the Strategic Plan program that would also apply to Alternative CWM-3. On a project-by-project basis, in order to reduce the potential impacts from strong seismic groundshaking and non-seismically induced geologic hazards, mitigation measures GEO-1 and GEO-2 requires that a project be designed based on

recommendations set forth in a project specific Geotechnical Investigation, and in accordance with the most current version of the California Building Code. Therefore, Alternative CWM-3 would have similar impacts related geology and soils compared to the proposed Strategic Plan program.

Hazards and Hazardous Materials

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Hazards and Hazardous Materials with mitigation (see Section 4.8). This section also evaluated Strategic Plan projects and Airport Land Use Plan Compatibility and the potential for a new project to interfere with an Emergency Response Plan. Mitigation measures include: HAZ-1 for permits to construct/operate new equipment at pump and treat facilities or at new well sites; HAZ-2 for coordination with local vector control agencies (WVMVCD or SGVMVCD) to develop a strategy/plan to minimize the occurrence of vectors such as midges and mosquitos at recharge basin locations; HAZ-3 that may require the preparation of a Phase I Environmental Site Assessment (Phase 1 ESA) if soil contamination is suspected at a project site; HAZ-4 for the submittal of design plans to the appropriate Airport Management agency if a project site is located in an Airport Safety Zone; HAZ-5 and HAZ-6 for the implementation of a fire management plan if a project site is located in a Fire Hazard Severity Zone and that the plan be incorporated into a facility's maintenance plan; and TR-1 through TR-3 that require the preparation and implementation of a Construction Traffic Control Plan if during construction, road detours or delays are required. Therefore, Alternative CWM-3 would have similar impacts related to hazards and hazardous materials, airport safety zones, and emergency response planning efforts compared to the proposed Strategic Plan program.

Hydrology and Water Quality

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Hydrology and Water Quality with mitigation (see Section 4.9). Alternative CWM-3 would result in similar impacts to surface runoff, drainage and floodplains compared to the Strategic Plan program. Mitigation measures include: HWQ-1 to conduct groundwater modeling prior to commencement of improvements to wells or the development of new wells in the UCHB and Pomona basins were areas of high groundwater are known to occur; HWQ-2 to implement a SWPPP during construction on any site of one acre or greater; HWQ-3 to implement a drainage plan to control stormwater runoff on sites that are less than one acre; and HWQ-4 requiring compliance with the State's Dewatering General Permit if improvements to a well require release of water during dewatering of a well. Therefore, Alternative CWM-3 would have similar impacts related to hydrology and water quality, compared to the proposed Strategic Plan program.

Land Use and Planning

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Land Use and Planning and no mitigation is required (see Section 4.10).

The Strategic Plan program would not physically divide a community, or conflict with any applicable land use plan, policy, or regulations. Under Alternative CWM-3, new projects could be developed within an Airport Safety Zone and would be subject to review by the appropriate Airport Management agency under mitigation measure HAZ-4. The Strategic Plan program is consistent with SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Therefore, similar to the Strategic Plan, Alternative CWM-3 would not have an effect on land use plans and policies related to the Six Basins project area.

Mineral Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Mineral Resources with mitigation (see Section 4.7). Within the Six Basins project area, the eastern side of the SASG is used for extraction of aggregate resources (rock, gravel and sand associated with the alluvial plain). Similar aggregate material is also known in the TCSG. Development of a new recharge basin at the SASG and expansion of recharge facilities at the TCSG would result in the recovery of aggregate materials. Similar to implementation of the Strategic Plan, Alternative CWM-3 would not have result in the loss of aggregate resources or the ability for such resources to be recovered in the future.

Noise

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Noise and Vibration with mitigation (see Section 4.11). Mitigation measures include NOI-1 requiring the preparation of a project-specific construction noise and vibration mitigation plan. Other construction mitigation measures such as identifying staging areas and equipment delivery routes would be incorporated into this plan (mitigation measures NOI-2 through NOI-5. Mitigation measure NOI-6 addresses operational noise including enclosing new well and treatment equipment to reduce sound levels. Therefore, Alternative CWM-3 would have similar impacts related to noise and vibration that can be mitigated to less than significant levels, similar to implementation of the proposed Strategic Plan program.

Paleontological Resources

Implementation of the proposed Strategic Plan program would result in a less than significant impact to Paleontological Resources with mitigation (see Section 4.7). Construction of proposed projects have the potential to uncover paleontological resources during ground disturbing activities. Similar to the proposed Strategic Plan program, under Alternative CWM-3, ground disturbing activities could uncover unknown paleontological resources on project sites. Therefore, mitigation measure GEO-3 would be implemented prior to any site disturbance. This measure requires that for project-level development involving ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If the paleontologist determines that there could

be resources, a mitigation plan would be developed. Therefore, Alternative CWM-3 would have similar impacts related to paleontological resources similar to the proposed Strategic Plan program that can be mitigated to less than significant levels.

Population and Housing

Implementation of the proposed Strategic Plan program would not result in an increase in Population or directly induce growth that would require additional housing to be developed (see Section 4.12). Similar to the proposed Strategic Plan program, under Alternative CWM-3 construction would not result in the creation of permanent jobs that would generate the need for new housing. Similar to the proposed Strategic Plan program, Watermaster Parties proposing projects have existing staff that would be able to operate and maintain the new wells, treatment plants and recharge basins. Implementation of all of the proposed projects could generate the need to hire new operation/maintenance personnel, however the number would be insignificant and would not generate the need for new housing. In addition, no housing would be displaced either with implementation of the Strategic Plan program or Alternative CWM-3. Therefore, there would have no impacts on Population and Housing.

Public Services/Recreation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Public Services/Recreation with mitigation (see Section 4.13). The mitigation identified for Public Services is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. No other impacts were identified. Similar to the proposed Strategic Plan program, under Alternative CWM-3, there is potential for construction activities to impede access to the area requiring traffic delays or detours. Mitigation TR-1 through TR-3 require that a Construction Traffic Control Plan be prepared that includes a comprehensive set of strategies including alternate routes, traffic control through the use of flags, sign, and lights as well as flag persons to direct traffic. Therefore, under Alternative CWM-3 there would be no increased demand on existing fire protection, police protection, public schools, or recreational activities facilities, and traffic control during construction would be adequately maintained to prevent delay in emergency services.

Transportation

Implementation of the proposed Strategic Plan program would result in a less than significant impact associated with Transportation (Traffic) with mitigation (see Section 4.14). This section focused on traffic circulation, particularly during construction of new projects. The mitigation identified for Transportation is related to the service providers' (police and fire) ability to adequately respond to an emergency should the construction of a project interfere with vehicle access in an area. No other impacts were identified. Similar to the proposed Strategic Plan program, under Alternative CWM-3, there is potential for construction activities to impede access to the area requiring traffic delays or detours.

Mitigation TR-1 through TR-3 require that a Construction Traffic Control Plan be prepared that includes a comprehensive set of strategies including alternate routes, traffic control through the use of flags, sign, and lights as well as flag persons to direct traffic. Therefore, under Alternative CWM-3 traffic control during construction would be adequately maintained to prevent delay in emergency services.

Utilities/Service Systems

Similar to the Strategic Plan program, Alternative CWM-3 would result in a less than significant impact associated with Utilities and Service Systems with mitigation (see Section 4.14). Mitigation was identified to address future site drainage and the generation of solid waste during construction. Similar to implementation of the Strategic Plan program, under Alternative CWM-3 a Watermaster Party must implement mitigation measure HWQ-3 which requires the preparation of a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities. Then, regarding construction/demolition (C&D) refuse, mitigation measure USS-1 requires that on a project-by-project basis, the Watermaster Party or the construction contractor shall prepare and implement a C&D disposal plan for review and approval by the local jurisdiction where construction will occur. Therefore, implementation of Alternative CWM-3 would have similar impacts on Utilities and Service Systems that can be mitigated to less than significant levels.

6.6 Environmentally Superior Alternative

In evaluating alternatives to a project, CEQA requires that an EIR identify an environmentally superior alternative. Often the No-Project Alternative is the environmentally superior alternative because it generally represents no new impacts to the environment. CEQA Guidelines Section 15126.6(e)(2) states that ... *If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.*

6.6.1 Baseline Alternative

For the Strategic Plan program, the Baseline Alternative is the No-Project Alternative. Table 6-6 provides a comparison between the Strategic Plan (Alternative CWM-2), the Baseline Alternative, and the two other CWM alternatives. As shown in this table, the evaluation of the Baseline Alternative identified the following:

No Impact. There would be no impact associated with Aesthetics, Agricultural/Forestry Resources, Cultural/Tribal Cultural Resources, Geology/Soils, Land Use/Planning, Mineral Resources, Paleontological Resources, Population/Housing, and Recreation, Wildfire Hazards. This is because under this alternative there would be no disturbance at any existing or proposed project sites that would result in a potential impact.

Less Impact. There would be less impacts associated with Air Quality, Energy, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Noise and Vibration, Public Services, and Utilities and Service Systems. Although no new projects would be developed under the Baseline Alternative, operation of existing facilities use energy, generate some noise and vibration, and generate some emissions associated with vehicle trips to sites for operation/maintenance activities.

Similar Impact. No impacts similar to those generated by the implementation of the Strategic Plan program would occur.

Greater Impact. Implementation of the Baseline Alternative would have a greater impact associated with Environmental Justice and Hazards/Hazardous Materials associated with the lost opportunity to maximize pump and treat projects in the Pomona Basin, that would increase the efforts to pump and treat groundwater that has been contaminated by past industrial uses.

6.6.2 CWM Alternatives

Alternative CWM-1

As shown in this table, the evaluation of Alternative CWM-1 showed the following.

No Impact. There would be no impact associated with Agricultural/Forestry Resources, Population/Housing, and Recreation, Wildfire Hazards. The conclusion was similar for the proposed Strategic Plan, with the exception of Wildfire Hazards. Hazards associated with wildfires are related to development of new recharge basins in the SASG and TCSG where sites are located within areas near the foothills where vegetation is subject to wildfires.

Less Impact. There would be less impacts associated with Aesthetics, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise and Vibration, Public Services, Utilities and Service Systems, Wildfire. The conclusion is based on the reduced number of projects that would be implemented with Alternative CWM-1

Similar Impact. Impacts that would be similar include Environmental Justice, Public Services and Transportation generally related to the ability of public service providers to adequately carry out Emergency Response Plans in areas where construction projects may require temporary street closures or detours. These impacts can be reduced to less than significant impacts with the development and implementation of Construction Traffic Management Plans.

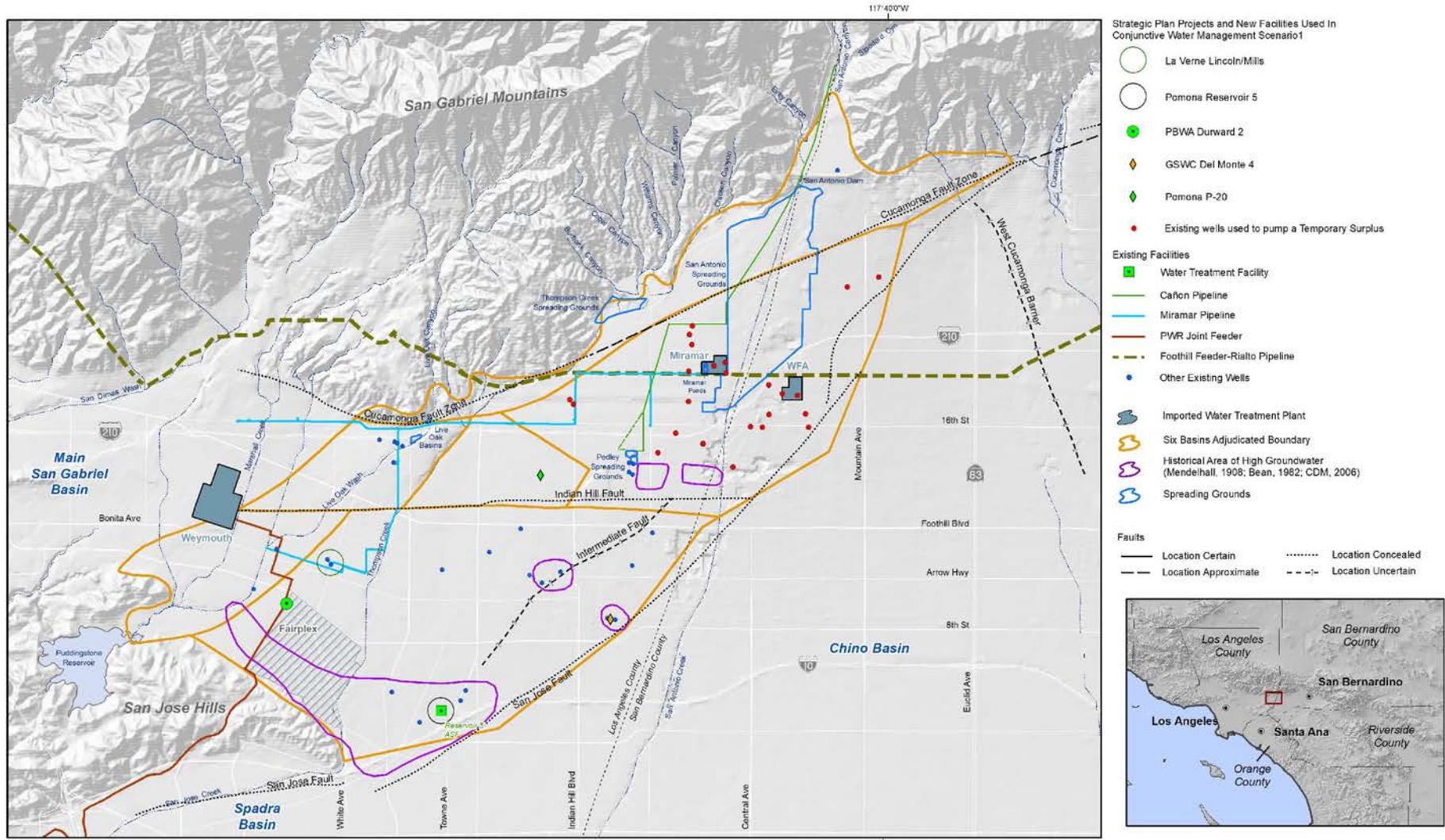
Greater Impact. Implementation of the Alternative CWM-1 would not result in greater impacts than those associated with the Strategic Plan program.

