RECIRCULATED DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT

FOR THE

INLAND EMPIRE UTILITIES AGENCY
CHINO BASIN PROGRAM (CBP)

Prepared for:

Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, California 91708
(909) 993-1600

Prepared by:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, California 92405
(909) 882-3612

In association with Rincon Consultants, Inc. and West Yost

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Appendix 2 CBP PUT, TAKE, and Program Alternatives Evaluation Technical Memorandum #2
Appendix 3 Brine Disposal System Technical Memorandum #3
Appendix 4 Evaluation of the CBP/Water Storage Investment Program Technical Memorandum

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ABBREVIATIONS AND ACRONYMS

A

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACI	American Concrete Institute
ACM	asbestos-containing materials
ACOE	Army Corps of Engineers
ADT	average daily traffic
AF	acre-feet
AFD	acre-feet per day
AFY or afy	acre-feet per year
AMMS	avoidance and minimization measures
amsl	above mean sea level
AOP	Advanced Oxidation Process
APE	Area of Potential Effect
ASCE	American Society of Civil Engineers
ASR	Aquifer Storage and Recovery
AWPF	Advanced Water Purification Facility
AWQ	ambient water quality

B

Basin Plan	Santa Ana River Basin
BAT	Best Available Technology
bgs	below ground surface
BLM	Bureau of Land Management
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BRMP	Biological Resources Management Plan
BTAC	Basin Technical Advisory Committee
BTU	British Thermal Unit

C

CAA	Clean Air Acts
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
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
CAPCOA	California Air Pollution Control Officer Association
CARB	California Air Resources Board
CBC	California Building Code
CBFIP	Chino Basin Facilities Improvement Program

CBMWD	Chino Basin Municipal Water District
CBP	Chino Basin Program
CBRP	Comprehensive Bacteria Reduction Plans
CBWCD	Chino Basin Water Conservation District
CBWM	Chino Basin Watermaster
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CCWF	Chino Creek Well Field
CCWRF	Carbon Canyon Water Recycling Facility
CDA	Chino Basin Desalter Authority
CDFM	cumulative departure from mean
CDFW (CDFG)	California Department of Fish & Wildlife (formerly California Dept. of Fish & Game)
CDPH	California Department of Public Health
CEC	contaminants of emerging concern
CESA	California Endangered Species Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGP	Construction General Permit
CGS	California Geological Survey
CHLs	California Historical Landmarks
CHP	California Highway Patrol
CHPD	Chino Hills Police Department
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CML&C	cement mortar lined and coated
CNDBB	California Natural Diversity Database
CNP	California Native Plant Society
COD	chemical oxygen demand
COE	Corps of Engineers
COG	Council of Governments
CPD	Chino Police Department
CPUC	California Public Utilities Commission
CRHP	California Register of Historic Places
CSDP	Comprehensive Storm Drain Plan
CTC	Carbon Tetrachloride
CU	capacity units
CUPA	Certified Unified Program Agency
CVFD	Chino Valley Fire District
CVM	Chino Valley Model
CVWD	Cucamonga Valley Water District

CWA	Clean Water Act
CWC	California Water Commission

D

dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
DMR	Division of Mine Reclamation
DOC	Department of Conservation
DOD	U.S. Department of Defense
DPM	diesel particulate matter
DPR	direct potable reuse
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
DYYP	Dry-Year Yield Program

E

EIA	Energy Information Administration
EIC	Eastern Information Center
EO	Executive Order
EOP	Emergency Operation Plan
ESA	Endangered Species Act
EV	electric vehicle
EWL	Etiwanda Wastewater Line

F

FBFMs	Flood Boundary and Floodway Maps
FCV	flow control valves
FC	Federal Candidate
FE	Federal Endangered
FEHA	Fair Employment and Housing Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Reduction Commission
FESA	Federal Endangered Species Act
FFD	Fontana Fire District
FHBMs	Flood Hazard Boundary Maps
FHSZ	Fire Hazard Severity Zones
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FMP	Facilities Master Plan
FPD	Fontana Police Department
FRA	Federal Railroad Administration
FSEIR	Final Supplemental Environmental Impact Report
FT	Federal Threatened
FTIP	Federal Transportation Improvement Program

FUD	Formerly Used Defense Sites
FWC	Fontana Water Company
FY	Fiscal Year

G

GAC	granular activated carbon
GE	General Electric
GHG	Greenhouse Gas
GIS	Geographic Information System
GLMC	Ground Level Monitoring Committee
GMZ	Groundwater Management Zone
GOs	General Orders
gpm	gallons per minute
GSAs	Groundwater Sustainability Agencies
GSPs	Groundwater Sustainability Plans
GWh	gigawatt hours

H

HCL	hydraulic grade line
HCP	Habitat Conservation Plan
HP	horsepower
HAS	Hydrologic Sub-Area
HCD	Housing and Community Development
HMBP	Hazardous Materials Business Plan
HWP	Hazardous Waste Permitting
Hz	Hertz

I

ICC	Inland Communities Center
IEBL	Inland Empire Brine Line
IERCF	Inland Empire Regional Composting Facility
IEUA	Inland Empire Utilities Agency
IGP	Industrial General Permit
IP	Implementation Plan
IPaC	Information for Planning and Consultation
IRP	Integrated Water Resources Plan
ITP	Incidental Take Permit
IX	RO/ion exchange

J

JARPD	Jurupa Area Recreation and Park District
JCSD	Jurupa Community Services District
JOS	Joint Outfall System

L

LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation Districts
LBP	lead-based paint
LCI	Office of Land Use and Climate Innovation
LCLS	Local Storage Limit Solution
LOS	Level of Service
LRA	Local Responsibility Area
LRTP	Long Range Transit Plan
LUC	Land Use Convenant
LUP	linear underground projects

M

MBR	membrane bioreactor
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
MF	Membrane Filtration
MFD	Montclair Fire Department
MGD	million gallons per day
MJHMP	Multi-Jurisdictional Hazardous Mitigation Plan
MLD	Most Likely Descendants
MMI	Modified Mercalli Intensity
MPD	Montclair Police Department
MPI	Material Physical Injury
MPO	Metropolitan Planning Organization
MS4s	Municipal Separate Storm Sewer Systems
MSDP	Master Storm Drain Plan
MVWD	Monte Vista Water District
MWD or MWDSC	Metropolitan Water District of Southern California
MWh	megawatt hours
MZ	Management Zone

N

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NEHRP	National Earthquake Hazard Reduction Program
NFIP	National Flood Insurance Program
NHMLAC	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic and Safety Administration
NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NMTP	Non-Motorized Transportation Plan

NOI	Notice of Intent
NPAA	Native Plant Protect Act
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	National Resource Conservation Service
NRF	National Response Framework
NRHP	National Register of Historic Places
NRWS	Non-Reclaimable Wastewater System

O

OBMP	Optimum Basin Management Program
OBMPU	Optimum Basin Management Program Update
OCSD	Orange County Sanitation District
OCWD	Orange County Water District
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
ONT	Ontario International Airport
OPD	Ontario Police Department
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration

P

PAHS	Polycyclic Aromatic Hydrocarbons
PA/SI	Preliminary Assessment / Site Inspection Reports
PBHSP	Prado Basin Habitat Sustainability Program
PBMZ	Prado Basin Management Zone
PCBs	polychlorinated biphenyls
PCE	tetrachlororethene
PEIR	Program Environmental Impact Report
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctnoic acid
PFOS	perfluorooctane sulfonate
PHI	Places of Historical Interest
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
POST	Peace Officer Standards and Training
ppd	pounds per day
PPV	peak particle velocity
PRV	pressure reducing valves

R

RCFPD	Rancho Cucamonga Fire Protection District
RCPD	Rancho Cucamonga Police Department

RCRA	Resource Conservation and Recovery Act
RDPEIR	Recirculated Draft Program Environmental Impact Report
Regional Board	Santa Ana Regional Water Quality Control Board
RHNA	Regional Housing Needs Assessment
RivCoPark	Riverside County Regional Park and Open-Space District
RMP	Risk Management Plan
RMPU	Recharge Maser Urban Plan
RO	reverse osmosis
ROG	reactive organic gases
ROW	Right-of-Way
RP	Regional Plant
RPD	Rialto Police Department
RPS	Renewal Port
RTP/SCS	Regional Transportation Plan / Sustainable Communities Strategies
RWQCB	Regional Water Quality Control Board
RWQCP	Riverside Water Quality Control Plant

S

SAFE	Safer Affordable Fuel-Efficient
SANBAG	San Bernardino Associated Governments
SAR	Santa Ana River
SARA	Superfund Amendments and Reauthorization Act
SARWM	Santa Ana River Watermaster
SASU	Santa Ana Sucker
SAWCo	San Antonio Water Company
SB	Senate Bill
SBCFCD	San Bernardino County Flood Control District
SBCFD	San Bernardino County Fire Department
SBCM	San Bernardino County Museum
SBCSD	San Bernardino County Sheriff's Department
SBCSS	San Bernardino County Superintendent of Schools
SBCTA	San Bernardino County Transit Authority
SBVMWD	San Bernardino Valley Municipal Water District
SCAB	South Coast Air Basin
SCE	Southern California Edison
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCCRA	Southern California Regional Rail Authority
SCH	State Clearinghouse
SDC	Seismic Design Category
SDWA	Safe Drinking Water Act
SEIR	Subsequent Environmental Impact Report
SFHA	Special Flood Hazard Areas
SFI	Storage Framework Investigation

SGMA	Sustainable Groundwater Management Act
SHMP	State Multi-Hazard Mitigation Plan
SHPO	State Historic Preservation Officer
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SMP	Storage Management Plan
SNMP	Salt-and-Nutrient Management Plan
SoCalGas	Southern California Gas Company
SRA	State Responsibility Area
SSC	Safe Storage Capacity
SSC	Species of Special Concern
ST	State Threatened
SWIS	Solid Waste Information System
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TAC	toxic air contaminants
TCA	trichlorethane
TCP	trichloropropane
TDH	total dynamic head
TDS	total dissolved solids
TIN	total inorganic nitrogen
TM	Technical Memorandum
TMP	Transportation Management Plan
TOC	total organic carbon
TSS	total suspended solids
TVMWD	Three Valleys Municipal Water District
TYF	ten-year forecast

U

UCMR3	Unregulated Contaminant Monitoring Rule
UFC	Uniform Fire Code
UPD	Upland Police Department
USBR	U.S. Bureau of Reclamation
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UV	ultraviolet

V

VCP	vitrified clay pipe
VMT	vehicle miles traveled

VOC	volatile organic compound

W

WDRs	waste discharge requirements
WECWC	West End Consolidated Water Company
WEI	Wildermuth Environmental, Inc.
WFA	Water Facilities Authority
WMWD	Western Municipal Water District
WOTUS	waters of the United States
WRCRWA	Western Riverside County Regional Wastewater Authority
WRR	Water Recycling Requirements
WSIP	Water Storage Investment Program
WTP	Water Treatment Plant
WY	West Yost

CHAPTER 1 – EXECUTIVE SUMMARY

1.0 BACKGROUND AND PURPOSE OF THE RECIRCULATED DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

On May 18, 2022, the Inland Empire Utilities Agency's (IEUA) certified the Chino Basin Program (CBP) Final Program Environmental Impact Report (FPEIR), with the Notice of Determination (NOD) filed on May 20, 2022 with the San Bernardino County Clerk of the Board and Office of Land Use and Climate Innovation (LCI). The FPEIR assessed the potential environmental impact of implementing the CBP, which is a conjunctive use project that would use advanced water purification to treat and store up to 15,000 acre-feet-per-year (AFY) of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons, as described in more detail in the coming Chapters and Subchapters (refer to Subchapter 1.1, below, as well as Chapter 3, Project Description). The State Clearinghouse (SCH) Number for the CBP is 2021090310. The May 2022 CBP FPEIR is provided as **Appendix 1** to this Recirculated Draft Program Environmental Impact Report (RDPEIR).