Alternative CWM-3

This alternative includes development of all projects identified in the Strategic Plan and an additional six MS4 projects. There are eight MS4 projects identified in the report on MS4 projects (Appendix I-3), however two – improvements at the Pedley Spreading Grounds and the Fairplex site are included in the Strategic Plan. The analysis of this alternative showed that impacts would be similar to the Strategic Plan program (Alternative CWM-2) with the exception of impacts to Biological Resources. This is because implementation of Alternative CWM-3 may result in a significant impact to downstream habitat or special status species because stormwater currently flowing in channels to downstream location would be diverted to groundwater recharge facilities through future MS4 projects, resulting in a loss of water that may be assisting in the effort to maintain the viability of habitat downstream. This would be determined as each new project is evaluated in a project specific subsequent CEQA document. Therefore, impacts associated with the implementation of Alternative CWM-3 may be greater with regard to Biological Resources.

Environmentally Superior Alternative

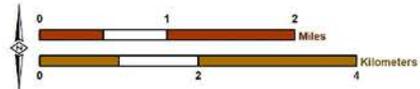
The environmental superior alternative is Alternative CWM-1. The analysis found that this alternative would achieve the Watermaster Parties goals with similar or less impact than the Strategic Plan program (Alternative CWM-2).



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 WILLOWBUSH ENVIRONMENTAL, INC.

Author: RT
 Date: 20200624
 File: Figure_9_ProjectLocations_CWM1.mxd



Six Basins Watermaster

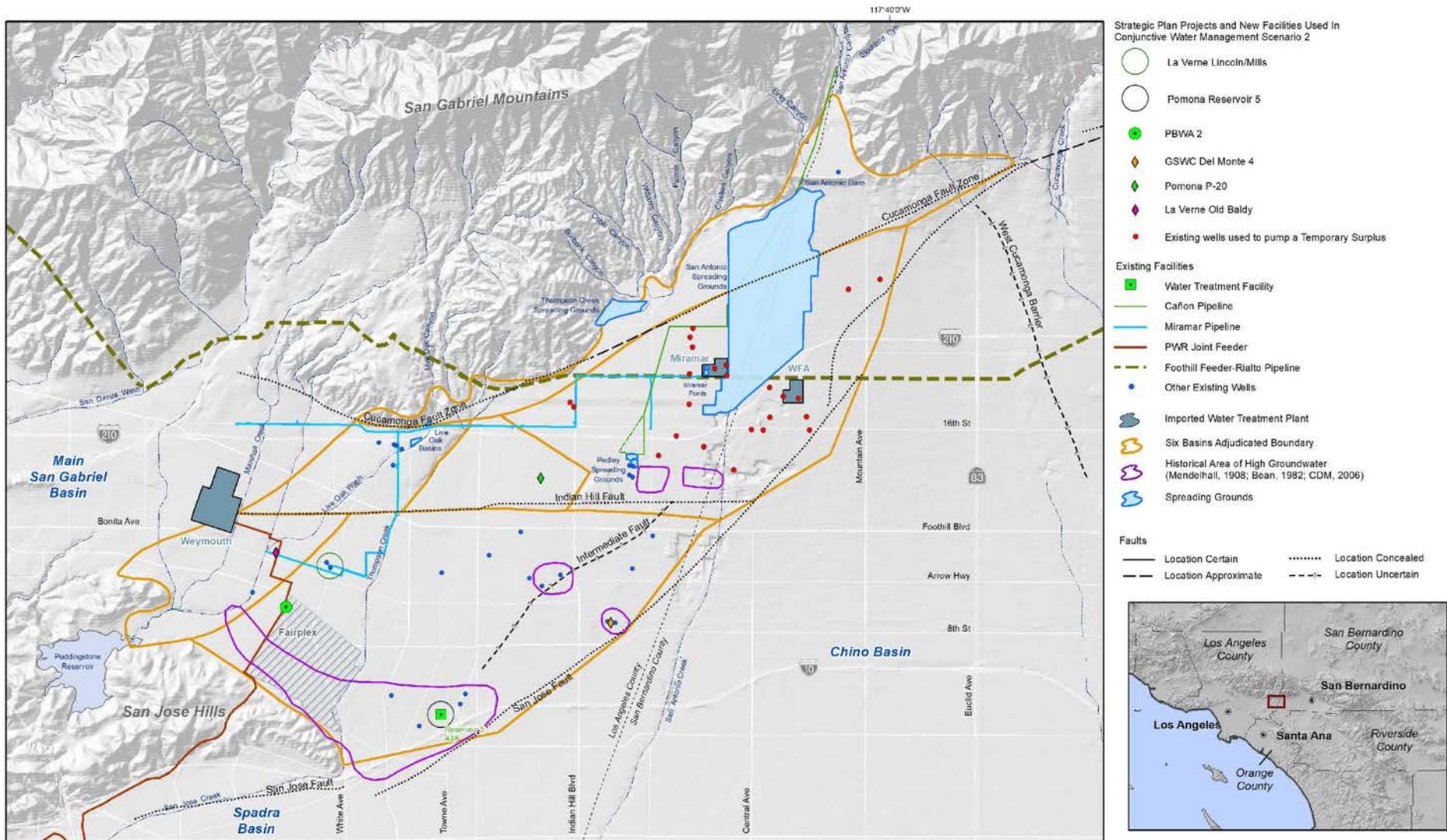
Conjunctive Water Management Scenario 1
 Project Location Map

Figure 9



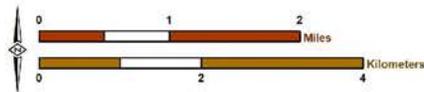
Figure 6-1
 Locations of CWM - 1 Projects

6 Basins
 Strategic Plan - Program EIR



Produced by:
 WEI
 WILKINSON ENVIRONMENTAL, INC.

Author: RB
 Date: 20200824
 File: Figure_11_ProjectLocations_CWM2.mxd

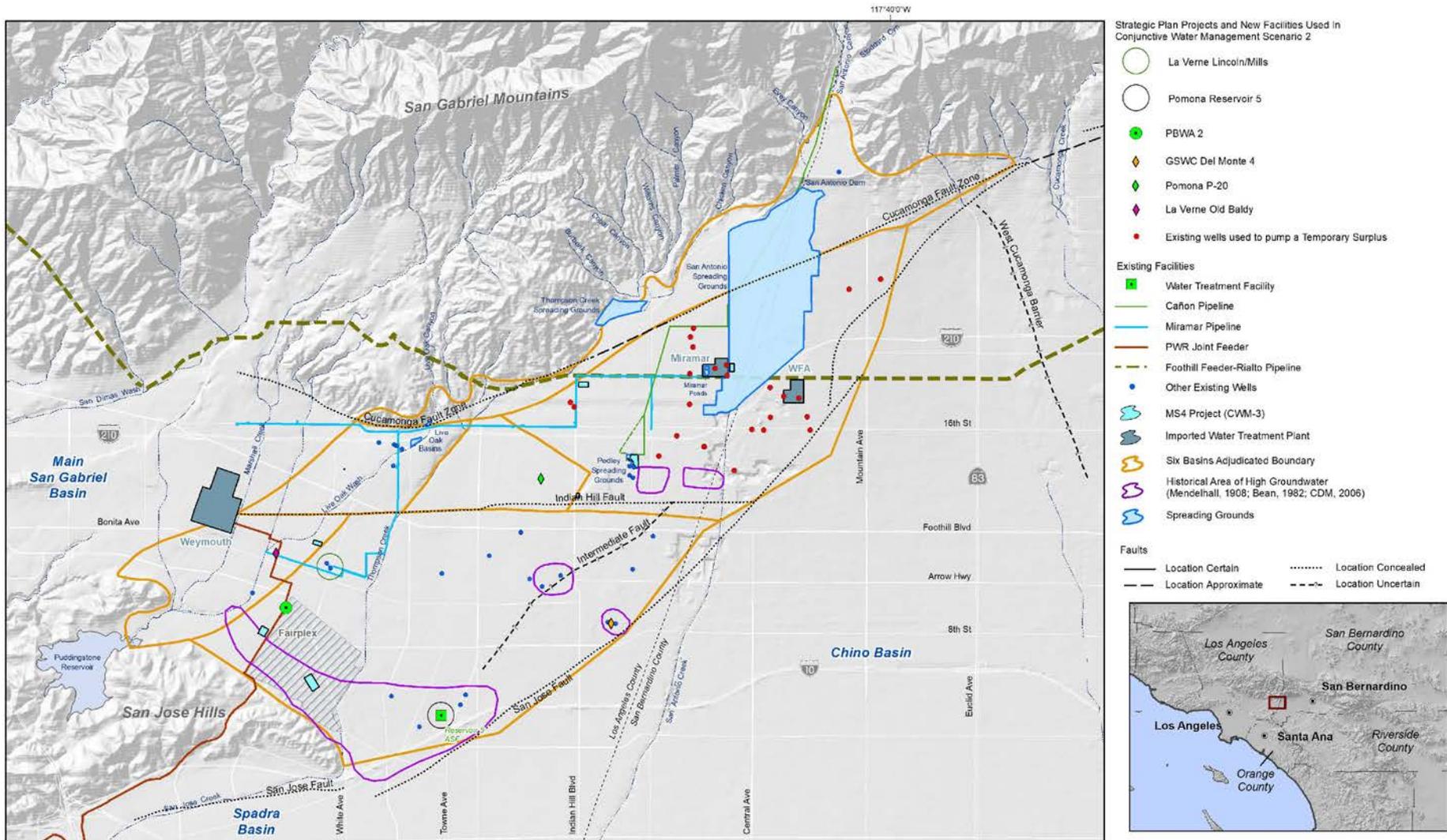


Six Basins Watermaster



Figure 6-2
 Locations of CWM-2 Projects

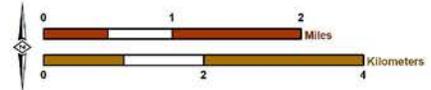
6 Basins
 Strategic Plan - Program EIR



Produced by:



Author: GB
 Date: 20200624
 File: Figure_12_ProjectLocations_CWM3_MS4_Working.mxd



Six Basins Watermaster

Conjunctive Water Management Scenario 3
 Project Location Map

Figure 12



Figure 6-3
 Locations of CWM-3 Projects

6 Basins
 Strategic Plan - Program EIR

7.0 Report Preparation

7.1 Lead Agency

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**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Facilities and Landscaping</u> AES-1 Proposed facilities, including walls, gates, treatment facilities, etc., shall be designed in accordance with local design standards in order to be complementary to the local area. Landscaping shall be installed and maintained in conformance with local landscaping design guidelines as appropriate to screen views of new facilities from surrounding areas to the extent feasible taking into consideration the needs of the project and except where such compliance is not required by California law.</p>	<p>AES-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft Program Environmental Impact Report (Draft PEIR)</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer/Architect Construction Contractor</p>	<p>Implementing Agency¹</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-2 To avoid any light intrusion to surrounding land uses, on project sites where permanent exterior lighting is proposed, lights shall be shielded and directed downward and toward the interior of a site. The maximum light allowed beyond the property boundary adjacent to sensitive light receptors shall be as stipulated in local design guidelines or development code and except where such compliance is not required by California law.</p>	<p>AES-2 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-2 shall be retained in the project file(s). Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

¹ "Implementing Agency" as used throughout this Mitigation Monitoring and Reporting Program refers to the lead agency implementing a project under the Six Basins Strategic Plan (e.g., Three Valleys Municipal Water District (TVMWD), City of Pomona, City of La Verne, Six Basins Watermaster (Watermaster), or other Watermaster Parties).

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-3 Development of Strategic Plan projects shall comply with existing or future lighting ordinances, and except where such compliance is not required by California law.</p>	<p>AES-3 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-3 shall be retained in the project file(s). Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-4 Any new structures that may require large facades shall not be constructed using highly reflective building materials.</p>	<p>AES-4 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-4 shall be retained in the project file(s). Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Agriculture and Forestry Resources –</i> No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i> AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to: <ul style="list-style-type: none"> • All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. • The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day. • The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less. 	MM AQ-1 shall be implemented during construction of future facilities at existing sites identified in Project Category 1 and shall be included in the construction contract as a contract specification.	A copy of the construction contract including MM-AQ-1 shall be retained in the project file. Verification of implementation shall be based on field inspections by the Implementing Agency. Field notes from inspections shall be retained in the project file.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-2 Regarding emissions of NOx and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.</p>	<p>MM AQ-2 shall be implemented during construction of future facilities at existing sites identified in Project Category 1 and shall be included in the construction contract as a contract specification.</p>	<p>A copy of the construction contract including MM-AQ-2 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-3 SCAQMD Rule 403-Table 1 (see attached) lists a number of Best Available Control Technologies (BACT) that may apply to the construction of Strategic Plan projects. On a project-by-project basis, SCAQMD Rule 403 Table 1 shall be reviewed and appropriate measures incorporated into a project specific monitoring program.</p>	<p>MM AQ-3 shall be implemented during construction of future facilities at existing sites identified in Project Category 1 and shall be included in the construction contract as a contract specification.</p>	<p>A copy of the construction contract including MM-AQ-3 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-1 <i>Tree Removal.</i> Prior to the trimming or removal of a tree at any project site, a project proponent will coordinate with the local agency to determine if the particular trees targeted for trimming or removal are heritage trees regulated by local agency. If the targeted tree is a heritage under the City or County Regulations, the appropriated application will be submitted and approved by the local agency prior to conducting the trimming or removal of the heritage tree(s), except where compliance is not required by California law.</p>	<p>If tree removal or trimming is identified, MM BIO-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM BIO-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-2 <i>Nesting Birds.</i> Removal of any trees, shrubs, or any other potential nesting habitat shall be conducted outside the avian nesting season, as verified by a qualified Avian Biologist. The nesting season generally extends from February 1 through August 31, but it can vary slightly from year to year based on seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the qualified Avian Biologist’s-verified nesting season, a pre-construction clearance survey for nesting birds shall be conducted within 30 days of the start of any construction. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.</p>	<p>MM BIO-2 shall be included in the construction contract as a contract specification.</p> <p>The preconstruction survey(s) shall be conducted prior to commencement of site disturbing activities.</p> <p>If an active bird nest is located, a qualified biologist shall prepare and implement a monitoring program to monitor the buffer area weekly where no construction activities shall occur until such time as the project biologist determines fledglings have left the nest.</p>	<p>A copy of the construction contract including MM BIO-2 shall be retained in the project file(s).</p> <p>A copy of the survey(s) shall be placed in the project file (if applicable).</p> <p>Verification of implementation shall be based on field notes provided by the biological monitor to the Implementing Agency.</p> <p>Field notes shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Biologist	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-1 Prior to approval of a project identified under Project Categories 1 through 3, a Watermaster Party undertaking a project shall retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology to conduct an assessment of the project site and vicinity for all project elements that involve ground disturbance. The archaeologist shall conduct cultural resources assessment consisting of: (1) a cultural resources records search to be conducted at the South Central Coastal Information Center located at California State University Fullerton; (2) consultation with the Native American Heritage Commission (NAHC) and with interested Native American tribes identified by NAHC; (3) a field survey by the archaeologist; and (4) recordation of all identified archaeological resources located on a project site on California Department of Parks and Recreation 523 Site Record forms. The archaeologist shall provide recommendations regarding resource significance and additional work for those resources that may be affected by a project.</p>	<p>MM CUL-1 shall be included in the construction contract as a contract specification.</p> <p>The Cultural Resources Assessment (CRA) (if required) shall be completed prior to approval of a project by the Implementing Agency.</p> <p>Should the CRA determine that resources may be uncovered during construction, an Archaeological monitor shall prepare and implement a monitoring program.</p> <p>The Implementing Agency shall be notified within 24-hours of any accidental exposure of subsurface cultural resources.</p> <p>After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented.</p>	<p>A copy of the construction contract including MM CUL-1 shall be retained in the project file(s).</p> <p>A copy of the Cultural Resources Assessment and Monitoring Program (if applicable) shall be placed in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>A final report of findings shall be submitted to the Implementing Agency for retention.</p> <p>Field notes from Archaeological monitor shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Archaeologist	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-2 Prior to ground disturbance activities at a project site that contain structures 45 years old or older, affected structure(s) shall be subject to a historic built environment survey, and potentially historic structures shall be evaluated for their potential historic significance, prior to a Watermaster Party's finalization of design/site plans. The survey shall be carried out by a qualified historian or architectural historian meeting the Secretary of the Interior's Standards for Architectural History. If potentially significant resources are encountered during the survey, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources identified.</p>	<p>MM CUL-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to demolition or substantial alteration of a potential historic building, a qualified architectural historian shall conduct a Historic Built Environment Survey. If a resource is identified, a treatment plan shall be prepared,</p>	<p>A copy of the construction contract including MM CUL-2 shall be retained in the project file.</p> <p>A copy of the Historic Built Environment Survey Cultural Resources Assessment and Monitoring Program (if applicable) shall be placed in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Architectural Historian	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-3 In the event that human remains are uncovered at a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <ul style="list-style-type: none"> • The coroner of the county in which the remains are discovered must be contacted to determine whether an investigation of the cause of death is required, and • If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> ○ The coroner shall contact the Native American Heritage Commission within 24 hours. 	<p>MM CUL-3 shall be included in the construction contract as a contract specification.</p> <p>During ground disturbing activities and in the event that human remains are uncovered at a project site the coroner shall be called to determine whether an investigation is required</p> <p>Disposition of any remains identified as Native American shall be determined through consultation with the MLD.</p>	<p>A copy of the construction contract including MM CUL-3 shall be retained in the project file.</p> <p>Excavation or disturbance shall cease and the coroner of the county in which the remains are discovered must be contacted.</p> <p>If the remains are Native American, disposition of the remains shall be by agreement between the coroner and the most likely descendent.</p>	Draft PEIR