On June 16, 2022, the City of Ontario (Petitioner) filed a lawsuit against IEUA alleging, among other things, that IEUA failed to comply with the California Environmental Quality Act (CEQA) in approving the CBP (Project). The matter came before the San Bernardino County Superior Court at a hearing on August 21, 2025. The Court concluded IEUA failed to comply with CEQA in three narrow circumstances. The Court issued a Peremptory Writ of Mandate on December 8, 2025 that restrained IEUA from reapproving the CBP unless and until IEUA addresses the following three deficiencies:

(1) Respondents "piecemealed" the evaluation of the effects of the CBP by failing to evaluate the effects of the CBP and the Feather River Exchange outside of the Chino Basin;
(2) Respondents used an unstable and inconsistent project description that evaluates the effects of a project life of 25 years, but then justifies the CBP based on purported water supply benefits over 50 years; and,
(3) Respondents adopted a biased and determinative project objective to justify a refusal to evaluate reasonable alternatives to the CBP.

As described above and affirmed in Section 15088.5(c) of the CEQA Guidelines, if the revisions to an EIR are limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. Therefore, what follows is a Recirculated DPEIR (RDPEIR) that includes the following Chapters and Subchapters:

Chapter 1 — Executive Summary
Chapter 2 — Introduction
Chapter 3 — Project Description
Subchapter 4.1 — Environmental Analysis Introduction
Subchapter 4.7 — Energy
Subchapter 4.9 — GHG
Subchapter 4.11 — Hydrology
Subchapter 4.20 — Utilities and Service Systems
Chapter 5 — Alternatives
Chapter 7 — Preparers and References
Subchapter 8.3 — 2024 DWR Pulse Flow FSEIR

The analysis and conclusions that were presented in the the CBP FPEIR as certified in May 2022 (2022 CBP FPEIR) for all other impact areas—Chapter 6 Topical Issues, Subchapter 4.2 Aesthetics, Subchapter 4.3 Agriculture and Forestry Resources, Subchapter 4.4 Air Quality, Subchapter 4.5 Biological Resources, Subchapter 4.6 Cultural Resources, Subchapter 4.8 Geology and Soils, Subchapter 4.10 Hazards and Hazardous Materials, Subchapter 4.12 Land Use and Planning, Subchapter 4.13 Mineral Resources, Subchapter 4.14 Noise, Subchapter 4.15 Population and Housing, Subchapter 4.16 Public Services, Subchapter 4.17 Recreation, Subchapter 4.18 Transportation, Subchapter 4.19 Tribal Cultural Resources, Subchapter 4.21 Wildfire, Subchapter 8.1 Notice of Preparation / Distribution List, Subchapter 8.2 NOP comment Letters, and Volume II, Technical Appendices—have not changed. Thus, those sections addressing all other impact areas will not be recirculated as part of this RDPEIR, though as previously stated, the 2022 CBP FPEIR is provided as Appendix 1 to this RDPEIR. Further, the 2022 CBP FPEIR in its entirety is available online at https://www.ieua.org/chino-basin-program-ceqa-documents/.

Because the focus of this recirculation is on addressing the deficiencies identified by the Court as described above, this RDPEIR is presented with special attention to minor additions to the 2022 CBP FPEIR presented in red text. New text is shown in red, omissions are shown in black strikeout. These additions and omissions are the focus of the RDPEIR, and as a result, only new comments submitted on the revised text presented in this RDPEIR will be considered by IEUA. As an example, comments addressing other grounds raised by the City of Ontario in its petition challenging the 2022 CBP FPEIR that were denied—as set forth in the Court's September 4, 2025 Ruling on Petition for Writ of Mandate—will not be considered, as the Court determined that those impacts were adequately analyzed in the 2022 CBP FPEIR.

Thus, in response to the Court's Peremptory Writ of Mandate, IEUA has chosen to take specific action to comply with it. IEUA has determined that revising the relevant sections of the 2022 CBP FPEIR to address the foregoing deficiencies identified by the Court is the appropriate process for complying with the Court's Peremptory Writ of Mandate. This RDPEIR has been prepared pursuant to Section 15234(d) of the CEQA Guidelines, which only requires additional environmental review of portions of the 2022 CBP FPEIR found by the Court not to comply with CEQA, consistent with principles of res judicata.

The purpose of this Recirculated DPEIR is to address the deficiencies identified by the Court in support of IEUA's reconsideration of the Project. This Executive Summary for Inland Empire Utilities Agency's (IEUA) proposed Chino Basin Program (CBP) Recirculated Draft Program Environmental Impact Report (RDPEIR) summarizes the potential environmental effects that are forecast to occur from implementation of the proposed project. It also contains a summary of the Background and Purpose of this RDPEIR as described herein, as well as the Project Background, Project Objectives, and Project Description. A table summarizing potentially significant environmental impacts, mitigation measures, and mitigation responsibility is included at the end of this Executive Summary (**Table 1.5-1**). Chapter 2, the Introduction to this RDPEIR, also provides information that augments this Executive Summary.

1.1 PROJECT BACKGROUND

IEUA is proposing to develop the CBP, which would provide a regional water resources and groundwater management program for the Chino Basin. The CBP's scope is a revolutionary, first-of-its-kind program designed to help the region move beyond traditional water management practices and into a new era of water use optimization. The CBP promotes proactive investment

in managing the water quality of the Chino Groundwater Basin and in meeting regional water supply reliability needs in the face of climate change, while leveraging California's interregional plumbing system and the Chino Basin's future potential for water recycling to produce benefits to local, State, and federal interest.

The CBP was submitted for Proposition 1 – Water Storage Investment Program (WSIP) funding and was awarded $269M ~~$206.9M~~ in conditional funding as of August 2025 ~~in July 2018~~. As a result, the CBP has been developed as a program for which ~~California Environmental Quality Act (~~CEQA~~)~~ compliance has been determined to be required in order to implement the proposed conjunctive use program.

Under the WSIP, the CBP is proposed as a ~~25-year~~ conjunctive use project that would develop and utilize a new advanced water purification facility (AWPF) to treat and store up to 15,000 acre feet per year (AFY) of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons. IEUA's partner and the State Water Project Contractor that will facilitate the exchange for the CBP is Metropolitan Water District of Southern California (MWD). The CBP would produce 15,000 AFY of "new" water supply for a period of 25-years to provide for the State exchange, to be used in blocks of up to 50,000 AFY in hydrologically drier years when pulse flows in the Feather River would provide the most ecosystem benefit and other State Water Project (SWP) operations would not be affected. The exchange would be administered through agreements with the California Department of Water Resources (DWR), the California Department of Fish and Wildlife (CDFW), MWD, and other project partners.

During the first 25 years of the Project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled) locally produced CBP water supplies will directly replace a portion of imported supplies when an SWP water transfer is implemented by MWD and DWR and a pulse flow occurs in Northern California. After fulfillment of the Proposition 1 WSIP exchange commitment, the facilities developed under the CBP by IEUA would continue to be operationally viable as part of the overall project life cycle, and during this period the new water supply will be available for local use annually contributing to IEUA's available supply. This analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year water exchange commitment, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

The CBP would increase additional available groundwater supplies in the adjudicated Chino Basin

through increased water recycling that would result from operation of a new AWPF and through groundwater storage by operation of new injection wells. The CBP would thereby enable IEUA to ~~dedicate~~ exchange a commensurate amount of this "new" water locally generated by the proposed facilities to be used locally in order to enable ~~from the AWPF to remain in the~~ State Water Project water to remain in ~~system at~~ Lake Oroville in Northern California that would otherwise be delivered to Southern California. The additional Lake Oroville water would subsequently be released in the form of pulse flows in the Feather River to improve habitat conditions for native salmonids and achieve environmental benefits.

Additionally, new water stored in the Chino Basin would also enhance emergency response water supply availability for IEUA and other participating agencies during crises such as Delta disruption, earthquake, or drought emergency ~~flood or seismic~~ events that disrupt imported water infrastructure. The infrastructure included in the CBP is consistent with infrastructure identified to reduce recycled water salinity for regulatory compliance as well as water infrastructure that has been identified through IEUA's Integrated Water Resources Plan (IRP) effort.

The CBP would rely on water transfer agreements through MWD. For every acre-foot of water requested for north of the Delta ecosystem benefits, IEUA would pump locally stored groundwater and deliver it to MWD or use the water locally instead of taking raw imported water from MWD (referred to as "in lieu"). MWD would then leave behind an equivalent amount of water in Lake Oroville to be dedicated and released for the requested ecosystem benefit. The CBP can be operated in a way to provide up to 50,000 AFY of water for up to 7.5 years, with a consecutive draw of no more than 3 years, of the 25-year Proposition 1 WSIP water exchange program (henceforth referred to as "25-year program"; up to 375,000 AF total) as long as the groundwater extraction does not exceed the approved borrow amount. This would result in balancing the PUTs (the components to recharge purified water to the Chino Basin) and TAKEs (the components to extract groundwater and convey potable water supply) to the Chino Basin at the end of the 25-year program, i.e., up to 375,000 AF would be recharged over 25 years and the same amount could be extracted over 25 years. The CBP includes two main categories of facilities: PUT and TAKE components.

The annual PUT (the components to recharge purified water to the Chino Basin) and periodic TAKE cycles (the components to extract groundwater and convey potable water supply) would require the development of various facilities to support the overall CBP. These potential facilities are separated into four project categories: (1) Project Category 1: Well Development (Injection wells, extraction wells, etc.); (2) Project Category 2: Conveyance Facilities and Ancillary Facilities; (3) Project Category 3: Groundwater Storage Increase; and, (4) Project Category 4: Advanced Water Purification Facility and Other Water Treatment Facilities.

Ultimately, the CBP brings together these components cost-effectively and greatly enhances flexibility and resiliency to regional and local water operations, particularly during future extended droughts expected as climate change continues to impact California. The CBP's proposed AWPF, new injection and extraction facilities, conveyance facilities, and water system interconnections will allow more optimal management of local water supplies, including meeting water quality requirements for the continued use of recycled water within the Chino Basin, improved storage and recovery operations, as well as redundancies in water delivery infrastructure that will facilitate future rehabilitation and replacement of existing infrastructure.