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources CUL-3 (cont.)</p> <ul style="list-style-type: none"> ○ The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. ○ The most likely descendent (MLD) may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. • Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance: <ul style="list-style-type: none"> ○ The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. ○ The descendant identified fails to make a recommendation; or ○ The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 			
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-4 Prior to approval of a project, the lead agency with authority to approve the project. shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC. If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, the Watermaster Party undertaking the project shall implement the following measures where feasible and necessary to address site specific impacts to avoid or minimize the significant adverse impacts:</p> <ul style="list-style-type: none"> • Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. • Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: <ul style="list-style-type: none"> ○ Protecting the cultural character and integrity of the resource; ○ Protecting the traditional use of the resource; or ○ Protecting the confidentiality of the resource • Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places. • Protecting the resource. 	<p>Prior to approval of a project, the Implementing Agency with authority to approve the project. shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC.</p> <p>See MM CUL-1 for requirements for the preparation of a Cultural Resources Assessment.</p> <p>If Cultural Resources are uncovered, further consultation with NAHC and the Native American tribe consulting on the project shall be undertaken to determine how to avoid or minimize impacts including avoidance/preservation in place and a permanent conservation easement.</p> <p>Site specific impacts to Cultural Resources shall be addressed prior to returning to the area where the resources were uncovered to continue construction.</p>	<p>A copy of the construction contract including MM CUL-4 shall be retained in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>Excavation or disturbance of cultural resources shall cease until the Project Archaeologist determines the significance of the find.</p> <p>A final report of findings shall be submitted to the City for retention.</p> <p>Field notes from Archaeologist shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice Refer to mitigation measures AQ-1 and AQ-2			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Hazards / Emissions</u> Refer to mitigation measure HAZ-1			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Construction Traffic Management Plan</u> Refer to mitigation measures TR-1, TR-2 and TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Geology / Soils / Paleontological Resources / Mineral Resources</i> <u>Geology and Soils</u> GEO-1 Should a project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the project proponent shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design. The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Geologist Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Geology / Soils / Paleontological Resources / Mineral Resources</i> <u>Geology and Soils</u> GEO-2 Prior to approval of a project, a design-level geotechnical investigation shall be completed. The investigation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, and potential for subsidence to occur. The geotechnical investigation shall recommend site-specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of individual projects.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design. The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Geologist Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Geology / Soils / Paleontological Resources / Mineral Resources <u>Paleontological Resources</u> GEO-3 For project-level development involving ground disturbance, prior to commencement of ground disturbance a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If deemed necessary, the paleontologist shall conduct a paleontological resources inventory designed to identify potentially significant resources. The paleontological resources inventory would consist of: a paleontological resource records search to be conducted at the San Bernardino County Museum and/or other appropriate facilities; a field survey or monitoring where deemed appropriate by the paleontologist; and recordation of all identified paleontological resources.</p>	<p>MM GEOL-3 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources.</p> <p>If required, prior to commencement of ground disturbing activities, a qualified paleontologist shall conduct a paleontological resources inventory of a project site.</p>	<p>A copy of the construction contract including MM GEO-3 shall be retained in the project file.</p> <p>A copy of the paleontological resources inventory (if prepared) shall be placed in the project file.</p> <p>If a monitor is required, field notes from the Paleontological monitor shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Paleontologist	Three Valley MWD	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards</i> <u>Hazards / Emissions</u> HAZ-1 <u>Permits</u>. Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, the Watermaster Party responsible for a project site where treatment facilities are located, or a diesel operated back-up generator is proposed, shall obtain a Permit to Construct from SCAQMD. Once a piece of equipment is installed, modified and/or operated, SCAQMD will process the application for a Permit to Operate.</p>	<p>MM HAZ-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, obtain a Permit to Construct and Permit to Operate from SCAQMD.</p>	<p>A copy of the construction contract including MM HAZ-1 shall be retained in the project file.</p> <p>A copy of the SCAQMD permits shall be placed in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards</i> <u>Emergency Planning</u> Refer to mitigation measures TR-1, TR-2 and TR-3</p>			<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality HWQ-1 <u>Groundwater Production</u>. To avoid potential impacts associated with the loss of groundwater that may migrate out of the Pomona Basin or UCHB during periods of high groundwater levels, prior to commencement of improvements to existing groundwater production wells, or the development of new production wells in the Pomona Basin and UCHB, Watermaster staff shall conduct groundwater modeling in areas where high groundwater is known to occur in the area along the San Jose fault.</p>	<p>Prior to commencement of improvements to existing groundwater production wells, or the development of new production wells in the Pomona Basin and UCHB conduct groundwater modeling.</p>	<p>Results of groundwater modeling shall be presented to the Six Basins Watermaster Board for review.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Watermaster Staff	Watermaster Staff	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality</p> <p>HWQ-2 <u>Implementation of a SWPPP and the Use of BMPs During Construction.</u> Prior to commencement of any ground disturbing activities on a project site, the Watermaster Party or construction contractor shall prepare a SWPPP (area of disturbance one acre or greater) and submit a Notice of Intent to the State Water Resources Control Board. Implementation of BMPs as outlined in the SWPPP shall be on-going during construction activities. A copy of the SWPPP and the Waste Discharge Identification (WDID) number, shall be kept at the construction site and available for review by inspectors until construction is completed. For sites where the area of disturbance would be less than one acre, the project proponent or construction contractor is still responsible for maintaining the site and must provide the local jurisdiction in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities, prior to commencement of construction activities.</p>	<p>MM HWQ-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of any ground disturbing activities, the Project Engineer or Construction Contractor shall submit a Notice of Intent (NOI) to the State Water Resources Control Board to receive a Waste Discharge Identification Number (WDID).</p> <p>Provide a copy of the site-specific SWPPP and WDID to the Implementing Agency.</p>	<p>A copy of the construction contract including MM HWQ-2 shall be retained in the project file.</p> <p>A copy of the SWPPP and NOI shall be provided to the Implementing Agency.</p> <p>A copy of the SWPPP and NOI shall be kept at the construction site for review during site inspections by the Implementing Agency.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Hydrology / Water Quality</i> HWQ-3 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM HWQ-3 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM HWQ-3 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality</p> <p>HWQ-4 Dewatering General Permit. Prior to commencement of construction activities that would require dewatering and conveyance of groundwater to surface water including but not limited to a storm drain system, the Watermaster Party proposing a project shall submit a Notice of Intent (NOI) to SWRCB under the requirements of the NPDES Dewatering General Permit. The NOI shall include any additional information including a list of BMPs for preventing degradation of water quality or impairment of receiving waters.</p>	<p>MM HWQ-4 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities that would require dewatering, the Watermaster Party undertaking the project shall submit an NOI to SWRCB under the requirements of the State's NPDES Dewatering General Permit.</p> <p>SWRCB shall issue a written determination of eligibility for coverage under the General Permit.</p>	<p>A copy of the construction contract including MM HWQ-4 shall be retained in the project file.</p> <p>A copy of the project's permit for coverage under NPDES Dewatering General Permit shall be provided to the Implementing Agency prior to commencement of well drilling.</p> <p>A copy of the NOI and permit shall be kept in the file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Land Use / Planning</p> <p>No mitigation measures</p>			<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u></p> <p>NOI-1 The following mitigation measures are required to reduce noise and vibration levels produced by the construction equipment at nearby, occupied sensitive receiver locations:</p> <ul style="list-style-type: none"> • A focused construction noise and vibration mitigation plan shall be required if any or both of the following screening criteria are met: <ul style="list-style-type: none"> ○ If project construction activities would occur within 100 feet of occupied, sensitive receiver locations (e.g., residential, school, etc. uses): <ul style="list-style-type: none"> - A focused construction noise mitigation plan shall be required which evaluates whether project construction noise levels would exceed the 65 dBA Leq exterior noise level limit at occupied sensitive receiver locations, and the mitigation measures (if any) necessary to satisfy the 65 dBA Leq exterior noise level limit. - Potential mitigation measures to reduce project construction noise levels include, but are not limited to, temporary noise barriers, the use of alternative equipment, noise level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Noise and Vibration Mitigation Plan shall be prepared if screening criteria for noise generating construction activities in excess of local Noise Standards are met.</p> <p>Implementation of the Construction Noise and Vibration Mitigation Plan shall be implemented throughout the construction period when screening criteria are met.</p>	<p>A copy of the construction contract including MM NOI-1 shall be placed in the project file.</p> <p>A copy of the Construction Noise and Vibration Mitigation Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-2 During all project site construction, the construction contractors shall ensure that all construction equipment, fixed or mobile, shall have properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the project site.</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a list of construction equipment and vehicles and verify that all equipment and vehicles are in good operational condition per manufacturers standards.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the equipment/vehicle list shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-3 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction (i.e., the center of each site).</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a site plan showing where staging areas will be located during construction to ensure that all stationary construction equipment that emit noise, is directed away from the noise-sensitive receivers nearest the project site.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the Site Plan showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-4 The contractor shall design delivery routes of equipment and materials to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.</p>	<p>MM NOI-4 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a map showing delivery routes.</p> <p>All vendors making deliveries of equipment and materials shall be provided with a copy of the map of delivery routes.</p>	<p>A copy of the construction contract including MM NOI-4 shall be placed in the project file.</p> <p>A copy of the delivery route map showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency</p> <p>Correspondence documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u></p> <p>NOI-5 If high vibration-generating project construction activities such as well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used:</p> <ul style="list-style-type: none"> • Within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or • Within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles: <ul style="list-style-type: none"> ○ A focused construction vibration mitigation plan shall be required which evaluates whether project construction vibration levels would exceed the exterior vibration level limit at occupied sensitive receiver locations, specific to that jurisdiction’s standards, and the mitigation measures (if any) necessary to satisfy the exterior vibration level limit. - Potential mitigation measures to reduce project construction vibration levels include, but are not limited to, the use of alternative equipment, vibration level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-5 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Vibration Mitigation Plan shall be prepared and submitted to the Implementing Agency for review and approval if either of the two distance criteria identified in the measure are met.</p> <p>The Construction Vibration Mitigation Plan shall be implemented throughout the construction schedule or until such time as the high-vibration activities cease.</p>	<p>A copy of the construction contract including MM NOI-5 shall be placed in the project file.</p> <p>A copy of the approved Construction Vibration Mitigation Plan shall be placed in the project file.</p> <p>Verification of implementation shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Operation</u> NOI-6 The following operational noise abatement measures shall be required to further reduce the potential operational noise levels received at nearby sensitive receiver locations:</p> <ul style="list-style-type: none"> • New, or existing unenclosed, well pumps shall be enclosed to further reduce operational noise levels at nearby sensitive receiver locations (e.g., residential homes). The location of any louvres or openings in the enclosure assembly would reduce the overall noise reduction of the enclosure, and therefore, shall be oriented away from nearby residential homes, if feasible. In addition, acoustically-rated louvres and materials within the enclosure construction are recommended to further reduce the noise levels at the well pump source. • All trucks transiting on-site in outdoor areas of the project facilities should be operated with properly functioning and well-maintained mufflers. • Maintain quality pavement conditions on the property that are free of vertical deflection (i.e., speed bumps) to minimize truck noise. • Truck access gates and loading areas should have posted signs which state: <ol style="list-style-type: none"> 1. Truck drivers shall turn off engines when not in use; 2. No music or electronically reinforced speech from workers should be audible at noise-sensitive properties. 	<p>MM NOI-6 shall be included in the construction contract as a contract specification.</p> <p>Prior to approval of a project, the Site Plan showing how operational noise abatement measures shall be incorporated into the design of new facilities. The Site Plan shall be reviewed and approved by the Implementing Agency.</p> <p>During long-term operation of a project, if changes to the approved operational noise abatement measures, such changes shall be submitted to the Implementing Agency for review and approval.</p>	<p>A copy of the construction contract including MM NOI-6 shall be placed in the project file.</p> <p>A copy of the approved Site Plan shall be placed in the project file.</p> <p>Verification of implementation during construction shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p> <p>Verification of approved changes to the operation of a facility shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Architect Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
Population / Housing No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Emergency Planning and Traffic Control</u> Refer to mitigation measures TR-1, TR-2, TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Wildland Fire</u> No Project Category 1 projects are located in a high fire hazard zone			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.</p> <p>Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.</p> <p>Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.</p>	<p>MM TR-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan.</p> <p>The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.</p>	<p>A copy of the construction contract including MM TR-1 shall be retained in the project file.</p> <p>A copy of the Construction Traffic Management Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.</p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:</p> <p style="text-align: center;"><i>50 PCE truck trips / 3.0 PCE factor = 16 total trucks during the peak hour</i></p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Utilities / Service Systems / Energy USS-1 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM USS-1 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM USS-1 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Utilities / Service Systems / Energy</p> <p>USS-2 <u>Implementation of a Construction and Demolition Disposal Plan</u>. Prior to commencement of construction, the contractor shall prepare a Construction and Demolition C&D disposal plan for review and approval by the local jurisdiction where construction will occur. Per CGBC Section 45.408.1.1, <i>Construction Waste Management Plan</i>, the C&D Disposal Plan shall include the following elements:</p> <ol style="list-style-type: none"> 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale. 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. 	<p>MM USS-2 shall be included in the construction contract as a contract specification.</p> <p>The Construction and Demolition Disposal Plan shall be completed prior to commencement of construction and be implemented throughout construction activities.</p>	<p>A copy of the construction contract including MM USS-2 shall be retained in the project file.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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PROJECT CATEGORY 1 – PUMP AND TREAT PROJECTS**

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**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Facilities and Landscaping</u> AES-1 Proposed facilities, including walls, gates, treatment facilities, etc., shall be designed in accordance with local design standards in order to be complementary to the local area. Landscaping shall be installed and maintained in conformance with local landscaping design guidelines as appropriate to screen views of new facilities from surrounding areas to the extent feasible taking into consideration the needs of the project and except where such compliance is not required by California law.</p>	<p>AES-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft Program Environmental Impact Report (Draft PEIR)</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer/Architect Construction Contractor</p>	<p>Implementing Agency¹</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Agriculture and Forestry Resources –</i> No mitigation measures</p>			<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials

¹ “Implementing Agency” as used throughout this Mitigation Monitoring and Reporting Program refers to the lead agency implementing a project under the Six Basins Strategic Plan (e.g., Three Valleys Municipal Water District (TVMWD), City of Pomona, City of La Verne, Six Basins Watermaster (Watermaster), or other Watermaster Parties).

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:</p> <ul style="list-style-type: none"> • All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. • The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day. • The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less. 	MM AQ-1 shall be implemented during construction of future recharge facilities identified in Project Category 2 and shall be included in the construction contract as a contract specification.	<p>A copy of the construction contract including MM-AQ-1 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-2 Regarding emissions of NOx and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.</p>	MM AQ-2 shall be implemented during construction of future recharge facilities identified in Project Category 2 and shall be included in the construction contract as a contract specification.	<p>A copy of the construction contract including MM-AQ-2 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Air Quality / Greenhouse Gas Emissions / Global Climate Change</p> <p>AQ-3 SCAQMD Rule 403-Table 1 lists a number of Best Available Control Technologies (BACT) that may apply to the construction of Strategic Plan projects. On a project-by-project basis, SCAQMD Rule 403 Table 1 shall be reviewed and appropriate measures incorporated into a project specific monitoring program.</p>	<p>MM AQ-3 shall be implemented during construction of future recharge facilities identified in Project Category 2 and shall be included in the construction contract as a contract specification.</p>	<p>A copy of the construction contract including MM-AQ-3 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-1 <i>Tree Removal.</i> Prior to the trimming or removal of a tree at any project site, a project proponent will coordinate with the local agency to determine if the particular trees targeted for trimming or removal are heritage trees regulated by local agency. If the targeted tree is a heritage under the City or County Regulations, the appropriated application will be submitted and approved by the local agency prior to conducting the trimming or removal of the heritage tree(s), except where compliance is not required by California law.</p>	<p>If tree removal or trimming is identified, MM BIO-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM BIO-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Administrative Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Biologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-2 <i>Nesting Birds.</i> Removal of any trees, shrubs, or any other potential nesting habitat shall be conducted outside the avian nesting season, as verified by a qualified Avian Biologist. The nesting season generally extends from February 1 through August 31, but it can vary slightly from year to year based on seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the qualified Avian Biologist's-verified nesting season, a pre-construction clearance survey for nesting birds shall be conducted within 30 days of the start of any vegetation. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.</p>	<p>MM BIO-2 shall be included in the construction contract as a contract specification.</p> <p>The preconstruction survey(s) shall be conducted prior to commencement of site disturbance activities.</p> <p>If an active bird nest is located, a qualified biologist shall prepare and implement a monitoring program to periodically monitor the buffer area where no construction activities shall occur until such time as the project biologist determines fledglings have left the nest.</p>	<p>A copy of the construction contract including MM BIO-2 shall be retained in the project file(s).</p> <p>A copy of the survey(s) shall be placed in the project file (if applicable).</p> <p>Verification of implementation shall be based on field notes provided by the biological monitor to the Implementing Agency.</p> <p>Field notes shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Biologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources BIO-3 <i>Additional Biological Resources Assessments.</i> Prior to the approval of future project on sites not identified in this EIR and occurring within an undeveloped area, a biological assessment shall be made of the selected or potential sites to determine if sensitive biological resources (sensitive plant community, sensitive species, jurisdiction waters) are present. If a sensitive biological resource is present, an analysis shall be made of the potential for impact to the resource, an appropriate mitigation strategy will be developed and submitted to the wildlife and regulatory agencies with authority to review and approve the mitigation strategy as reducing impacts to less than significant. Either appropriate avoidance and minimization measures will be developed to offset any potential impact or offsite mitigation will be provided to offset the impact</p>	<p>Prior to approval of future projects on sites not identified in this EIR and occurring within an undeveloped area.</p> <p>Consultation with regulatory agencies (e.g., CDFW, ACOE) shall be completed prior to commencement of any ground disturbing activities.</p>	<p>MM BIO-3 shall be completed prior to approval of a project.</p>	<p>Administrative Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Biologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-4 <i>Wetland Permits.</i> Prior to approval of a project where permanent impacts in areas determined to be potential jurisdictional wetlands, Waters of the State or Waters of the U.S., may occur, the Watermaster Party undertaking the project shall consult with the regulatory agencies (USACE, RWQCB and CDFW) to determine if a CWA 404 permit, CWA 401 or a Streambed Alteration Agreement under Fish and Game Code 1602 are required prior to development. The following shall be incorporated into the permitting subject to approval by the regulatory agencies:</p> <p>a) On- or offsite replacement of USACE / RWQCB jurisdictional waters of the U.S. and/or waters of the State at a ratio no less than 1:1 for permanent impacts and to restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.</p> <p>b) On- or offsite replacement of CDFW jurisdictional streambed and associated riparian habitat shall occur at a ratio no less than 2:1 for permanent impacts and to restore the site to pre-project conditions for temporary impacts. Offsite replacement may include the purchase of mitigation credits at an agency-approved offsite mitigation bank or in-lieu fee program.</p>	<p>MM BIO-4 shall be included in the construction contract as a contract specification.</p> <p>Consultation with regulatory agencies ((USACE, RWQCB and CDFW) shall be completed prior to approval of the recharge project proposed to be undertaken.</p> <p>Replacement habitat or the purchase of mitigation credits in an existing mitigation bank shall be determined as part of the consultation.</p> <p>Timing of the development of replacement habitat on-site shall be determined during consultation.</p>	<p>A copy of the construction contract including MM BIO-4 shall be retained in the project file(s).</p> <p>A copy of the results of the consultation (e.g., permits, mitigation plan) shall be placed in the project file (if applicable).</p> <p>Verification of implementation shall be based on field notes provided by the biological monitor to the Implementing Agency.</p> <p>Field notes shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Project Biologist</p>	<p>Implementing Agency Regulatory Agencies</p>	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Cultural Resources / Tribal Cultural Resources</i></p> <p>CUL-1 Prior to approval of a project identified under Project Categories 1 through 3, a project proponent (Watermaster Party) shall retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior’s Standards for professional archaeology to conduct an assessment of the project site and vicinity for all project elements that involve ground disturbance. The archaeologist shall conduct cultural resources assessment consisting of: (1) a cultural resources records search to be conducted at the South Central Coastal Information Center located at California State University Fullerton; (2) consultation with the Native American Heritage Commission (NAHC) and with interested Native Americans identified by NAHC; (3) a field survey by the archaeologist; and (4) recordation of all identified archaeological resources located on a project site on California Department of Parks and Recreation 523 Site Record forms. The archaeologist shall provide recommendations regarding resource significance and additional work for those resources that may be affected by a project.</p> <p>Consultation with Native American tribes as set forth in Assembly Bill (AB) 52 shall be completed prior to a Watermaster Party approving a project.</p>	<p>MM CUL-1 shall be included in the construction contract as a contract specification.</p> <p>The Cultural Resources Assessment (CRA) shall be completed prior to approval of a project by the Implementing Agency.</p> <p>Should the CRA determine that resources may be uncovered during construction, an Archaeological monitor shall prepare and implement a monitoring program.</p>	<p>A copy of the construction contract including MM CUL-1 shall be retained in the project file(s).</p> <p>A copy of the Cultural Resources Assessment and Monitoring Program (if applicable) shall be placed in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>The Implementing Agency shall be notified within 24-hours of any accidental exposure of subsurface cultural resources. After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented. A final report of findings shall be submitted to the Implementing Agency for retention.</p> <p>Field notes from Archaeological monitor shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Archaeologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Cultural Resources / Tribal Cultural Resources</i> CUL-3 In the event that human remains are uncovered at a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <ul style="list-style-type: none"> • The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and • If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> ○ The coroner shall contact the Native American Heritage Commission within 24 hours. ○ The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. ○ The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. • Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. 	<p>MM CUL-3 shall be included in the construction contract as a contract specification.</p> <p>During ground disturbing activities and in the event that human remains are uncovered at a project site.</p>	<p>A copy of the construction contract including MM CUL-3 shall be retained in the project file.</p> <p>Excavation or disturbance shall cease and the coroner of the county in which the remains are discovered must be contacted.</p> <p>If the remains are Native American, disposition of the remains shall be by agreement between the coroner and the most likely descendent.</p>	<p style="text-align: center;">Draft PEIR</p>