Additionally, the proposed CBP requires an increase in the Safe Storage Capacity of the Chino Basin in order to accommodate an addition of up to 150,000 AF of managed storage above the

existing Safe Storage Capacity (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035). As such, the CBP would contemplate a tiered increase in Safe Storage Capacity that would accommodate CBP storage requirements as well as Chino Basin Watermaster (Watermaster) stakeholder storage requirements as follows: the CBP proposes an increase in Safe Storage Capacity up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter. The storage increase would accommodate the CBP during its 25-year planning horizon, and any future required increase in storage that may be necessary to accommodate the increased recharge and extraction capacities provided by CBP infrastructure would be addressed in future CEQA documentation. Overall, the CBP may: reduce dependence on imported water through development of infrastructure that would provide a new local source of water; improve water quality by reducing the expected TDS concentration of the AWPF effluent to 100 mg/L; and provide a new local water supply for the Basin as a result of the creation of the AWPF that would enable IEUA to continue treating recycled water to below the regulatory limits set by the Santa Ana Regional Water Quality Control Board's (RWQCB) Basin Plan for continued Basin use. This proposed tiered increase would supersede the Safe Storage Capacity that was approved in March of 2021 by the IEUA Board and subsequently approved by the Watermaster in May 2021. Furthermore, as storage space in the Basin is regulated by the Watermaster, a Storage Agreement will be required in order for this proposed Safe Storage Capacity to be adopted.

As the agency that will facilitate implementation of the CBP, IEUA will serve as the Lead Agency for purposes of complying with CEQA. IEUA has prepared the CBP DPEIR as the Lead Agency, in cooperation with the California Department of Water Resources (DWR), the CDFW, State Water Resources Control Board (SWRCB), and MWD as responsible agencies. The California Water Commission (CWC) is a Responsible Agency, as it is the agency that has conditionally awarded IEUA with funding to implement the CBP through the Proposition 1 WSIP. Other agencies that may be Responsible Agencies or Trustee Agencies include IEUA member agencies, listed under Subsection 3.15 of the Project Description.

Pursuant to Section 15060(d) of California's Guidelines for CEQA (Title 14 California Code of Regulations §§ 15000 et seq." "CEQA Guidelines"), upon finding that the proposed CBP might have one or more significant effects on the existing project environment and surrounding environment, IEUA determined that an environmental impact report (EIR) should be prepared to address potential impacts from the CBP. Thus, the information CEQA and the CEQA Guidelines require to be included in an EIR is included in this RDPEIR, and it addresses each of the 20 topics identified in Appendix G of the CEQA Guidelines, as follows: aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire.

Furthermore, the data contained in this CBP RDPEIR is augmented by the analysis contained in the *Final Pulse Flows Component of the Water Storage Investment Program Groundwater Projects Supplemental Environmental Impact Report (2024 DWR Pulse Flow FSEIR; SCH No. 2022080216)* dated July 2024 prepared for the California Department of Water Resources (DWR) and prepared by ICF/ESA. This SEIR was circulated from February 16, 2024 to April 1, 2024, and the final document including responses to comments was completed in July 2024. The Pulse Flows Component is defined by the following DWR actions: (1) Release of the pulse flows from Lake Oroville into the Low Flow Channel of the Feather River, with the goal of improving habitat

conditions for listed salmonids, as well as improving spawning and migration conditions for other listed and non-listed native fish species. (2) Implementation of the WSIP Operational Exchange Process that develops water used for pulse flow releases. (3) Diversion and conveyance of water to Kern Fan and Willow Springs that would be stored, in part, for ecosystem benefit. Implementation of the Pulse Flows Component would not require construction of any new facilities in addition to those previously analyzed in the three WSIP Groundwater Projects' EIRs (including the 2022 CBP FPEIR and now this RDPEIR). Existing facilities would be used, with operations modified to support the pulse flow releases. The Pulse Flows Component study area analyzed in the FSEIR extends approximately 575 miles from Lake Oroville in Northern California to the WSIP Groundwater Projects in the San Joaquin Valley and Southern California. The 2024 DWR Pulse Flow FSEIR is presented as Subchapter 8.3 to this RDPEIR, and the information and analysis contained therein is hereby incorporated by reference as described further under Subchapter 1.5, Impacts, below.

In accordance with Section 15146 of the CEQA Guidelines, the focus of the analysis provided herein addresses the forecast effects of the proposed CBP as presented below in Chapter 3, Project Description. However, it is the combination of authorizations and entitlements requested for this project that must be recommended for approval by IEUA to allow the CBP to be implemented.

1.2 INTENDED USE OF THIS ENVIRONMENTAL IMPACT REPORT

As required by Section 21151 of CEQA, this RDPEIR has been prepared in accordance with CEQA and the CEQA Guidelines. IEUA is the Lead Agency for the project and has supervised the preparation of this RDPEIR. This RDPEIR is an information document which will inform public agency decision makers and the general public of the potential environmental effects, including any significant impacts that may be caused by implementing the proposed project. Possible ways to minimize potential significant effects of the proposed project and reasonable alternatives to the project are also identified in this RDPEIR. Further, as stated under Subchapter 1.0, the purpose of this Recirculated DPEIR is to address the deficiencies identified by the Court in support of IEUA's reconsideration of the Project. As such, this RDPEIR has been prepared pursuant to Section 15234(d) of the CEQA Guidelines, which only requires additional environmental review of portions of the 2022 CBP FPEIR found by the Court not to comply with CEQA, consistent with principles of res judicata.

This document assesses the impacts, including unavoidable adverse impacts and cumulative impacts, related to the construction and operation of the proposed project. This RDPEIR is also intended to support the permitting process of all agencies from which discretionary approvals must be obtained for particular elements of this project. Other California agency approvals (if required) for which this environmental document may be utilized include:

- Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for a NPDES general construction stormwater discharge permit. This permit is granted by submittal of an NOI to the SWRCB, but is enforced through a Storm Water Pollution Prevention Plan (SWPPP) that identifies construction best management practices (BMPs) for the site. In the project area, the RWQCB enforces the BMP requirements described in the NPDES permit by ensuring construction activities adequately implement a SWPPP. Implementation of the SWPPP is carried out by the construction contractor, with the RWQCB and county providing enforcement oversight.

- The project may include the potential discharge of fill into or alterations of "waters of the United States," "waters of the State," and stream beds of the State of California. Regulatory permits to allow fill and/or alteration activities due to project activities such as pipeline installation are likely be required from the Army Corps of Engineers (ACOE), the RWQCB, and California Department of Fish and Wildlife (CDFW) over the life of the CBP. A Section 404 permit for the discharge of fill material into "waters of the United States" may be required from the ACOE; a Section 401 Water Quality Certification may be required from the RWQCB; a Report of Waste Discharge may be required from the RWQCB; and a 1600 Streambed Alteration Agreement may be required from the CDFW.

- The U.S. Fish and Wildlife Service (USFWS) and/or CDFW may need to be consulted regarding threatened and endangered species documented to occur within an area of potential impact for future individual projects. This could include consultations under the Fish and Wildlife Coordination Act.

- Land use permits may be required from local jurisdictions, such as individual cities and the two counties (Riverside and San Bernardino).

- Air quality permits may be required from the South Coast Air Quality Management District (SCAQMD).

- Encroachment permits may be required from local jurisdictions, such as individual cities, California Department of Transportation (Caltrans), the two counties (Riverside and San Bernardino), flood control agencies, and private parties such as Southern California Edison, The Gas Company, or others such as BNSF Railway Company.

- The Watermaster has a separate approval process for determining material physical injury to the stakeholders within the Chino Basin.

- The SWRCB will be a responsible agency if IEUA requests permits or funding from SWRCB's Clean Water State Revolving Fund program or its Division of Drinking Water.

- The SWRCB will also be a responsible agency for the wastewater change petition for the Change of Use proposed by this project.

This is considered to be a partial list of other permitting agencies for future individual CBP projects.

1.3 PROJECT OBJECTIVES

The CBP has identified the following project objectives, which also help address local, State and Federal objectives as follows:

- **Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin**.
- **Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin**.
- **Develop Infrastructure That Addresses Long Term Supply Vulnerabilities**.
- **Provide a Source of Water for Emergency Response**.
- **Develop an Integrated Solution to Support Regional Water Reliability and**

Environmental Sustainability ~~**Produce State and Federal Environmental Benefits**~~.

1.4 PROJECT APPROVALS

This RDPEIR will be used as the information source and CEQA compliance document for the following discretionary actions or recommended approvals by the CEQA lead agency, IEUA. CEQA requires that the IEUA, as the CEQA Lead Agency, consider the environmental information in the project record, including this RDPEIR, prior to making a decision regarding whether or not to recommend approval to implement the proposed project. The decision that will be considered by IEUA is whether to approve the CBP defined in Chapter 3 of this document. The CBP has defined two main categories of facilities: PUT, the components to recharge purified water to the Chino Basin, and TAKE, the components to extract groundwater and convey potable water supply. The PUT and TAKE components have been broken into four project categories as defined above and within the Project Description. Alternatively, IEUA can recommend denial of the project as proposed.

Further, the IEUA Board of Directors may also consider certification of the 2024 DWR Pulse Flow FSEIR as a supplemental action to consideration of the CBP RDPEIR. This is because, as permitted by CEQA Guidelines Section 15051(d), DWR, as a responsible agency for the Pulse Flow Component of the WSIP Groundwater Projects, was designated to prepare the FSEIR to supplement the three WSIP Groundwater Projects' EIRs and to provide CEQA coverage for DWR's actions. The 2024 DWR Pulse Flow FSEIR determined that the lead agencies may consider certification of the SEIR to supplement the WSIP Groundwater Projects' EIRs (i.e. this RDPEIR) to provide CEQA coverage for relevant discretionary actions on their part. This RDPEIR evaluates the environmental effects as outlined above.

IEUA will serve as the CEQA Lead Agency pursuant to the CEQA Guidelines Section 15051(b)(1). In all future circumstances, IEUA will remain the Lead Agency for the CBP CEQA document. A CEQA Responsible Agency—those defined in Chapter 3, the Project Description of this RDPEIR—shall coordinate with IEUA if and when it assumes CEQA Lead Agency status for a future specific project.

This RDPEIR has been prepared by Tom Dodson & Associates (TDA), in conjunction with Rincon Consultants, Inc. (Rincon), under contract to IEUA. TDA and Rincon were retained to assist IEUA to perform the independent review of the project required by CEQA before the RDPEIR is released. IEUA has reviewed the contents of this RDPEIR and concurs with the conclusions and findings contained herein.

1.5 IMPACTS

As noted above, IEUA concluded that an EIR should be prepared to address any potential significant impacts that may result from implementation of the proposed project. Based on data and analysis provided in this RDPEIR, it is concluded that the proposed CBP could result in potentially significant adverse environmental impacts to the following environmental issues: ***Biological Resources, Greenhouse Gas, and Utilities and Service Systems***. All other potential impacts were determined to be less than significant without mitigation or can be reduced to a less than significant level with implementation of the mitigation measures identified in this RDPEIR. It should also be noted that the 2024 DWR Pulse Flow FSEIR concluded that all impact categories analyzed in the SEIR (Hydrology and Water Quality, Biological Resources (Aquatic and Terrestrial), Cultural Resources, Tribal Cultural Resources, Energy and Greenhouse Gas Emissions, Recreation, Geology and Soils, and Agriculture and Forestry Resources) would not

result in significant adverse impacts. With regard to Tribal Cultural Resources, DWR consulted with California Native American Tribes, none of which identified a specific Tribal Cultural Resource that could be affected by the Pulse Flow Component. Nevertheless, the 2024 DWR Pulse Flow FSEIR concluded that operation and maintenance of the Pulse Flow Component might result in potentially significant impacts to Tribal Cultural Resources, and therefore imposed a mitigation measure (3.8-1) to reduce such impacts to a less than significant level. All other impacts were determined to be less than significant without the need for mitigation, or were determined to have no impact. IEUA concluded it was more informative to look at the impacts related to the Pulse Flow Component as intended in the Supplemental EIR, which is presented in Subchapter 8.3 of the RDPEIR. Thus, the impacts found therein can be reviewed for context as part of this environmental analysis, but are not reiterated as part of the Impact Analysis summarized below or found in Chapter 4 of this RDPEIR.