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Cultural Resources / Tribal Cultural Resources</i> CUL-3 (cont.)</p> <ul style="list-style-type: none"> ○ The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. ○ The descendant identified fails to make a recommendation; or ○ The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 			
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Archaeologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Cultural Resources / Tribal Cultural Resources</i></p> <p>CUL-4 Prior to approval of a project, the Watermaster Party undertaking the project shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC. If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, Watermaster Parties shall implement the following measures where feasible and necessary to address site specific impacts to avoid or minimize the significant adverse impacts:</p> <ul style="list-style-type: none"> • Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. • Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: <ul style="list-style-type: none"> ○ Protecting the cultural character and integrity of the resource ○ Protecting the traditional use of the resource ○ Protecting the confidentiality of the resource • Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places. • Protecting the resource. 	<p>Prior to approval of a project, the Implementing Agency with authority to approve the project shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC.</p> <p>See MM CUL-1 for requirements for the preparation of a Cultural Resources Assessment.</p> <p>If Cultural Resources are uncovered, further consultation with NAHC and the Native American tribe consulting on the project shall be undertaken to determine how to avoid or minimize impacts including avoidance/ preservation in place and a permanent conservation easement.</p> <p>Site specific impacts to Cultural Resources shall be addressed prior to returning to the site where the resources were uncovered to continue construction.</p>	<p>A copy of the construction contract including MM CUL-4 shall be retained in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>Excavation or disturbance of cultural resources shall cease until the Project Archaeologist determines the significance of the find.</p> <p>A final report of findings shall be submitted to the City for retention.</p> <p>Field notes from Archaeologist shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>

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Responsible Party	Monitoring Party	Status / Date / Initials
Project Engineer Project Archaeologist	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice Refer to mitigation measures AQ-1 and AQ-2			Draft PEIR
Responsible Party	Monitoring Party	Status / Date / Initials	
Construction Contractor	Implementing Agency		

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Hazards / Emissions</u> Refer to mitigation measure HAZ-1			Draft PEIR
Responsible Party	Monitoring Party	Status / Date / Initials	
Construction Contractor	Implementing Agency		

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Hazards / Contamination</u> Refer to mitigation measure HAZ-3			Draft PEIR
Responsible Party	Monitoring Party	Status / Date / Initials	
Project Engineer	Implementing Agency		

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Construction Traffic Management Plan</u> Refer to mitigation measures TR-1, TR-2 and TR-3			Administrative Draft PEIR
Responsible Party	Monitoring Party	Status / Date / Initials	
Project Engineer Construction Contractor	Implementing Agency		

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Geology / Soils / Paleontological Resources / Mineral Resources</i> <u>Geology and Soils</u> GEO-1 Should a project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the project proponent shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design.</p> <p>The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Geologist Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Geology / Soils / Paleontological Resources / Mineral Resources</i> <u>Geology and Soils</u> GEO-2 Prior to approval of a project, a design-level geotechnical investigation shall be completed. The investigation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, and potential for subsidence to occur. The geotechnical investigation shall recommend site-specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of individual projects.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design.</p> <p>The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Project Geologist Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Geology / Soils / Paleontological Resources / Mineral Resources <u>Paleontological Resources</u> GEO-3 For project-level development involving ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If deemed necessary, the paleontologist shall conduct a paleontological resources inventory designed to identify potentially significant resources. The paleontological resources inventory would consist of: a paleontological resource records search to be conducted at the San Bernardino County Museum and/or other appropriate facilities; a field survey or monitoring where deemed appropriate by the paleontologist; and recordation of all identified paleontological resources.</p>	<p>MM GEOL-3 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources.</p> <p>If required, prior to commencement of ground disturbing activities, a qualified paleontologist shall conduct a paleontological resources inventory of a project site.</p>	<p>A copy of the construction contract including MM GEO-3 shall be retained in the project file.</p> <p>A copy of the paleontologists finding that a project may/may not uncover paleontological inventory and whether a monitor is required during construction, shall be retained in the project file.</p> <p>A copy of the paleontological resources inventory (if prepared) shall be placed in the project file.</p> <p>If a monitor is required, field notes from the Paleontological monitor shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Project Paleontologist Construction Contractor</p>	<p>Implementing Agency</p>	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards</i> <u>Hazards / Vector Control</u> HAZ-2 Prior to the initial use of new or expanded recharge basins within spreading grounds, Watermaster Parties proposing new recharge basins or expansion of existing recharge basins in spreading grounds shall coordinate with the local vector control agencies (West Valley MVCD or SGVMVCD) to develop a strategy/plan to minimize occurrence of vectors, such as midges and mosquitos; and to establish protocols for monitoring and eradicating vectors should they be found when basins are in use (filled with water). Monitoring to determine presence/absence of vectors during periods when recharge basins are holding water shall be the responsibility of the individual Watermaster Party to engage the services of a vector control professional. Should monitoring have positive results, the vector control professional shall work with the Vector Control District to implement control measures as set forth in the approved strategy/plan. The strategy/plan shall be prepared and available to be implemented prior to initiating the use of a new recharge basins or expansion area of an existing recharge basins.</p>	<p>Prior to the initial use of new or expanded recharge basins within spreading grounds, the Watermaster Party proposing a new recharge basin or expansion of existing recharge basins shall coordinate with the local vector control agencies to develop a strategy/plan (Vector Control Plan) to minimize occurrence of vectors, such as midges and mosquitos.</p> <p>The Vector Control Plan shall include a list of protocols for monitoring and eradicating vectors should they be found when basins are in use (filled with water).</p> <p>MM HAZ-3 shall be included in the construction contract as a contract specification.</p>	<p>A copy of the construction contract including MM HAZ-3 shall be retained in the project file.</p> <p>A copy of the Vector Control Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the vector control district with jurisdiction over a project site.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Vector Control District with Jurisdiction	