Note that the cumulative significant impacts are identified in this RDPEIR based on findings that the project's contributions to such impacts are considered to be cumulatively considerable which is the threshold identified in CEQA Guidelines Section 15130. **Table 1.5-1** summarizes all of the environmental impacts and proposed mitigation and monitoring measures identified in this RDPEIR and will be provided to the decision-makers and the public prior to finalizing the RDPEIR.

The following issues evaluated in the RDPEIR and 2022 CBP FPEIR have been determined to experience less than significant impacts—either with or without mitigation—based on the facts, analysis and findings in this RDPEIR and 2022 CBP FPEIR.

Aesthetics: As described in Subchapter 4.2 of the 2022 CBP FPEIR, all potential aesthetic impacts associated with the CBP can be mitigated to a less than significant impact level. Mitigation measures would: minimize impacts to scenic vistas through enforcing future projects to meet local design standards; minimize impacts to scenic resources through avoidance of such resources, or through assessment in subsequent CEQA documentation; minimize impacts to scenic resources such as trees through enforcement of compliance with local jurisdiction tree ordinance(s); minimize conflicts with regulations governing scenic quality through enforcing compliance with applicable zoning code and design requirements established by local jurisdictions; and, minimize light and glare impacts by enforcing local jurisdiction light and glare minimization standards. As a result, there will not be any unavoidable project specific or cumulative adverse impacts to aesthetics from implementing the project as proposed.

Agriculture & Forestry Resources: As described in Subchapter 4.3 of the 2022 CBP FPEIR, due to the substantial agricultural resources located within Chino Basin, installation of future CBP related facilities were determined to have a potentially significant impact to such resources; however, mitigation was identified to minimize agricultural and forestry resource impacts below significance thresholds including those that would: relocate or avoid impacts to important agricultural land; and relocate or avoid impacts to forest land or offset the loss by purchasing compensatory mitigation in the form of comparable forest land permanently conserved in either a local or State-approved important forest land mitigation bank. As described in Subchapter 4.3, no unavoidable significant impact to agricultural or forestry resources will result from implementing the proposed project.

Air Quality: As described in Subchapter 4.4 of the 2022 CBP FPEIR, with the implementation of mitigation, construction of the proposed project would reduce impacts for all criteria pollutants below South Coast Air Quality Management District (SCAQMD) significance thresholds. Additionally, the regional operational emissions that would result from CBP implementation would

be less than significant without the need for mitigation. Furthermore, the CBP would be consistent with the SCAQMD 2016 Air Quality Management Plan (AQMP), and as such would not result in or cause National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) violations. Construction- and operation-source emissions would not exceed the applicable SCAQMD Localized Significance Thresholds and would be less than significant. Mitigation measures would: require IEUA's contractor(s) to use off-road equipment that meets the U.S. EPA certified Tier 4 Final engines, or engines that are certified to meet or exceed the emission ratings for U.S. EPA Tier 4 Final or Interim engines, such that average daily nitrogen oxide (NOX) emissions are verified to be below the SCAQMD regional significance threshold of 100 pounds per day. As a result, there will not be any unavoidable project specific or cumulative adverse impacts to air quality from implementing the project as proposed.

Cultural Resources: As described in Subchapter 4.6 of the 2022 CBP FPEIR, the Chino Basin is a large area that may contain historical, archaeological, or paleontological resources. As such, future CBP projects may be developed within sites that contain such resources. Since the proposed project is at the programmatic level, specific locations for most of the proposed CBP projects have not yet been determined, though a site specific report was prepared to address the potential for resources at RP-4, at which the AWPF is proposed to be installed. This site specific report determined that no significant resources are anticipated to be located within this site, and with implementation of mitigation, impacts to cultural resources at this site would be less than significant. Mitigation has been identified to minimize impacts to cultural resources at future CBP facilities, including those that would: exclude highly disturbed sites from requiring further cultural resource evaluation except to adhere to procedures pertaining to the treatment of accidental discoveries, unless IEUA is seeking State funding for the project; ensure that future CBP projects that are located within undisturbed areas, within a site that will require substantial earthmoving activities and/or excavation, and/or IEUA is seeking State funding, will require a follow on Phase I Cultural Resources Investigation and enforce several phases or steps beyond the completion of a Phase I Cultural Resources Investigation that would cover the identification, evaluation, mitigation, and monitoring associated with a given project where resources may be located; ensure that a complete report on the methods, results, and final conclusions of the research procedures is prepared and submitted to SCCIC, EIC, NHMLAC, and/or SBCM for projects containing cultural resources; and, set a precedent for future CBP projects that would streamline the design and completion of future Phase I Cultural Resources Investigations. As described in Subchapter 4.6, no unavoidable significant impact to cultural resources will result from implementing the proposed project.

Energy: As discussed in Subchapter 4.7, CBP construction and operation would not result in inefficient, wasteful or unnecessary consumption of energy and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is because the CBP would result in an overall net reduction in electricity consumption associated with local water supplies over the 25-year term of the proposed water transfer agreement. Impacts would be less than significant without the need for added mitigation. The CBP would replace imported SWP water, which is energy-intensive, with a local, recycled water source in call years. Furthermore, IEUA would procure energy to serve CBP facilities from SCE, which has historically achieved the State's Renewables Portfolio Standard (RPS) program and anticipates meeting the RPS of 60 percent renewable energy by 2030. IEUA would also explore options for using additional on-site renewable energy, and therefore the CBP would not obstruct the 2017 Scoping Plan. Impacts would be less than significant. Additionally, the CBP would support the IEUA Climate Change Action Plan (CCAP) objective to strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources. With compliance with current federal and State

regulations pertaining to energy conservation, the proposed CBP is anticipated to have a less than significant impact on energy demand and resources.

Geology and Soils: The Chino Basin contains substantial geological and soils constraints. Due to these substantial constraints and the installation of future CBP related facilities in locations where such constraints may occur, a potential for significant geology and soils resources impacts from implementation of the CBP was identified in Subchapter 4.8 of the 2022 CBP FPEIR. However, several mitigation measures were identified to minimize geology and soils impacts including those that would: ensure new facilities are located outside of delineated fault zones through relocation, implementation of seismic design measures, or subsequent CEQA documentation; reduce potential impacts from geological hazards through a design level geotechnical investigation with implementation of specific design recommendations, relocation of the site, or subsequent CEQA documentation; ensure that the proposed facilities associated with the CBP that are less than one acre in size would not exacerbate conditions related to erosion associated with runoff from construction sites through the implementation of BMPs; minimize impacts to paleontological resources through requiring site-specific studies, where necessary. As described in Subchapter 4.8, no unavoidable significant impact to geology and soils will result from implementing the proposed project.

Hazards and Hazardous Materials: The Chino Basin contains substantial hazards and hazardous materials issue constraints. Due to these substantial constraints and the installation of future CBP infrastructure facilities in locations where such constraints may exist, a potential for significant hazards and hazardous materials issue impacts from implementation of the CBP were identified in Subchapter 4.10 of the 2022 CBP FPEIR. However, several mitigation measures were identified to minimize hazards and hazardous materials impacts including those that would: ensure that applicable CBP facilities Business Plans incorporate best management practices designed to minimize the potential for accidental release of such chemicals; ensure that applicable CBP facilities Business Plans identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material; ensure sensitive receptors will not be exposed to significant health threat by modeling the pathways of release and implementing specific measures that would minimize potential exposure to acutely hazardous materials; ensure hazardous materials are disposed of and delivered to licensed facilities; ensure the establishment of and adherence to specific thresholds of acceptable clean-up of hazardous materials; ensure the preparation of and adherence to vector management plans; ensure remediation of an accidental spill or discharge of hazardous material in compliance with State and local regulations; ensure that sites for future CBP facilities obtain a Phase I Environmental Site Assessment and either avoid or remediate a site that is contaminated; ensure that any unknown contamination is remediated and handled according to the local CUPA; ensure compliance with the appropriate airport land use plan and coordination with the appropriate airport management agencies to ensure safety for people residing or working within the project area; ensure that construction traffic is managed safely; and, ensure that fire hazard reduction measures are enforced. Therefore, though there will be some adverse impacts as a result of implementing the project, specific mitigation measures have been identified to reduce potential project specific and cumulative (direct and indirect) impacts to a less than significant level for hazards and hazardous material issues. Thus, the project is not forecast to cause any unavoidable significant adverse hazards or hazardous material impacts.

Hydrology and Water Quality: As described in Subchapter 4.11, the overall hydrology (watershed, drainage and flood hazards) and water quality impacts that would result from implementation of the CBP could be significant without the implementation of mitigation measures. As such, several

mitigation measures were identified to minimize impacts related to hydrology and water quality, such as those that would: ensure that the Watermaster reviews IEUA's storage and recovery program application and gathers the appropriate data to (1) determine whether future CBP projects would result in loss of pumping sustainability, result in potential reduction in net recharge and impacts to Safe Yield, and/or result in new subsidence, and (2) respond with appropriate mitigation to minimize the potential adverse hydrological impacts that may occur from a project; address the plan of response by the Watermaster should Chino Basin conditions vary from the projections that have been modeled as part of the CBP (and all supporting documentation); require implementation of BMPs for projects of less than one acre in size that would be comparable to the requirements of the Construction General Permit and Stormwater Pollution Prevention Plan, which are required for larger projects; ensure that drainage is managed through either runoff collection or development of a drainage plan for a given CBP project; require CBP projects at existing well sites to remain within disturbed areas wherever feasible to minimize the potential for further ground disturbance at these sites; require all disturbed areas that are not covered in hardscape or vegetation to be revegetated or landscaped at future CBP facility sites; and, ensure that brine generated by water treatment systems would be disposed of in a manner that would minimize the potential for release of polluted runoff. Therefore, though there will be some adverse impacts as a result of implementing the project, specific mitigation measures have been identified to reduce potential project specific and cumulative (direct and indirect) effects to a less than significant impact level for hydrology and water quality issues. Thus, the project is not forecast to cause any unavoidable significant adverse hydrology and water quality impacts.

Land Use and Planning: As described in Subchapter 4.12 of the 2022 CBP FPEIR, impacts related to land use and planning are minimal; however, mitigation is provided to address the potential for conflicts with land use from CBP related facilities. This mitigation would ensure that the facilities associated with the CBP are developed in appropriate areas, and conform with the surrounding land uses or are developed to minimize conflicts with adjacent land uses. With implementation of this mitigation measure, the project-related land use and planning impacts can be reduced below a level of significance, and as such, the proposed project will not cause unavoidable significant land use and planning impacts.

Mineral Resources: As described in Subchapter 4.13 of the 2022 CBP FPEIR, limited mineral resources occur in the northern portion of the Chino Basin. As such, there is a nominal potential for future CBP facilities to be installed within a mineral resource zone. However, mitigation has been identified to minimize mineral resource impacts that would ensure that the proposed facilities associated with the CBP would not result in significant loss of mineral resources through either relocation, or compensation for development proposed to be located within an area containing significant mineral resources. With implementation of mitigation, project-related mineral resource impacts can be reduced below a level of significance, and as such, the proposed project will not cause unavoidable significant mineral resource impacts.

Noise: The Chino Basin contains extensive areas with noise sensitive land uses. Due to these substantial noise constraints and the installation of future noise-producing CBP facilities in locations where such noise sensitive uses may exist, a potential exists for significant noise impacts from implementation of the CBP. However, several mitigation measures were identified to minimize noise impacts, including those that would: ensure construction noise minimization practices are in place; ensure that construction noise studies are conducted for specific CBP projects; ensure that construction noise and vibration reduction measures are implemented where identified in the site specific noise study, and where project-level construction noise cannot be reduced below significance thresholds, IEUA shall seek a variance from the local noise ordinance

prior to initiating construction; ensure operational noise studies are conducted for specific CBP project sites with operational noise reduction measures implemented, where applicable, and ensure that where operational noise cannot be reduced to below significance thresholds at a specific site, an alternative location is selected or subsequent CEQA documentation shall be performed; ensure that vibration generating equipment operate outside of the minimum distances from sensitive receivers; ensure that minimal-vibration-producing equipment is used near historic structures; and, where construction must occur outside of the specified buffer distance intended to minimize construction related vibration, mitigation is implemented, where vibration levels cannot be reduced to below significance thresholds, an alternative location is selected or subsequent CEQA documentation shall be performed. With implementation of these mitigation measures, the project-related noise impacts can be reduced to a less than significant impact level.

Population and Housing: As described in Subchapter 4.15 of the 2022 CBP FPEIR, implementation of the CBP would not significantly induce growth within the Chino Basin; however, mitigation is provided to address the potential for CBP related facilities to displace housing and/or persons. This mitigation would ensure that the facilities associated with the CBP that are located on parcels containing housing would be minimized through the provision of short- and long-term housing of comparable quality, thereby minimizing impacts below significance thresholds. With implementation of this mitigation measure, the project-related population and housing impacts can be reduced below significance thresholds, and as such, the proposed project will not cause unavoidable significant population and housing impacts.

Public Services: As described in Subchapter 4.16 of the 2022 CBP FPEIR, implementation of the CBP would not significantly impact fire protection, police protection schools, recreation/parks or other public facilities. However, several mitigation measures were identified to minimize impacts to police protection and recreation/parks including those that would: minimize the potential for trespass that could exacerbate demand for police protection services; and, minimize the potential for loss of park or recreational facilities as a result of CBP projects through relocation or provision of supplemental parkland or recreation facilities. With implementation of these mitigation measure, the project-related police protection and park/recreation impacts can be reduced to a less than significant impact level.

Recreation: As described in Subchapter 4.17 of the 2022 CBP FPEIR, implementation of the CBP would not significantly impact recreation. However, mitigation identified under Public Services that would minimize the potential for loss of park or recreational facilities as a result of CBP projects would minimize impacts under this issue as well. Furthermore, mitigation is provided to ensure that, should construction of recreation or park facilities be required as a part of the CBP, a subsequent CEQA determination will be prepared to ensure that impacts are appropriately assessed and mitigated. With implementation of this mitigation measure, the project-related recreation impacts can be reduced below the level of significance, and as such, the proposed project will not cause unavoidable significant recreation impacts.

Transportation: Since transportation system facilities occur throughout much of the Chino Basin and the installation of future water infrastructure facilities can directly impact roadways or traffic on such roadways, a potential for significant transportation/traffic impacts from implementation of the CBP was identified in Subchapter 4.18 of the 2022 CBP FPEIR. Mitigation was identified to minimize impacts to transportation that would reduce the project's potential construction traffic impacts by requiring all construction activities to be conducted in accordance with an approved construction traffic management plan. With implementation of this mitigation measure, the project-related transportation impacts can be reduced below the level of significance, and as such, the

proposed project will not cause unavoidable significant recreation impacts.

Tribal Cultural Resources: As described in Subchapter 4.19 of the 2022 CBP FPEIR ~~this DPEIR~~, the San Manuel Band of Mission Indians requested continued participation with this project's CEQA process and future project implemented under the CBP. Concerns expressed include the following: accidental exposure of subsurface cultural resources and proper management of such resources; concerns over exposure of human remains and proper management; and presence of Native American monitors during future ground disturbing activities. Through incorporation of mitigation measures, impacts to Tribal Cultural Resources are considered less that significant. The mitigation measures provide a hierarchy from which to approach future CBP projects, involving (1) notification to the three tribes at project sites that have been totally disturbed; (2) at undisturbed project sites, AB 52 consultation will be initiated and a records search shall be performed as part of a site specific Phase I evaluation, and the site shall be surveyed; and (3) further site-specific study of large scale projects, tribal and archaeological monitoring, and , and specific treatment requirements for buried Tribal Cultural Resources that may be uncovered during construction of future projects. Thus, with implementation of mitigation to protect tribal cultural resources, the project would not cause significant unavoidable adverse impacts to tribal cultural resources.

Wildfire: The location of CBP facilities would likely not be located in designated very high fire hazard severity zones, but since many of the proposed CBP facilities sites have not yet been identified, it is possible that one or more future facilities could be required to locate within such areas. Mitigation was identified to minimize impacts to wildfire (gathered from other sections of the IS) that would: reduce the project's potential traffic conflicts that could be exacerbating in high fire hazard zones by requiring all construction activities to be conducted in accordance with an approved construction traffic control plan; and, ensure fire hazard reduction measures are incorporated into a fire management plan/fuel modification plan for the proposed facility. Thus, with implementation of mitigation to minimize wildfire impacts, the project would not cause significant unavoidable adverse impacts under wildfire.

The proposed project could result in significant impacts to the following environmental issues: Biological Resources, Greenhouse Gas, and Utilities and Service Systems, based on the facts, analysis and findings in this RDPEIR and 2022 CBP FPEIR.

Biological Resources: As described in Subchapter 4.3 of the 2022 CBP FPEIR, development of the CBP, because the specific locations for future CBP projects are not presently known, there is a potential that a future CBP facility may be developed in an area containing significant biological resources that cannot be avoided. Substantial mitigation is provided to minimize impacts such that, a future CBP facility would not be developed in an area containing significant biological resources that cannot be avoided. However, it has been determined that even with the implementation of substantial mitigation measures to avoid contributing to cumulatively considerable impacts to covered species and supporting habitat, which can be mitigated by implementing the HCP, impacts to one species cannot be completely avoided. The proposed CBP project operations may result in a reduction in surface flows in the Santa Ana River and into Prado Basin. In addition, Low Impact Development ordnances, local policies, and municipal storm water detention regulations will encourage water conservation and flow detention, resulting in a cumulative reduction in surface flows reaching Prado Basin. Thus, the proposed project is forecast to cause significant unavoidable adverse impact to biological resources, specifically implementation of the CBP will contribute cumulatively to potential significant impacts to the Santa Ana Sucker due to the reduction in cumulative flows to the Santa Ana River.

Greenhouse Gas: As described in Subchapter 4.9, implementation of the proposed CBP is projected to result in a net decrease of approximately 15,753 MT of CO_2e in call years, while under a non-call year scenario the CBP would emit an estimated 6,435 MT of CO_2e. In total, operation of the CBP would result in a net reduction in greenhouse gas (GHG) emissions of approximately 5,535 MT of CO_2e (including the reduction from offsetting SWP imports) over the 25-year term of the proposed water transfer agreements. As a result of the uncertainty surrounding the future power mix and energy demands of the proposed CBP, the CBP would potentially fail to procure its electricity from carbon-neutral electricity sources by 2045. Therefore, the long-term, indirect impacts of the CBP's operational GHG emissions would be potentially significant in both call and non-call years. Implementation of mitigation that would ensure that IEUA implement all feasible GHG reduction measures during operations is required, but does not reduce operations-related emissions below significance thresholds. Additionally, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. As such, while mitigation ensuring IEUA implements all feasible GHG reduction measures during operations would minimize impacts to the greatest extent feasible, construction-related impacts from implementation of the proposed CBP would be potentially significant. Thus, exceedances of applicable SCAQMD regional thresholds are considered significant and unavoidable, and the construction and operation of the proposed project could create a significant cumulative impact to global climate change.

Utilities and Service Systems: Subchapter 4.20 concluded that implementation of the CBP would not significantly impact stormwater drainage, energy, natural gas telecommunications, or solid waste. Additionally, mitigation is required to minimize impacts related to stormwater through implementation of a drainage plan to reduce downstream flows for future CBP projects. Mitigation is required to address potential impacts related to solid waste including those that would: ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted from the local landfill, which will minimize the potential for CBP projects to generate waste in excess of local landfill capacities; and ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycling and ultimately reuse, thereby diverting this waste stream from the local landfill. The construction of infrastructure related to energy and natural gas was analyzed and determined to be less than significant with the implementation of mitigation. This mitigation would ensure that CBP projects not located in an area containing adjacent access to electricity and natural gas infrastructure would require subsequent CEQA documentation. With implementation of this mitigation the proposed project will not cause unavoidable significant adverse impacts to energy or natural gas. The construction of infrastructure related to telecommunications was determined to be less than significant with the implementation of mitigation. This mitigation would ensure that CBP projects not located in an area containing adjacent access to telecommunication infrastructure would require subsequent CEQA documentation. With implementation of this mitigation the proposed project will not cause unavoidable significant adverse impacts to telecommunications.

Based on the facts and findings presented in the RDPEIR analysis, the proposed project will not cause unavoidable significant adverse impacts to stormwater drainage, energy, natural gas, telecommunications, or solid waste.

The topic of water and wastewater infrastructure were also discussed in Subchapter 4.20. The extension of water and wastewater related infrastructure was determined to be potentially

significant. However, the provision of sufficient water supply within the Chino Basin was determined to be less than significant with the implementation of mitigation that would minimize impacts related to loss of pumping sustainability, result in potential reduction in net recharge and impacts to Safe Yield, and/or result in new subsidence. These mitigation measures will ensure that sufficient water supplies are available to serve the Parties[1] within the Chino Basin. The mitigation is extracted from Subchapter 4.11, Hydrology and Water Quality (discussed above) and would create a hierarchy of checks and balances as part of the sustainable management of the Basin through continuous monitoring of known issues within the Basin and a comparable mitigative response to ensure that these issues do not result in a significant impact. Additionally, the provision of sufficient wastewater treatment capacity at area wastewater treatment plants would be ensured through mitigation that would ensure subsequent CEQA documentation is required where the overall CBP would require greater brine conveyance capacity than area brine disposal facilities can accommodate. As such, impacts related to wastewater treatment capacities at area and regional facilities would be less than significant with the implementation of mitigation.