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PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><u>Wildland Fire</u> HAZ-5 Prior to approval of new facilities (recharge basins, new production wells, pipeline interconnects and related facilities) that would be located in areas designated as Fire Hazard Severity Zones by CAL FIRE, a site-specific Fire Management Plan shall be developed that identifies fire hazard reduction measures to be implemented during construction. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. A Fire Management Plan shall also be implemented at those sites where maintenance activities may be similar to construction activities.</p>	<p>Prior to approval of new facilities (recharge basins, new production wells, pipeline interconnects and related facilities) that would be located in areas designated as Fire Hazard Severity Zones by CAL FIRE.</p> <p>The Fire Management Plan shall be implemented during all stages of construction.</p>	<p>A copy of the construction contract including MM HAZ-5 shall be retained in the project file.</p> <p>A copy of the Fire Management Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<u>Wildland Fire</u> HAZ-6 Prior to commencement of maintenance activities during long term operation of facilities located in Fire Hazard Severity Zones, the Watermaster Party conducting operations/maintenance (e.g., spreading ground desilting and vegetation removal, maintenance of well sites, etc.) shall ensure that a Fire Management Plan shall be included in the maintenance plans for each facility.	Prior to commencement of maintenance activities that would be similar to construction activities, the Fire Management Plan shall be modified (if necessary) and implemented during maintenance activities that would be similar to construction activities (e.g., vegetation removal, basin desilting).	A copy of the construction contract including MM HAZ-6 shall be retained in the project file. A copy of the Fire Management Plan shall be placed in the project file. Verification of implementation shall be based on field inspections by the Implementing Agency. Field notes documenting verification shall be retained in the project file.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards</i> <u>Emergency Planning</u> Refer to mitigation measures TR-1, TR-2 and TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality</p> <p>HWQ-2 <u>Implementation of a SWPPP and the Use of BMPs During Construction.</u> Prior to commencement of any ground disturbing activities on a project site, the Watermaster Party or construction contractor shall prepare a SWPPP (area of disturbance one acre or greater) and submit a Notice of Intent to the State Water Resources Board. Implementation of BMPs as outlined in the SWPPP shall be on-going during construction activities. A copy of the SWPPP and the Waste Discharge Identification number, shall be kept at the construction and available for review by inspectors until construction is completed. For sites where the area of disturbance would be less than one acre, the project proponent or construction contractor is still responsible for maintaining the site and must provide the city in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities, prior to commencement of construction activities.</p>	<p>MM HWQ-2 shall be included in the construction contract as a contract specification.</p> <p>Project Engineer or Construction Contractor shall submit a Notice of Intent (NOI) to the State Water Resources Control Board to receive a Waste Discharge Identification Number (WDID).</p> <p>Provide a copy of the site-specific SWPPP and WDID to the Implementing Agency.</p>	<p>A copy of the construction contract including MM HWQ-2 shall be retained in the project file.</p> <p>A copy of the SWPPP and NOI shall be provided to the Implementing Agency.</p> <p>A copy of the SWPPP and NOI shall be kept at the construction site for review during site inspections by the Implementing Agency.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality</p> <p>HWQ-3 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM HWQ-3 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM HWQ-3 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Land Use / Planning</p> <p>No mitigation measures</p>			<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-1 The following mitigation measures are required to reduce noise and vibration levels produced by the construction equipment at nearby, occupied sensitive receiver locations:</p> <ul style="list-style-type: none"> • A focused construction noise and vibration mitigation plan shall be required if any or both of the following screening criteria are met: <ul style="list-style-type: none"> ○ If project construction activities would occur within 100 feet of occupied, sensitive receiver locations (e.g., residential, school, etc. uses): <ul style="list-style-type: none"> - A focused construction noise mitigation plan shall be required which evaluates whether project construction noise levels would exceed the 65 dBA Leq exterior noise level limit at occupied sensitive receiver locations, and the mitigation measures (if any) necessary to satisfy the 65 dBA Leq exterior noise level limit. - Potential mitigation measures to reduce project construction noise levels include, but are not limited to, temporary noise barriers, the use of alternative equipment, noise level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Noise and Vibration Mitigation Plan shall be prepared if screening criteria for noise generating construction activities in excess of local Noise Standards are met.</p> <p>Implementation of the Construction Noise and Vibration Mitigation Plan (if required) shall be implemented throughout the construction period when screening criteria are met.</p>	<p>A copy of the construction contract including MM NOI-1 shall be placed in the project file.</p> <p>A copy of the Construction Noise and Vibration Mitigation Plan (if required) shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-2 During all project site construction, the construction contractors shall ensure that all construction equipment, fixed or mobile, shall have properly operating and maintained mufflers, consistent with manufacturers' standards.</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a list of construction equipment and vehicles and verify that all equipment and vehicles are in good operational condition per manufacturers standards.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the equipment/vehicle list shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-3 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction (i.e., the center of each site).</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a site plan showing where staging areas will be located during construction to ensure that all stationary construction equipment that emit noise, is directed away from the noise-sensitive receivers nearest the project site.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the Site Plan showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
 MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
 PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Responsible Party	Monitoring Party	Status / Date / Initials
Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-4 Prior to commencement of construction activities, the construction contractor shall design delivery routes of equipment and materials to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise. A map of delivery routes shall be provided to vendors making deliveries of equipment and materials.</p>	<p>MM NOI-4 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a map showing delivery routes.</p> <p>All vendors making deliveries of equipment and materials shall be provided with a copy of the map of delivery routes.</p>	<p>A copy of the construction contract including MM NOI-4 shall be placed in the project file.</p> <p>A copy of the delivery route map showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency</p> <p>Correspondence documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-5 If high vibration-generating project construction activities such as well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used:</p> <ul style="list-style-type: none"> • Within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or • Within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles: <ul style="list-style-type: none"> ○ A focused construction vibration mitigation plan shall be required which evaluates whether project construction vibration levels would exceed the exterior vibration level limit at occupied sensitive receiver locations, specific to that jurisdiction’s standards, and the mitigation measures (if any) necessary to satisfy the exterior vibration level limit. <ul style="list-style-type: none"> - Potential mitigation measures to reduce project construction vibration levels include, but are not limited to, the use of alternative equipment, vibration level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-5 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Vibration Mitigation Plan shall be prepared and submitted to the Implementing Agency for review and approval if either of the two distance criteria identified in the measure are met.</p> <p>The Construction Vibration Mitigation Plan shall be implemented throughout the construction schedule or until such time as the high-vibration activities cease.</p>	<p>A copy of the construction contract including MM NOI-5 shall be placed in the project file.</p> <p>A copy of the approved Construction Vibration Mitigation Plan shall be placed in the project file.</p> <p>Verification of implementation shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Operation</u></p> <p>NOI-6 Prior to approval of a project, the following operational noise abatement measures shall be incorporated into the design of new facilities to further reduce the potential operational noise levels received at nearby sensitive receiver locations:</p> <ul style="list-style-type: none"> • New, or existing unenclosed, well pumps shall be enclosed to further reduce operational noise levels at nearby sensitive receiver locations (e.g., residential homes). The location of any louvres or openings in the enclosure assembly would reduce the overall noise reduction of the enclosure, and therefore, shall be oriented away from nearby residential homes, if feasible. In addition, acoustically-rated louvres and materials within the enclosure construction are recommended to further reduce the noise levels at the well pump source. • All trucks transiting on-site in outdoor areas of the project facilities should be operated with properly functioning and well-maintained mufflers. • Maintain quality pavement conditions on the property that are free of vertical deflection (i.e., speed bumps) to minimize truck noise. • Truck access gates and loading areas should have posted signs which state: <ol style="list-style-type: none"> 1. Truck drivers shall turn off engines when not in use; 2. No music or electronically reinforced speech from workers should be audible at noise-sensitive properties. 	<p>MM NOI-6 shall be included in the construction contract as a contract specification.</p> <p>Prior to approval of a project, the Site Plan showing how operational noise abatement measures shall be incorporated into the design of new facilities. The Site Plan shall be reviewed and approved by the Implementing Agency.</p> <p>During long-term operation of a project, if changes to the approved operational noise abatement measures, such changes shall be submitted to the Implementing Agency for review and approval.</p>	<p>A copy of the construction contract including MM NOI-6 shall be placed in the project file.</p> <p>A copy of the approved Site Plan shall be placed in the project file.</p> <p>Verification of implementation during construction shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p> <p>Verification of approved changes to the operation of a facility shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Three Valley MWD	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
 MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
 PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
Population / Housing No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Emergency Planning and Traffic Control</u> Refer to mitigation measures TR-1, TR-2, TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Wildland Fire</u> Refer to mitigation measures HAZ-5 and HAZ-6			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.</p> <p>Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.</p> <p>Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed</p>	<p>MM TR-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan.</p> <p>Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.</p>	<p>A copy of the construction contract including MM TR-1 shall be retained in the project file.</p> <p>A copy of the Construction Traffic Management Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.</p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:</p> <p style="margin-left: 40px;"><i>50 PCE truck trips / 3.0 PCE factor = 16 total trucks during the peak hour</i></p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Utilities / Service Systems / Energy</i></p> <p>USS-1 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce storm-water peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM USS-1 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM USS-1 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Utilities / Service Systems / Energy</p> <p>USS-2 <u>Implementation of a Construction and Demolition Disposal Plan.</u> Prior to commencement of construction, the contractor shall prepare a Construction and Demolition C&D) disposal plan for review and approval by the local jurisdiction where construction will occur. Per CGBC Section 45.408.1.1, <i>Construction Waste Management Plan</i>, the C&D Disposal Plan shall include the following elements:</p> <ol style="list-style-type: none"> 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale. 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. 	<p>MM USS-2 shall be included in the construction contract as a contract specification.</p> <p>The Construction and Demolition Disposal Plan shall be completed prior to commencement of construction and be implemented throughout construction activities.</p>	<p>A copy of the construction contract including MM USS-2 shall be retained in the project file.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 2 – STORMWATER AND SUPPLEMENTAL WATER RECHARGE**

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**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 3 – TEMPORARY SURPLUS PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Facilities and Landscaping</u> AES-1 Proposed facilities, including walls, gates, treatment facilities, etc., shall be designed in accordance with local design standards in order to be complementary to the local area. Landscaping shall be installed and maintained in conformance with local landscaping design guidelines as appropriate to screen views of new facilities from surrounding areas to the extent feasible taking into consideration the needs of the project and except where such compliance is not required by California law.</p>	<p>AES-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft Program Environmental Impact Report (Draft PEIR)</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer/Architect Construction Contractor</p>	<p>Implementing Agency¹</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-2 To avoid any light intrusion to surrounding land uses, on project sites where permanent exterior lighting is proposed, lights shall be shielded and directed downward and toward the interior of a site. The maximum light allowed beyond the property boundary adjacent to sensitive light receptors shall be as stipulated in local design guidelines or development code and except where such compliance is not required by California law.</p>	<p>AES-2 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-2 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

¹ "Implementing Agency" as used throughout this Mitigation Monitoring and Reporting Program refers to the lead agency implementing a project under the Six Basins Strategic Plan (e.g., Three Valleys Municipal Water District (TVMWD), City of Pomona, City of La Verne, Six Basins Watermaster (Watermaster), or other Watermaster Parties).

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 3 – TEMPORARY SURPLUS PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-3 Development of Strategic Plan projects shall comply with existing or future lighting ordinances, and except where such compliance is not required by California law.</p>	<p>AES-3 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-3 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Aesthetics</i> <u>Light and Glare</u> AES-4 Any new structures that may require large facades shall not be constructed using highly reflective building materials.</p>	<p>AES-4 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM AES-4 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Architect Construction Contractor</p>	<p>Implementing Agency</p>	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
PROJECT CATEGORY 3 – TEMPORARY SURPLUS PROJECTS**

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Agriculture and Forestry Resources –</i> No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i> AQ-1 Construction contractors at each project site shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to: <ul style="list-style-type: none"> • All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. • The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day. • The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less. 	MM AQ-1 shall be implemented during construction of future facilities at existing sites identified in Project Category 3 and shall be included in the construction contract as a contract specification.	A copy of the construction contract including MM-AQ-1 shall be retained in the project file. Verification of implementation shall be based on field inspections by the Implementing Agency. Field notes from inspections shall be retained in the project file.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-2 Regarding emissions of NOx and VOC, when using construction equipment greater than 150 horsepower (>150 HP), the Construction Contractor shall ensure that off-road diesel construction equipment complies with EPA/CARB Tier 4 emissions standards or equivalent and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.</p>	MM AQ-2 shall be implemented during construction of future facilities at existing sites identified in Project Category 3 and shall be included in the construction contract as a contract specification.	<p>A copy of the construction contract including MM-AQ-2 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Air Quality / Greenhouse Gas Emissions / Global Climate Change</i></p> <p>AQ-3 SCAQMD Rule 403-Table 1 (see attached) lists a number of Best Available Control Technologies (BACT) that may apply to the construction of Strategic Plan projects. On a project-by-project basis, SCAQMD Rule 403 Table 1 shall be reviewed and appropriate measures incorporated into a project specific monitoring program.</p>	MM AQ-3 shall be implemented during construction of future facilities at existing sites identified in Project Category 3 and shall be included in the construction contract as a contract specification.	<p>A copy of the construction contract including MM-AQ-3 shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes from inspections shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-1 <i>Tree Removal.</i> Prior to the trimming or removal of a tree at any project site, the Watermaster Party proposing the project will coordinate with the local agency to determine if the particular trees targeted for trimming or removal are heritage trees regulated by local agency. If the targeted tree is a heritage under the City or County Regulations, the appropriated application will be submitted and approved by the local agency prior to conducting the trimming or removal of the heritage tree(s), except where compliance is not required by California law.</p>	<p>If tree removal or trimming is identified, MM BIO-1 shall be incorporated into individual project design specifications, which shall be included in the construction contract as a contract specification and implemented by the contractor during construction.</p>	<p>A copy of the construction contract including MM BIO-1 shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources</p> <p>BIO-2 <i>Nesting Birds.</i> Removal of any trees, shrubs, or any other potential nesting habitat shall be conducted outside the avian nesting season, as verified by a qualified Avian Biologist. The nesting season generally extends from February 1 through August 31, but it can vary slightly from year to year based on seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the qualified Avian Biologist’s-verified nesting season, a pre-construction clearance survey for nesting birds shall be conducted within 30 days of the start of any construction. If no active nests are found, no further action would be required. If an active nest is found, the biologist shall set appropriate no-work buffers around the nest, which would be determined based on the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.</p>	<p>MM BIO-2 shall be included in the construction contract as a contract specification.</p> <p>The preconstruction survey(s) shall be conducted prior to commencement of site disturbing activities.</p> <p>If an active bird nest is located, a qualified biologist shall prepare and implement a monitoring program to monitor the buffer area weekly where no construction activities shall occur until such time as the project biologist determines fledglings have left the nest.</p>	<p>A copy of the construction contract including MM BIO-2 shall be retained in the project file(s).</p> <p>A copy of the survey(s) shall be placed in the project file (if applicable).</p> <p>Verification of implementation shall be based on field notes provided by the biological monitor to the Implementing Agency.</p> <p>Field notes shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Biologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Biological Resources BIO-3 <i>Additional Biological Resources Assessments.</i> Prior to the approval of future project on sites not identified in this EIR and occurring within an undeveloped area, a biological assessment shall be made of the selected or potential sites to determine if sensitive biological resources (sensitive plant community, sensitive species, jurisdiction waters) are present. If a sensitive biological resource is present, an analysis shall be made of the potential for impact to the resource, an appropriate mitigation strategy will be developed and submitted to the wildlife and regulatory agencies with authority to review and approve the mitigation strategy as reducing impacts to less than significant. Either appropriate avoidance and minimization measures will be developed to offset any potential impact or offsite mitigation will be provided to offset the impact.</p>	<p>Prior to approval of future projects on sites not identified in this EIR and occurring within an undeveloped area.</p> <p>Consultation with regulatory agencies (e.g., CDFW, ACOE) shall be completed prior to commencement of any ground disturbing activities.</p>	<p>MM BIO-3 shall be completed prior to approval of a project.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-1 Prior to approval of a project identified under Project Categories 1 through 3, the Watermaster Party proposing the project shall retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology to conduct an assessment of the project site and vicinity for all project elements that involve ground disturbance. The archaeologist shall conduct cultural resources assessment consisting of: (1) a cultural resources records search to be conducted at the South Central Coastal Information Center located at California State University Fullerton; (2) consultation with the Native American Heritage Commission (NAHC) and with interested Native American tribes identified by NAHC; (3) a field survey by the archaeologist; and (4) recordation of all identified archaeological resources located on a project site on California Department of Parks and Recreation 523 Site Record forms. The archaeologist shall provide recommendations regarding resource significance and additional work for those resources that may be affected by a project.</p>	<p>MM CUL-1 shall be included in the construction contract as a contract specification.</p> <p>The Cultural Resources Assessment (CRA) (if required) shall be completed prior to approval of a project by the Implementing Agency.</p> <p>Should the CRA determine that resources may be uncovered during construction, an Archaeological monitor shall prepare and implement a monitoring program.</p> <p>The Implementing Agency shall be notified within 24-hours of any accidental exposure of subsurface cultural resources.</p> <p>After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented.</p>	<p>A copy of the construction contract including MM CUL-1 shall be retained in the project file(s).</p> <p>A copy of the Cultural Resources Assessment and Monitoring Program (if applicable) shall be placed in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>A final report of findings shall be submitted to the Implementing Agency for retention.</p> <p>Field notes from Archaeological monitor shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Archaeologist	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-2 Prior to ground disturbance activities at a project site that contain structures 45 years old or older, affected structure(s) shall be subject to a historic built environment survey, and potentially historic structures shall be evaluated for their potential historic significance, prior to a Watermaster Party's finalization of design/site plans. The survey shall be carried out by a qualified historian or architectural historian meeting the Secretary of the Interior's Standards for Architectural History. If potentially significant resources are encountered during the survey, a treatment plan shall be prepared prior to demolition or substantial alteration of such resources identified.</p>	<p>MM CUL-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to demolition or substantial alteration of a potential historic building, a qualified architectural historian shall conduct a Historic Built Environment Survey. If a resource is identified, a treatment plan shall be prepared.</p>	<p>A copy of the construction contract including MM CUL-2 shall be retained in the project file.</p> <p>A copy of the Historic Built Environment Survey Cultural Resources Assessment and Monitoring Program (if applicable) shall be placed in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Architectural Historian	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-3 In the event that human remains are uncovered at a project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <ul style="list-style-type: none"> • The coroner of the county in which the remains are discovered must be contacted to determine whether an investigation of the cause of death is required, and • If the coroner determines the remains to be Native American: <ul style="list-style-type: none"> ○ The coroner shall contact the Native American Heritage Commission within 24 hours. 	<p>MM CUL-3 shall be included in the construction contract as a contract specification.</p> <p>During ground disturbing activities and in the event that human remains are uncovered at a project site the coroner shall be called to determine whether an investigation is required</p> <p>Disposition of any remains identified as Native American shall be determined through consultation with the MLD.</p>	<p>A copy of the construction contract including MM CUL-3 shall be retained in the project file.</p> <p>Excavation or disturbance shall cease and the coroner of the county in which the remains are discovered must be contacted.</p> <p>If the remains are Native American, disposition of the remains shall be by agreement between the coroner and the most likely descendent.</p>	Draft PEIR