However, as discussed under Subchapter 4.20 of this RDPEIR, the proposed CBP could result in significant impacts related to construction-related GHG emissions that would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030 that would result from the extension of water- and wastewater-related infrastructure. Such construction of the CBP has the potential to hinder statewide GHG emissions targets, and therefore the proposed CBP could result in significant and unavoidable GHG impacts related to construction of new or expansion or modifications to existing water and wastewater facilities.

The Executive Summary of potential project impacts is presented in **Table 1.5-1**.

1.6 ALTERNATIVES

The CEQA and the CEQA Guidelines require an evaluation of alternatives to the proposed action. Section 15126 of the CEQA Guidelines indicates that the "discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of not significant...." The CEQA Guidelines also state that "a range of reasonable alternatives to the project … which could feasibly attain the basic objectives of the project" and that "[t]he range of alternatives required in an EIR is governed by 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." The detailed analyses of the alternatives evaluated are provided in Chapter 5 of this RDPEIR and addresses those alternatives for feasibility and a range of alternatives required to permit decision-makers and the public a reasoned choice among the alternatives. Refer to **Table 1.6-1** below for a tabular comparison of alternatives.

The proposed project's objectives are to meet permit compliance for the continued use of recycled water in the Chino Basin, maintain commitments for salt management to enable sustainable use of recycled water in the Basin, develop infrastructure that addresses long term supply vulnerabilities, provide a source of water for emergency response, and develop an integrated solution to Support Regional Water Reliability and Environmental Sustainability ~~produce State~~

[1] The Chino Basin Watermaster functions as a unique entity that has been created by the court. Basin Watermaster is composed of a Board that consists of member agencies from three groups: an Appropriative Pool, Non-Appropriative Pool, and Agricultural Pool, and four other public agencies (see below), effectively the water producers in the Chino Basin. These entities are collectively known as the Chino Basin Parties or stakeholders.

~~and federal environmental benefits~~. In this instance the RDPEIR and 2022 CBP FPEIR analysis ~~in Chapter 4~~ has reached a finding that there are three issues—***Biological Resources, Greenhouse Gas, and Utilities and Service Systems***—with unavoidable significant adverse effects from implementing the project as proposed in Chapter 3, the Project Description.
The "No Project Alternative" that CEQA and the CEQA Guidelines require to be included in every EIR is not environmentally superior to the proposed CBP. In an effort to reduce the proposed project impacts to a less than significant level, the two alternatives brought forward for further close evaluation in this RDPEIR besides the No Project Alternative are the "Baseline Water Quality Action Alternative" and the "Regional Water Quality and Reliability Plan Alternative."

1.6.1 No Project Alternative

One of the alternatives that must be evaluated in an EIR is the "no project alternative," regardless of whether it is a feasible alternative to the proposed project, i.e., would meet any, some, or all of the project's objectives or requirements. In this case, this Subsection evaluates a No Project Alternative that reflects a "no action" alternative that makes salient the potential impacts and practical results redounding from IEUA not approving the CBP and taking no actions to resolve regulatory compliance issues within the Basin from continued recycled water use.

Under this alternative, the environmental impacts that would occur if the CBP facilities and programs are not implemented are evaluated. Under this No Project Alternative, there would be no expansion of existing recycled water systems or groundwater by member agencies of IEUA. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand.

Analysis performed to date indicates that IEUA could exceed the NPDES TDS permit limits for recycled water within the next 10 years, and possibly the groundwater recharge permit limit in the near future if no actions are taken. Maintaining permit compliance is critical for IEUA. There are strict consequences associated with non-compliance with the maximum benefit commitments (i.e., failure to develop the required mitigation plans when the action limits are triggered) that could lead to recycled water and groundwater recharge program interruption and/or retroactive activities. If the NPDES permit limit is exceeded, IEUA will be in violation of its NPDES permit and if a plan to address it is not submitted to the Santa Ana Regional Water Quality Control Board (RWQCB) in a timely manner, this could result in the halting of all use of recycled water. Consequently, all effluent from IEUA's water recycling facilities will need to be discharged to the Santa Ana River. Discharge to the Santa Ana River above 550 mg/L will also be above the discharge limitation, which is also 550 mg/L. The Basin Plan also states that "The Regional Board will also require mitigation of any adverse effects on water quality downstream of the Chino Basin that result from failure to implement the 'maximum benefit' commitments." Non-compliance could result in permit modification with more stringent recycled water and groundwater recharge limits, severely impacting both the operability of the programs as well as the costs.

Unmitigated use and recharge of recycled water in the Chino Basin is contingent upon compliance with the maximum benefit objectives established by the RWQCB and agreed to by IEUA. If compliance is not demonstrated, lower, more stringent limits consistent with the State and federal anti-degradation objectives would apply. These lower limits effectively prohibit use of recycled water at worst or require a combination of purchase of dedicated State Water Project (SWP) supplies with low TDS from MWD and treatment to reduce TDS concentrations at best. TDS management within Chino Basin is thus critical to ensure continued use of recycled water and

reduce reliance on imported water within IEUA's service area.

During 2019, recycled water used for groundwater recharge exceeded the 1,2,3-Trichloropropane (1,2,3-TCP) maximum contaminant level and perfluorooctanoic acid (PFOA) Notification Level and went into an accelerated monitoring schedule for 16 consecutive weeks. Corrective action reports were submitted to the State Water Resources Control Board's Division of Drinking Water and RWQCB in February 2020. Source evaluation for both compounds is ongoing.

Advanced treatment may be required to address impending/future regulations for 1,2,3-TCP and perfluorooctanoic acid PFOA. There are other contaminants of emerging concern, such as microplastics, that are likely to emerge over the next 10 years and could also require advanced treatment to continue recharge of recycled water. Even if these facilities are not required to maintain compliance with the Basin Plan, they may be needed to treat recycled water to continue current and for future groundwater recharge.

There is little flexibility to respond and manage changes in TDS concentration due to drought conditions, and the timeframe by which drought conditions can impact recycled water TDS concentration is short. Expected recycled water TDS concentration is 500 mg/L, considering contributions from household use and treatment processes and imported water. In periods of drought, recycled water TDS concentration is susceptible to increases, with imported water TDS concentration reaching up to 400 mg/L, and the desalter operating at 350 mg/L. Although statistical models considered long-term trends based on data sets of 20+ years and historical drought patterns, significant potential drivers, such as climate change, are not evaluated in these projections. These potential drivers further support the need for salinity management within the next 10 years.

If the ambient water quality in the Chino Basin is not maintained per the RWQCB's TDS limit, there will be greater dependence on imported water and local stormwater supplies, which are highly volatile and impacted by climate change. Since the Basin only receives imported water from one regional pipeline that is owned and operated by MWD, an unplanned or catastrophic occurrence could cut off 25 percent of the Basin's water supply. The No Project Alternative's no action approach would result in the Basin being out of regulatory compliance, threaten water supply, and does not meet IEUA's objectives.

As such, and as required by CEQA, a second, reduced development, alternative that also meets the requirements of analyzing a "no project" alternative is provided below as the Baseline Compliance Plan Alternative. The reason for distinguishing these two alternatives is that for IEUA to take "no action" towards maintaining regulatory compliance means that at some point it will be out of compliance and ultimately, in order for IEUA to continue its operations, an advanced water purification facility would be required in order to comply with its RWQCB permits. As such, the following alternatives discussion reflects the environmental consequences of a true "no action" alternative—henceforth called the No Project Alternative or NPA—while the Baseline Compliance Plan Alternative or BCPA, identified below as Alternative 1, would meet the provisions of CEQA Guidelines Section 15126.6(e)(3)(A) and (B), which requires the "no project" alternative to proceed as applicable to a given project as follows:

(A) 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.

(B) … However, where the failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval… ."

As such, given that it is reasonably foreseeable that without implementation of the CBP, actions will need to be taken to ensure that IEUA remain in regulatory compliance through their continued operations, the Baseline Compliance Plan Alternative (Alternative 1), is provided to address this requirement.

1.6.2 Alternative 1: Baseline Water Quality Action Alternative

Issues of rising TDS concentrations in recycled water nearing compliance levels and other regulatory challenges associated with contaminants of emerging concern puts the region at great risk. IEUA and its partners have invested significant time and money in identifying solutions to address these challenges. Though there are a number of solutions that IEUA could implement to address the groundwater recharge challenges associated with TDS and contaminants of emerging concern, none are as optimal as the implementation of advanced water purification. The Baseline Water Quality Action Alternative (BWQAA) would address TDS levels for both direct use of recycled water and groundwater recharge and could also help address the challenges associated with Title 22 regulations. The BWQAA considers a centrally located advanced water purification system can be linked with the existing distribution system providing greater flexibility for use of the advanced treated water, providing greater benefit to the region as an available supply and solutions for brine discharge that are more economically feasible. Also, it has the potential to be integrated in the future as direct potable reuse when such regulations are adopted.

As discussed above under Subsection 5.3, the reduced development BWQAA has been included in this RDPEIR in accordance with CEQA Guidelines Section 15126.6(e)(3)(A) and (B). Given that it is reasonably foreseeable that, without the implementation of the CBP, actions will need to be taken to ensure that IEUA remains in regulatory compliance through its continued operations, the BWQAA (Alternative 1), is provided to address this foreseeable result.

Under Alternative 1, the BWQAA, centrally located advanced water purification facilities will be used with IEUA's existing conveyance system to help address the region's regulatory compliance challenges. The expected effluent TDS concentration from the AWPF is 100 mg/L. The AWPF would have a capacity comparable to that which is proposed by the CBP, and similarly, would be located at RP-4. This low-TDS recycled water could be used to meet discharge obligations to the Santa Ana River, or for blending into IEUA's existing recycled water distribution system using existing conveyance, significantly reducing recycled water TDS concentrations. Once blended into IEUA's recycled water distribution system, the augmented recycled water supply could be used for groundwater recharge or for indirect potable use.

The BWQAA would include a 15,000 AFY AWPF, a new 1,500 horsepower (HP) pump station at RP-4, and 1,400 lineal feet (LF) of 8-inch brine pipeline. These facilities would be phased with 9,000 AFY online by 2030 and the remaining 6,000 AFY by 2040. TAKE facilities are those that are associated with the extraction of groundwater from the Chino Basin and the conveyance of potable water supply. Alternative 1 does not include any TAKE facilities. Alternative 1 is only designed to meet water quality related regulatory challenges and does not include infrastructure to enhance regional water supply. As a result, Alternative 1 provides water quality benefits to

IEUA and the region, but no water supply, ecosystem, or emergency supply benefits are realized through Alternative 1.

1.6.3 Alternative 2: Regional Water Quality and Reliability Plan Alternative

Alternative 2, the Regional Water Quality and Reliability Plan, builds upon the Baseline Compliance Plan Alternative to address regional water quality and water supply challenges. PUT facilities for the Regional Water Quality and Reliability Plan Alternative include an AWPF, injection wells, purified water conveyance facilities, and brine conveyance. The Regional Water Quality and Reliability Plan Alternative includes the same AWPF, pump station, 6,000 AFY of additional external supplies, and brine conveyance pipelines as the Baseline Compliance Plan Alternative. These facilities would not be phased, and the full 15,000 AFY capacity would be on-line by 2030. Additionally, the Regional Water Quality and Reliability Plan Alternative would introduce purified water pipelines, and groundwater injection facilities, including 16 injection wells.

The Regional Water Quality and Reliability Plan would require TAKE facilities, including extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system. These facilities would collectively provide an extraction capacity of 15,000 AFY to support a delivered water capacity used to help address water supply challenges in the region. The extraction wells needed to support this capacity are assumed to be comparable to the extraction wells identified for the CBP designed to recharge up to 50,000 AFY. Furthermore, this alternative does not require connections to MWD's water distribution system as is the case for the proposed CBP project.

The Regional Water Quality and Reliability Plan would collectively treat and store up to 15,000 AFY of recycled water in the Chino Groundwater Basin, creating a new local water supply. This water will be available for local use for the 50-year project life of the alternative, therefore reducing dependence on imported water, improving water quality, and providing a new local water supply for the Basin. The Regional Water Quality and Reliability Plan would include a network of regional pipelines that would provide the ability for IEUA and its member agencies to access stored water in the Chino Groundwater Basin, connecting these new potable water supplies for use in lieu of planned water deliveries from MWD. These new water conveyance and water system interconnections also provide an important alternative source of water supply to IEUA and its member agencies during any required shutdown of MWD's major pipelines delivering water to the region, such as the Rialto Pipeline, which is planned for rehabilitation as part of a larger rehabilitation plan of MWD's pipelines within its service area.

The production of high-quality water in the Chino Groundwater Basin will deliver regional benefits in the form of enhanced water quality. The Regional Water Quality and Reliability Plan will also deliver regional benefits in the form of local water supply benefits available annually to offset the cost of imported water from MWD as well as to reduce the economic impact of supply shortages when MWD is unable to deliver full water supplies.

In addition, the Regional Water Quality and Reliability Plan provides local emergency supply benefits in years when planned or unplanned service disruptions occur.

1.6.4 Discussion

The "no action" No Project Alternative (NPA) analyzed above would ultimately ~~not be a feasible as it~~ would lead to IEUA having to take actions in order to comply with mandatory regulatory

requirements in order to continue operating as usual. As such, the NPA analyzed above would not ~~neither be feasible nor would it~~ meet the fundamental project objectives outlined in the CBP Project Description. Specifically, the NPA would not meet permit compliance for continued use of recycled water in the Basin, nor would it maintain commitments for salt management to enable sustainable use of recycled water in the Basin. Neither would it address long-term supply vulnerabilities or provide a source of water for emergency response. The NPA generally has lessened environmental impacts for all of the resource issues except for hydrology and water quality issues. The NPA would reduce significant biological resource and greenhouse gas impacts from a significant impact under the CBP to a level of less than significant. The NPA is forecast to result in a new significant unavoidable adverse impacts to hydrology and water quality, and would cause greater significant unavoidable adverse impacts under utilities and service systems than the CBP. ~~Further, although the NPA would reduce potentially significant impacts identified in this DPEIR as compared to the proposed CBP, it would lead to greater impacts in some other areas, including hydrology and water quality and utilities and service systems.~~ This is because the NPA would result in the Chino Basin being out of regulatory compliance and would threaten water supply. In the final analysis, the NPA clearly cannot be considered the environmentally superior alternative to the proposed project from a total environmental standpoint, because the environmental damage from implementing it is forecast to cause a significant adverse impact when compared to implementing CBP.

~~Finally, under the NPA, the ability to attain the goals and objectives as described under Chapter 3, Project Description, and listed in the paragraph above, would be virtually eliminated. The No Project Alternative would not obtain the Project's basic objectives, and furthermore, although the NPA would reduce potentially significant impacts identified in this DPEIR as compared to the proposed Project, it would lead to greater impacts in some other areas, including hydrology and water quality and utilities and service systems. It should also be noted that the NPA would eliminate significant environmental benefits that would result from the CBP. As discussed in Chapter 3 of this DPEIR, the CBP would provide environmental benefit in call years, which will likely be in dry seasons, to improve Feather River habitat conditions and enable salmonid species greater chance for survival. The NPA would not only forgo this environmental benefit, but it would also result in a threat to the reliability of water supply in the Chino Basin.~~

In sum the NPA cannot be considered an environmentally superior alternative to the proposed CBP project from a total environmental standpoint because the environmental downsides of the NPA are overall more consequential than those that could result from implementing CBP.

CEQA Guidelines Section 15126.6(b), indicates that a range of reasonable alternatives must be developed and considered by the lead agency. Elimination of potential environmental impacts of the proposed project should be considered when developing potential alternatives. As evaluated in Chapter 2 of this EIR, the potentially significant impacts of the Proposed Project are: Biological Resources, Greenhouse Gas, and Utilities and Service Systems.

The practical result of IEUA not approving the CBP would be IEUA at some point having to build a reduced development project like the Baseline Water Quality Action Alternative (BWQAA; Alternative 1), as a way to provide the facilities required in order for the use of recycled water in the Chino Basin to continue under current permits and regulations. The reduced development BWQAA, which as noted above is basically a "practical result" no project alternative, would lessen environmental impacts in all categories to a level of less than significant, though it could continue to contribute to potentially significant operational Greenhouse Gas emissions. This is because, while it is likely that electricity would be procured from carbon-neutral electricity sources by 2045,

because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed, and therefore, it is possible that a significant operations-related GHG impact could occur should the future power mix fail to meet the carbon-neutral electricity requirement by 2045. The BWQAA would not require as intensive construction as the CBP as it does not propose the same intensity of facilities proposed by the CBP. As such, the BWQAA would not create any new significant impacts beyond those identified by the CBP and result in lessened environmental impacts compared to the CBP. The BWQAA would also avoid Biological Resources and Utilities and Service Systems significant impacts, although potentially significant operations related Greenhouse Gas impacts could still occur under it. As such, the BWQAA is considered an environmentally superior alternative to the CBP.

~~However, the BWQAA would not achieve several of the CBP's basic objectives. While~~ The BWQAA would meet permit compliance for the continued use of recycled water in the Chino Basin and would maintain commitments for salt management to enable sustainable use of recycled water in the Basin, the BWQAA would not develop infrastructure that addresses long term supply vulnerabilities, provide a source of water for emergency response, or develop an integrated solution to support regional water reliability while balancing ~~produce State and federal~~ environmental sustainability ~~benefits~~ because it would only address water quality improvement project purposes and does not include the infrastructure necessary for water supply improvement.

The Regional Water Quality and Reliability Plan Alternative (Alternative 2) is comparable to the CBP in terms of environmental impacts. Because Alternative 2 would result in the development of nearly identical facilities to the CBP, excepting those which the CBP requires in order to connect to MWD's water distribution system, most of the impacts related to Alternative 2 are the same as those identified under the CBP. It is possible that, due to reduction in pipeline lengths and turnouts required under Alternative 2 when compared to the CBP, the construction related GHG emissions impact would be eliminated, but given the comparable construction scenarios, the elimination of this construction related GHG impact is not guaranteed. However, because Alternative 2 would not result in offset electricity consumption that would redound from the water exchange with the SWP created by the CBP, it is likely the Alternative 2 would result in greater GHG emissions than would the CBP, and as such would not eliminate operations related GHG impact. Note that Alternative 2 would ultimately reduce reliance on imported water; thus, some of the energy related GHG emissions that may result from operation of Alternative 2 facilities would ultimately be offset by reducing reliance on the energy intensive imported water source. Regardless, Alternative 2 would result in a significant operations-related GHG emissions impact. Furthermore, Alternative 2 would not eliminate significant Biological Resources or Utilities and Service Systems impacts. As such, while Alternative 2 would lessen significant impacts under GHG, it would not eliminate significant impacts under any of the categories for which significant impacts have been identified under the CBP. Therefore, Alternative 2 cannot be considered an environmentally superior alternative to the CBP.

~~Furthermore, while~~ Alternative 2 would meet ~~nearly all of~~ the CBP's objectives~~., it would not meet one of the IEUA's basic objectives, which is to develop an integrated solution to produce State and federal environmental benefits. As such, under Alternative 2, the improvement of habitat conditions enabling Feather River salmonid species greater chance for survival would be eliminated, thus failing to meet this project objective.~~ Alternative 2 and the CBP both include advanced water treatment and groundwater injection and water supply infrastructure, including extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system, as well as 15,000 AFY in local supplies. The infrastructure associated with both alternatives would collectively help IEUA meet its objectives

of protecting and enhancing water quality and improving regional water supply reliability and resiliency. For the CBP, regional water reliability and environmental sustainability, as an objective, are achieved through the anticipated improvement in habitat conditions enabling Feather River salmonid species greater chance for survival, while producing 15,000 AFY of "new" water supply for a period of 25-years to provide for the State exchange, thereby directly replacing a portion of imported supplies. For Alternative 2, regional water reliability, as an objective, would be achieved through producing 15,000 AFY of recycled water in the Chino Basin, creating a new local water supply, thereby reducing dependence on imported water, improving water quality, and ultimately providing a new local water supply for the Basin. While the CBP project benefits to enabling Feather River salmonid species would not be achieved under Alternative 2, Alternative 2 may still contribute to environmental sustainability, where environmental sustainability is interpreted as contributing to diversifying supply and thereby contributing to Chino Basin Groundwater sustainability, or as addressing climate resilience through creating a new reliable source of supply. Alternative 2 would contribute regional water reliability and environmental sustainability as part of its implementation. Thus, based on the above, Alternative 2 would meet all of the CBP project objectives.

Based on the above discussion, Alternative 1 would be the environmentally superior alternative to the CBP because it would reduce the overall construction and operational considerations associated with the CBP. Alternative 1 would reduce impacts in all categories as compared to the proposed CBP except as it relates to Greenhouse Gas emissions. This is because, while it is likely that electricity would be procured from carbon-neutral electricity sources by 2045, because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed, and therefore, it is possible that a significant operations-related GHG impact could occur should the future power mix fail to meet the carbon-neutral electricity requirement by 2045. The BWQAA would not create any new significant impacts beyond those identified by the CBP and would result in lessened environmental impacts compared to the CBP. Accordingly, the BWQAA would be considered the environmental superior alternative because it would reduce Biological Resources impacts below a level of significance, although it would result in lesser, though still significant impacts related to Greenhouse Gas and thereby Utilities and Service Systems (construction related water infrastructure impacts from construction related GHG emissions generation) relative to the proposed project.

A summary of impacts of the alternatives compared to the Proposed Project is included in **Table 1.6-1** below, pursuant to CEQA Guidelines Section 15126.6(d).

1.7 AREAS OF CONTROVERSY

1. Unused recycled water supplies
2. Regional benefits vs benefits of participating agencies (cost related)
3. Groundwater storage/storage and recovery program

Unused Recycled Water Supplies
In FY 2020/2021, an average of 56,150 AFY of recycled water supply was produced at IEUA's water recycling plants, of which, 19,534 AFY was used as recycled water direct use and 16,253 AFY was used through surface spreading for groundwater recharge. The remaining supply of 20,364 AFY was discharged as effluent to the Chino Creek and Cucamonga Creek, which eventually reaches the Santa Ana River. IEUA recycled water is used by its Regional Contract Agencies (RCAs) as direct use and they are allocated pro-rata shares of the recycled water that is recharged. Some of the RCAs do not utilize all the available recycled water supply for direct

use due to a lack of potential customer uses, facilities, and funding opportunities. This unused recycled water supply makes up the plant effluent that is discharged. With the CBP, a portion of the unused recycled water supply that is currently discharged would be dedicated by participating RCAs as the source water for the advanced water purification facility (AWPF). As the interest in maximizing the use of available recycled water continues to grow, there are issues of concern as to how the remaining available supplies are put to use.