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources CUL-3 (cont.)</p> <ul style="list-style-type: none"> ○ The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. ○ The most likely descendent (MLD) may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. • Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance: <ul style="list-style-type: none"> ○ The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. ○ The descendant identified fails to make a recommendation; or ○ The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 			
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Cultural Resources / Tribal Cultural Resources</p> <p>CUL-4 Prior to approval of a project, the lead agency with authority to approve the project. shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC. If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, identified through project-specific AB 52 consultation, and measures are not otherwise identified in the consultation process required under PRC Section 21080.3.2, the Watermaster Party undertaking the project shall implement the following measures where feasible and necessary to address site specific impacts to avoid or minimize the significant adverse impacts:</p> <ul style="list-style-type: none"> • Avoidance and preservation of the resources in place, including, but not limited to: planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria. • Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: <ul style="list-style-type: none"> ○ Protecting the cultural character and integrity of the resource; ○ Protecting the traditional use of the resource; or ○ Protecting the confidentiality of the resource • Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places. • Protecting the resource. 	<p>Prior to approval of a project, the Implementing Agency with authority to approve the project. shall conduct AB 52 consultation with Native American tribes based on a list provided by the NAHC.</p> <p>See MM CUL-1 for requirements for the preparation of a Cultural Resources Assessment.</p> <p>If Cultural Resources are uncovered, further consultation with NAHC and the Native American tribe consulting on the project shall be undertaken to determine how to avoid or minimize impacts including avoidance/ preservation in place and a permanent conservation easement.</p> <p>Site specific impacts to Cultural Resources shall be addressed prior to returning to the area where the resources were uncovered to continue construction.</p>	<p>A copy of the construction contract including MM CUL-4 shall be retained in the project file.</p> <p>A copy of the construction contract shall be retained in the project file.</p> <p>Excavation or disturbance of cultural resources shall cease until the Project Archaeologist determines the significance of the find.</p> <p>A final report of findings shall be submitted to the City for retention.</p> <p>Field notes from Archaeologist shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice Refer to mitigation measures AQ-1 and AQ-2			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Hazards / Emissions</u> Refer to mitigation measure HAZ-1			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Environmental Justice <u>Construction Traffic Management Plan</u> Refer to mitigation measures TR-1, TR-2 and TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Geology / Soils / Paleontological Resources / Mineral Resources</i> <u>Geology and Soils</u> GEO-1 Should a project in any of the categories of projects be located within a designated Alquist-Priolo Fault Zone, the project proponent shall consider relocating the project to another site. If that is not feasible, then the project shall be designed in accordance with the most current version of the CBC and subject to a project specific Geotechnical Investigation.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design. The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Geology / Soils / Paleontological Resources / Mineral Resources <u>Geology and Soils</u> GEO-2 Prior to approval of a project, a design-level geotechnical investigation shall be completed by the Watermaster Party proposing the project. The investigation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, and potential for subsidence to occur. The geotechnical investigation shall recommend site-specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of individual projects.</p>	<p>The design level geotechnical investigation shall be completed prior to completion of facility design.</p> <p>The measures identified in the geotechnical investigation shall be incorporated into individual project design specifications.</p> <p>Site specific design criteria shall be included in the construction contract as contract specifications.</p>	<p>A copy of the geotechnical investigation shall be retained in the project file(s).</p> <p>A copy of the construction contract including this geology/soils mitigation measure shall be retained in the project file(s).</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Project Geologist Construction Contractor</p>	<p>Implementing Agency</p>	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Geology / Soils / Paleontological Resources / Mineral Resources</p> <p><u>Paleontological Resources</u></p> <p>GEO-3 For project-level development involving ground disturbance, prior to commencement of ground disturbance a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources. If deemed necessary, the paleontologist shall conduct a paleontological resources inventory designed to identify potentially significant resources. The paleontological resources inventory would consist of: a paleontological resource records search to be conducted at the San Bernardino County Museum and/or other appropriate facilities; a field survey or monitoring where deemed appropriate by the paleontologist; and recordation of all identified paleontological resources.</p>	<p>MM GEOL-3 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of ground disturbance, a qualified paleontologist shall be retained to determine the necessity of conducting a study of the project area(s) based on the potential sensitivity of the project site for paleontological resources.</p> <p>If required, prior to commencement of ground disturbing activities, a qualified paleontologist shall conduct a paleontological resources inventory of a project site.</p>	<p>A copy of the construction contract including MM GEO-3 shall be retained in the project file.</p> <p>A copy of the paleontological resources inventory (if prepared) shall be placed in the project file.</p> <p>If a monitor is required, field notes from the Paleontological monitor shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Project Paleontologist	Three Valley MWD	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards <u>Hazards / Emissions</u> HAZ-1 <u>Permits</u>. Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, the Watermaster Party responsible proposing the project where treatment facilities are located, or a diesel operated back-up generator is proposed, shall obtain a Permit to Construct from SCAQMD. Once a piece of equipment is installed, modified and/or operated, SCAQMD will process the application for a Permit to Operate.</p>	<p>MM HAZ-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to installation of new or relocated equipment, or prior to modification of any existing equipment, obtain a Permit to Construct and Permit to Operate from SCAQMD.</p>	<p>A copy of the construction contract including MM HAZ-1 shall be retained in the project file.</p> <p>A copy of the SCAQMD permits shall be placed in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards <u>Contamination</u> HAZ-3 Prior to the commencement of any construction that would require ground-disturbing activities, a project proponent shall undertake a Phase I Environmental Site Assessments (ESA) to determine the presence/absence of soil and/or groundwater contamination at or in the vicinity of a project site. Recommendations identified in the ESA shall be implemented to the satisfaction of applicable agencies prior to and during construction. If the Phase I ESA finds the potential for hazardous concentrations of contaminated soil or groundwater to occur within the project site, a Phase II ESA shall be completed before construction begins.</p> <p>If the Phase II ESA determines that the site has contaminated soil and/or groundwater, a Soil and Groundwater Management Plan that specifies the method for handling and disposing of contaminated soil and groundwater prior to demolition, excavation, and construction activities shall be prepared and implemented. A Phase II ESA shall include soil and/or groundwater sampling and analysis for anticipated contaminants. Such sampling is intended to identify how contaminated soil and/or groundwater shall be disposed of, and to determine if construction workers would need special personal protective gear and/or equipment.</p>	<p>Prior to the commencement of any construction that would require ground-disturbing activities.</p> <p>If the Phase I ESA finds the potential for hazardous concentrations of contaminated soil or groundwater to occur within the project site, a Phase II ESA shall be completed before construction begins.</p> <p>If the Phase II ESA determines that the site has contaminated soil and/or groundwater, a Soil and Groundwater Management Plan shall be prepared and implemented before construction begins.</p>	<p>A copy of the construction contract including MM HAZ-3 shall be retained in the project file.</p> <p>A copy of the Phase I ESA shall be retained in the project file.</p> <p>A copy of the Phase II ESA shall be retained in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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Mitigation Measure	Implementation Schedule	Verification	Source
<p><i>Hazards and Hazardous Materials / Airport Safety / Wildfire Hazards</i> <u>Airport Safety</u> HAZ-4 For future projects that may be developed on sites within an airport safety zone, the Watermaster Party responsible for project development shall comply with the guidelines of the appropriate Airport Land Use Compatibility Plan (ALUCP). Project design plans for sites within an ALUCP shall be submitted to the appropriate Airport Management agencies for review and comment prior to implementation.</p>	<p>Prior to approval of a project on a site within an ALUCP the Watermaster Party shall submit project design plans to the appropriate Airport Management Agency</p> <p>Airport Management Agency shall sign off on the project design plans prior to approval of the project by the Implementing Agency.</p>	<p>Watermaster Party project engineer or architect shall provide a letter from the Airport Management Agency showing that the project complies with the ALUC Guidelines for new structures within the boundary of an ALUCP.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer/Architect	Implementing Agency	

**PROGRAM EIR FOR THE SIX BASINS STRATEGIC PLAN
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Mitigation Measure	Implementation Schedule	Verification	Source
<p><u>Wildland Fire</u> HAZ-5 Prior to approval of new facilities (recharge basins, new production wells, pipeline interconnects and related facilities) that would be located in areas designated as Fire Hazard Severity Zones by CAL FIRE, a site-specific Fire Management Plan shall be developed that identifies fire hazard reduction measures to be implemented during construction. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.</p> <p>A Fire Management Plan shall also be implemented at those sites where maintenance activities may be similar to construction activities.</p>	<p>Prior to approval of new facilities that would be located in areas designated as Fire Hazard Severity Zones by CAL FIRE.</p> <p>The Fire Management Plan shall be implemented during all stages of construction.</p>	<p>A copy of the construction contract including MM HAZ-5 shall be retained in the project file.</p> <p>A copy of the Fire Management Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<u>Wildland Fire</u> HAZ-6 Prior to commencement of maintenance activities during long term operation of facilities located in Fire Hazard Severity Zones, the Watermaster Party conducting operations/maintenance (e.g., spreading ground desilting and vegetation removal, maintenance of well sites, etc.) shall ensure that a Fire Management Plan shall be included in the maintenance plans for each facility.	Prior to commencement of maintenance activities that would be similar to construction activities, the Fire Management Plan shall be modified (if necessary) and implemented during maintenance activities that would be similar to construction activities (e.g., vegetation removal, basin desilting)	A copy of the construction contract including MM HAZ-6 shall be retained in the project file. A copy of the Fire Management Plan shall be placed in the project file. Verification of implementation shall be based on field inspections by the Implementing Agency. Field notes documenting verification shall be retained in the project file.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<u>Hydrology / Water Quality</u> HWQ-1 <u>Groundwater Production</u> . To avoid potential impacts associated with the loss of groundwater that may migrate out of the Pomona Basin or UCHB during periods of high groundwater levels, prior to commencement of improvements to existing groundwater production wells, or the development of new production wells in the Pomona Basin and UCHB, Watermaster staff shall conduct groundwater modeling in areas where high groundwater is known to occur in the area along the San Jose fault.	Prior to commencement of improvements to existing groundwater production wells, or the development of new production wells in the Pomona Basin and UCHB conduct groundwater modeling.	Results of groundwater modeling shall be presented to the Six Basins Watermaster Board for review.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Watermaster Staff	Watermaster Staff	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality</p> <p>HWQ-2 <u>Implementation of a SWPPP and the Use of BMPs During Construction.</u> Prior to commencement of any ground disturbing activities on a project site, the Watermaster Party proposing the project or construction contractor shall prepare a SWPPP (area of disturbance one acre or greater) and submit a Notice of Intent to the State Water Resources Control Board. Implementation of BMPs as outlined in the SWPPP shall be on-going during construction activities. A copy of the SWPPP and the Waste Discharge Identification (WDID) number, shall be kept at the construction site and available for review by inspectors until construction is completed. For sites where the area of disturbance would be less than one acre, the project proponent or construction contractor is still responsible for maintaining the site and must provide the local jurisdiction in which construction activities will take place, with a list of BMPs and a schedule for completion of such activities, prior to commencement of construction activities.</p>	<p>MM HWQ-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of any ground disturbing activities, the Project Engineer or Construction Contractor shall submit a Notice of Intent (NOI) to the State Water Resources Control Board to receive a Waste Discharge Identification Number (WDID).</p> <p>Provide a copy of the site-specific SWPPP and WDID to the Implementing Agency.</p>	<p>A copy of the construction contract including MM HWQ-2 shall be retained in the project file.</p> <p>A copy of the SWPPP and NOI shall be provided to the Implementing Agency.</p> <p>A copy of the SWPPP and NOI shall be kept at the construction site for review during site inspections by the Implementing Agency.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	<p>Project Engineer Construction Contractor</p>	<p>Implementing Agency</p>	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality HWQ-3 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM HWQ-3 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM HWQ-3 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Hydrology / Water Quality HWQ-4 <u>Dewatering General Permit.</u> Prior to commencement of construction activities that would require dewatering and conveyance of groundwater to surface water including but not limited to a storm drain system, the Watermaster Party proposing a project shall submit a Notice of Intent (NOI) to SWRCB under the requirements of the NPDES Dewatering General Permit. The NOI shall include any additional information including a list of BMPs for preventing degradation of water quality or impairment of receiving waters.</p>	<p>MM HWQ-4 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities that would require dewatering, the Watermaster Party undertaking the project shall submit an NOI to SWRCB under the requirements of the State's NPDES Dewatering General Permit.</p> <p>SWRCB shall issue a written determination of eligibility for coverage under the General Permit.</p>	<p>A copy of the construction contract including MM HWQ-4 shall be retained in the project file.</p> <p>A copy of the project's permit for coverage under NPDES Dewatering General Permit shall be provided to the Implementing Agency prior to commencement of well drilling.</p> <p>A copy of the NOI and permit shall be kept in the file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p>	Draft PEIR

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Mitigation Measure	Implementation Schedule	Verification	Source
<i>Hydrology / Water Quality</i> HWQ-4 (cont.)		Field notes documenting verification shall be retained in the project file.	
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Party	

Mitigation Measure	Implementation Schedule	Verification	Source
<i>Land Use / Planning</i> No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u></p> <p>NOI-1 The following mitigation measures are required to reduce noise and vibration levels produced by the construction equipment at nearby, occupied sensitive receiver locations:</p> <ul style="list-style-type: none"> • A focused construction noise and vibration mitigation plan shall be required if any or both of the following screening criteria are met: <ul style="list-style-type: none"> ○ If project construction activities would occur within 100 feet of occupied, sensitive receiver locations (e.g., residential, school, etc. uses): <ul style="list-style-type: none"> - A focused construction noise mitigation plan shall be required which evaluates whether project construction noise levels would exceed the 65 dBA Leq exterior noise level limit at occupied sensitive receiver locations, and the mitigation measures (if any) necessary to satisfy the 65 dBA Leq exterior noise level limit. - Potential mitigation measures to reduce project construction noise levels include, but are not limited to, temporary noise barriers, the use of alternative equipment, noise level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Noise and Vibration Mitigation Plan shall be prepared if screening criteria for noise generating construction activities in excess of local Noise Standards are met.</p> <p>Implementation of the Construction Noise and Vibration Mitigation Plan shall be implemented throughout the construction period when screening criteria are met.</p>	<p>A copy of the construction contract including MM NOI-1 shall be placed in the project file.</p> <p>A copy of the Construction Noise and Vibration Mitigation Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-2 During all project site construction, the construction contractors shall ensure that all construction equipment, fixed or mobile, shall have properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the project site.</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a list of construction equipment and vehicles and verify that all equipment and vehicles are in good operational condition per manufacturers standards.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the equipment/vehicle list shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-3 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the project site during all project construction (i.e., the center of each site).</p>	<p>MM NOI-2 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a site plan showing where staging areas will be located during construction to ensure that all stationary construction equipment that emit noise, is directed away from the noise-sensitive receivers nearest the project site.</p>	<p>A copy of the construction contract including MM NOI-2 shall be placed in the project file.</p> <p>A copy of the Site Plan showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u> NOI-4 The contractor shall design delivery routes of equipment and materials to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.</p>	<p>MM NOI-4 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, the construction contractor shall provide the Implementing Agency with a map showing delivery routes.</p> <p>All vendors making deliveries of equipment and materials shall be provided with a copy of the map of delivery routes.</p>	<p>A copy of the construction contract including MM NOI-4 shall be placed in the project file.</p> <p>A copy of the delivery route map showing the location of the staging area shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency</p> <p>Correspondence documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Construction</u></p> <p>NOI-5 If high vibration-generating project construction activities such as well drilling equipment, heavy mobile equipment (greater than 80,000 pounds), or large loaded trucks would be used:</p> <ul style="list-style-type: none"> • Within 25 feet of occupied, sensitive receiver locations in the cities of Claremont, Pomona, La Verne, and Upland; or • Within 50 feet of occupied, sensitive receiver locations in unincorporated County of Los Angeles: <ul style="list-style-type: none"> ○ A focused construction vibration mitigation plan shall be required which evaluates whether project construction vibration levels would exceed the exterior vibration level limit at occupied sensitive receiver locations, specific to that jurisdiction’s standards, and the mitigation measures (if any) necessary to satisfy the exterior vibration level limit. - Potential mitigation measures to reduce project construction vibration levels include, but are not limited to, the use of alternative equipment, vibration level monitoring, temporary relocation of residents, or a combination of the above. 	<p>MM NOI-5 shall be included in the construction contract as a contract specification.</p> <p>Prior to commencement of construction activities, a focused Construction Vibration Mitigation Plan shall be prepared and submitted to the Implementing Agency for review and approval if either of the two distance criteria identified in the measure are met.</p> <p>The Construction Vibration Mitigation Plan shall be implemented throughout the construction schedule or until such time as the high-vibration activities cease.</p>	<p>A copy of the construction contract including MM NOI-5 shall be placed in the project file.</p> <p>A copy of the approved Construction Vibration Mitigation Plan shall be placed in the project file.</p> <p>Verification of implementation shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Noise <u>Operation</u> NOI-6 The following operational noise abatement measures shall be required to further reduce the potential operational noise levels received at nearby sensitive receiver locations:</p> <ul style="list-style-type: none"> • New, or existing unenclosed, well pumps shall be enclosed to further reduce operational noise levels at nearby sensitive receiver locations (e.g., residential homes). The location of any louvres or openings in the enclosure assembly would reduce the overall noise reduction of the enclosure, and therefore, shall be oriented away from nearby residential homes, if feasible. In addition, acoustically-rated louvres and materials within the enclosure construction are recommended to further reduce the noise levels at the well pump source. • All trucks transiting on-site in outdoor areas of the project facilities should be operated with properly functioning and well-maintained mufflers. • Maintain quality pavement conditions on the property that are free of vertical deflection (i.e., speed bumps) to minimize truck noise. • Truck access gates and loading areas should have posted signs which state: <ol style="list-style-type: none"> 1. Truck drivers shall turn off engines when not in use; 2. No music or electronically reinforced speech from workers should be audible at noise-sensitive properties. 	<p>MM NOI-6 shall be included in the construction contract as a contract specification.</p> <p>Prior to approval of a project, the Site Plan showing how operational noise abatement measures shall be incorporated into the design of new facilities. The Site Plan shall be reviewed and approved by the Implementing Agency.</p> <p>During long-term operation of a project, if changes to the approved operational noise abatement measures, such changes shall be submitted to the Implementing Agency for review and approval.</p>	<p>A copy of the construction contract including MM NOI-6 shall be placed in the project file.</p> <p>A copy of the approved Site Plan shall be placed in the project file.</p> <p>Verification of implementation during construction shall be through reporting by the construction contractor to the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p> <p>Verification of approved changes to the operation of a facility shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Architect Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
Population / Housing No mitigation measures			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Emergency Planning and Traffic Control</u> Refer to mitigation measures TR-1, TR-2, TR-3			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
Public Services and Recreation <u>Wildland Fire</u> Refer to mitigation measures HAZ-5 and HAZ-6			Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-1 Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan that contains comprehensive strategies for maintaining emergency access on public streets. In general, the Construction Traffic Management Plan shall ensure that to the extent practical, construction traffic would access a project site during off-peak hours or limited access during the peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses. The Plan shall also include, where necessary, the use of flags, signs and lights, as well as flag persons to direct traffic.</p> <p>Where a project includes new pipelines to connect wells to treatment facilities or to connect the Pomona WTP to the new SASG recharge basin, strategies shall include, but are not limited to, maintaining steel trench plates on public streets to restore access across open trenches and identification of alternate routing around construction zones.</p> <p>Police, fire, and other emergency service providers shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed</p>	<p>MM TR-1 shall be included in the construction contract as a contract specification.</p> <p>Prior to initiating construction of proposed facilities, the Watermaster Party proposing a project or the designated construction contractor, shall prepare and implement a Construction Traffic Management Plan.</p> <p>The Watermaster Party proposing a project, or designated construction contractor shall ensure that the Construction Traffic Management Plan and other construction activities are consistent with the Emergency Response Plan of the jurisdiction in which the project is being constructed.</p>	<p>A copy of the construction contract including MM TR-1 shall be retained in the project file.</p> <p>A copy of the Construction Traffic Management Plan shall be placed in the project file.</p> <p>Verification of implementation shall be based on field inspections by the Implementing Agency.</p> <p>Field notes documenting verification shall be retained in the project file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-2 As part of the Construction Traffic Management Plan, it shall be stipulated that the delivery and removal of heavy equipment shall be conducted during off- peak hours to minimize the heavy truck activity during the morning and evening peak periods (7 to 9 am and 4 to 6 pm) in order to have nominal impacts to traffic and circulation near the vicinity of a project.</p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

Mitigation Measure	Implementation Schedule	Verification	Source
<p>Transportation</p> <p>TR-3 During the site grading, where export of material is required, the construction contractor shall limit export activity between the hours of 7 to 9 am (morning peak period) and 4 to 6 pm (evening peak period) to fewer than the equivalent of 50 passenger car equivalent (PCE) truck trips per hour. 50 PCE truck trips equates to approximately 16 total trucks (8 trucks in and 8 trucks out) during the peak periods specified above in order to limit the potential impacts of haul truck activity during these busy commute times:</p> <p style="text-align: center;"><i>50 PCE truck trips / 3.0 PCE factor = 16 total trucks during the peak hour</i></p>	See Implementation Schedule for MM TR-1.	See Verification notes in MM NOI-1.	Draft PEIR
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer Construction Contractor	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Utilities / Service Systems / Energy</p> <p>USS-1 <u>Implementation of a Drainage Plan to Reduce Downstream Flows.</u> Prior to construction of project facilities, the Watermaster Party proposing a project shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bioretention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.</p>	<p>MM USS-1 shall be included in the construction contract as a contract specification.</p> <p>The Drainage Plan shall be completed prior to commencement of ground disturbance and shall show how post-construction site drainage would be controlled.</p>	<p>A copy of the construction contract including MM USS-1 shall be retained in the project file.</p> <p>A copy of the Drainage Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Drainage Plan shall be kept in the file.</p>	<p style="text-align: center;">Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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Mitigation Measure	Implementation Schedule	Verification	Source
<p>Utilities / Service Systems / Energy</p> <p>USS-2 <u>Implementation of a Construction and Demolition Disposal Plan</u>. Prior to commencement of construction, the contractor shall prepare a Construction and Demolition C&D disposal plan for review and approval by the local jurisdiction where construction will occur. Per CGBC Section 45.408.1.1, <i>Construction Waste Management Plan</i>, the C&D Disposal Plan shall include the following elements:</p> <ol style="list-style-type: none"> 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale. 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream). 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. 	<p>MM USS-2 shall be included in the construction contract as a contract specification.</p> <p>The Construction and Demolition Disposal Plan shall be completed prior to commencement of construction and be implemented throughout construction activities.</p>	<p>A copy of the construction contract including MM USS-2 shall be retained in the project file.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be submitted to the Implementing Agency prior to commencement of ground disturbance for review and approval.</p> <p>A copy of the Construction and Demolition Disposal Plan shall be kept in the file.</p>	<p>Draft PEIR</p>
	Responsible Party	Monitoring Party	Status / Date / Initials
	Project Engineer	Implementing Agency	

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