Regional and Participating Agency Benefits
The CBP offers both regional benefits and participating agency benefits through the operation of the CBP facilities. Regionally, the construction of the AWPF by 2028 reduces the risk of salinity non-compliance, which will allow for the continued use of recycled water for direct use and surface spreading recharge within the Chino Basin. As drought conditions occur, advanced treatment of recycled water will ensure permit compliance. For the participating agency benefits, the CBP facilities will create new local water supplies, diversify their water portfolio, and provide resilience during imported water supply interruptions. The investments by the participating agencies in the water supply reliability provides indirect benefits to the rest of the water agencies within the Chino Basin in developing their enhanced local supply and reducing demands on imported water during periods of shortages and/or outages. The allocation of the costs to the regional benefits that would result from CBP implementation and to participating agencies remains a topic that continues to evolve.

Groundwater Storage/Storage and Recovery Program
With the CBP facilities, groundwater storage of advanced treated recycled water will be achieved through injection wells. Storage capacity in the Chino Basin will be acquired through a Storage and Recovery Program application administered by the Watermaster. The amount of storage anticipated for the CBP is 125,000 AF. This amount of storage will exceed the current approved storage capacity of 700,000 AF and accommodates both CBP storage requirements as well as the Watermaster stakeholder storage requirements. The Storage and Recovery Application for the CBP will identify mitigation measures that would protect the Basin from Material Physical Injury (MPI), and would ensure that hydraulic control is maintained. IEUA will be required to adhere to these mitigations in order to carry out CBP operations within the Basin. Allocation of storage within the Basin remains a topic of concern, as storage and recovery programs by IEUA, as well as other Watermaster stakeholders are desired because groundwater storage has become an important resource for long term supply planning within the Basin.

1.8 SUMMARY OF IMPACTS AND AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES DISCUSSED IN THIS DRAFT EIR

Table 1.5-1 provides a summary of all impacts and mitigation measures identified in the detailed environmental evaluation presented in Chapter 4 of this RDPEIR. This summary is meant to provide a quick reference to the proposed CBP project's impacts, but the reader is referred to Chapter 4 to understand the assumptions, methods of impact analysis, and rationale for the findings and conclusions from which it is derived. **Table 1.6-1** provides a checklist comparison of the CBP project to the NPA, Alternative 1, and Alternative 2, but the reader is referred to Chapter 5 for an in-depth discussion of each alternative.

Table 1.5-1
SUMMARY OF IMPACTS AND AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES DIISCUSSED IN THIS RECIRCULATED DRAFT PEIR

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
AESTHETICS		
AES-1	Proposed facilities shall be designed in accordance with local design standards and integrated with local surroundings. Landscaping shall be installed in conformance with local landscaping design guidelines as appropriate to screen views of new facilities and to integrate facilities with surrounding areas.	Inland Empire Utilities Agency (IEUA)
AES-2	Future CBP facilities at unknown locations shall either (1) be located outside of scenic viewsheds identified in the General Plan or Municipal Code corresponding to a proposed location for a future facility; (2) be unobtrusive to scenic vistas due to height or other mitigating factors as confirmed by a visual simulation that demonstrates this; or (3) where (1) or (2) are not possible, undergo subsequent CEQA documentation to assess potential aesthetic impacts a future CBP facility may have upon contain scenic resources.	IEUA
AES-3	Should the removal of trees be required for a specific project, IEUA shall comply with the local jurisdiction's tree ordinance, municipal code, or other local regulations. If no tree ordinance exists within the local jurisdiction, and a project will remove healthy trees as defined by a qualified arborist, (1) the IEUA shall replace all trees removed at a 1:1 ratio, and (2) the specific location selected for a CBP facility shall avoid rock outcroppings and other scenic resources as defined in CEQA Guidelines Appendix G. If this cannot be accomplished a second tier CEQA evaluation shall be completed.	IEUA
AES-4	Future proposed facilities defined within the CBP at unknown locations shall either (1) be located within sites that avoid rock outcroppings and other scenic resources as defined in CEQA Guidelines Appendix G, or (2) undergo subsequent CEQA documentation to assess potential impacts from locating a future facility in an area that may contain scenic resources.	IEUA
AES-5	CBP facility implementation will conform with design requirements established in the local jurisdiction planning documents, including but not limited to the applicable zoning code, except where such compliance is not required by California law.	IEUA
AES-6	When CBP above ground facilities are constructed in the future, the local agency design guidelines for the project site shall be followed to the extent that they do not conflict with the engineering and budget constraints established for the facility and except where such compliance is not required by California law.	IEUA
AES-7	Future CBP projects shall implement at least the following measures, unless they conflict with the local jurisdiction's light requirements, in which case the local jurisdiction's requirements shall be enforced: • Use of low-pressure sodium lights where security needs require such lighting to minimize impacts of glare; Projects within a 45-mile radius of the Mount Palomar Observatory and located within Riverside County must adhere to special standards set by the County of Riverside relating to the use of low-pressure sodium lights. • The height of lighting fixtures shall be lowered to the lowest level consistent with the purpose of the lighting to reduce unwanted illumination. • Directing light and shielding shall be used to minimize off-site illumination. • No light shall be allowed to intrude into sensitive light receptor areas. • Non-reflective materials and/or coatings shall be used on the exterior of all water storage reservoirs if constructed in a publicly visible location.	IEUA

Impact Description	Impact After Mitigation
The existing visual setting of the proposed program area will be permanently altered. The intensification of development greater than that which presently occurs within the Chino Basin will change the visual setting. Given that the locations for most future Chino Basin Program (CBP) facilities are presently unknown, the impacts to visual resources in the area including scenic resources, trees, rock outcroppings, etc. and from new sources of light and glare were determined to be significant without mitigation. As such, mitigation is required to reduce impacts under this issue.	As described in Subchapter 4.2 of the 2022 CBP FPEIR, all potential aesthetic impacts associated with the CBP can be mitigated to a less than significant impact level. Mitigation measures would: minimize impacts to scenic vistas through enforcing future projects to meet local design standards; minimize impacts to scenic resources through avoidance of such resources, or through assessment in subsequent CEQA documentation; minimize impacts to scenic resources such as trees through enforcement of compliance with local jurisdiction tree ordinance(s); minimize conflicts with regulations governing scenic quality through enforcing compliance with applicable zoning code and design requirements established by local jurisdictions; and, minimize light and glare impacts by enforcing local jurisdiction light and glare minimization standards. As a result, there will not be any unavoidable project specific or cumulative adverse impacts to aesthetics from implementing the project as proposed.

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
AGRICULTURE AND FORESTRY RESOURCES		
AGF-1	For all proposed facilities in the southern portion of the Chino Basin (south of SR 60), the California Department of Conservation: California Important Farmland Finder shall be consulted to determine whether a project would be installed within a site designated as Important Farmland (Prime Farmland, Unique Farmland, and Farmland of Statewide Importance). If designated important farmland cannot be avoided, the IEUA shall conduct a California Land Evaluation and Assessment (LESA) model evaluation. If the evaluation determines the loss of important farmland will occur, IEUA shall either (1) relocate and avoid the site, or alternatively IEUA shall (2) where relocation is not possible, undergo subsequent CEQA documentation to assess potential impacts that a future CBP facility may have upon agricultural resources.	--
AGF-2	For all proposed facilities that may impact riparian woodland/forest land in the portion of the Chino Basin (SR 60), the potential for impacts to riparian woodland/forest land shall be determined prior to final site election. If important forest land cannot be avoided and permanently will exceed 5 acres in area, IEUA shall relocate and avoid the site, or alternatively IEUA shall conduct an evaluation to determine if it qualifies with the State definition of “forest land.” If the evaluation determines the permanent loss of important forestland will occur, IEUA shall provide compensatory mitigation in the form of comparable forest land permanently conserved in either a local or State-approved important forest land mitigation bank at a mitigation ratio of 1:1. Alternatively, IEUA may carry out a forest land creation program at a 1:1 ratio for comparable woodland. The acquisition or creation of this compensatory mitigation shall be completed/initiated within one year of initiating construction of the proposed facility and verification shall be documented by IEUA.	--

Impact Description	Impact After Mitigation
Due to the substantial agricultural resources located within Chino Basin, installation of future CBP related facilities were determined to have a potentially significant impact to such resources. Proposed facilities could potentially be constructed on land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Construction and operation of ancillary facilities could convert this land to non-agricultural use. Therefore, impacts would be potentially significant requiring mitigation outlined to minimize impacts to a level of less than significant. Furthermore, the southernmost portion of the Chino Basin overlaps with riparian woodland areas along the Santa Ana River, Chino Creek, and Mill Creek, and in the Prado Basin. Certain areas of these riparian woodlands may qualify as forest land based on the definition cited at the beginning of this subchapter. Other than these specific areas, no contiguous area of forest land occurs in the Chino Basin and no jurisdictions have designated areas within their jurisdiction with zoning designations for forest land. The Chino Basin area borders the San Bernardino National Forest, but this forest does not overlap with the Basin itself. Given that there is minimal potential for the CBP facilities to impact lands that might qualify as forest land, mitigation is required to reduce impacts to a level of less than significant.	As described in Subchapter 4.3 of the 2022 CBP FPEIR, installation of future CBP related facilities were determined to have a potentially significant impact to forestry and agricultural resources; however, mitigation was identified to minimize agricultural and forestry resource impacts below significance thresholds including those that would: relocate or avoid impacts to important agricultural land; and relocate or avoid impacts to forest land or offset the loss by purchasing compensatory mitigation in the form of comparable forest land permanently conserved in either a local or State-approved important forest land mitigation bank. As described in Subchapter 4.3 of the 2022 CBP FPEIR, no unavoidable significant impact to agricultural or forestry resources will result from implementing the proposed project.

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
AIR QUALITY AQ-1 IEUA shall require its contractor(s) to use off-road equipment that meets the U.S. EPA certified Tier 4 Final engines or engines that are certified to meet or exceed the emission ratings for U.S. EPA Tier 4 Final or Interim engines such that average daily nitrogen oxide (NO_X) emissions are verified to be below the SCAQMD regional significance threshold of 100 pounds per day.	IEUA

Impact Description	Impact After Mitigation
The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that construction of the proposed CBP would result in an exceedance of thresholds for a criteria pollutant: NO_x. Maximum daily NO_X emissions would exceed the SCAQMD regional significance threshold throughout the entire duration of project construction. Operational electricity consumption would not result in direct project emissions of criteria air pollutants. Only direct emissions of criteria pollutants from energy sources that combust on-site, such as natural gas, are attributed to individual projects. None of the individual projects implemented under the proposed CBP would result in the combustion of natural gas on-site. Criteria pollutant emissions from the power plants that would provide electricity to CBP facilities are associated with the power plants themselves, which are stationary sources permitted by air districts and/or the U.S. EPA, and are subject to local, state	As described in Subchapter 4.4 of the 2022 CBP FPEIR, with the implementation of mitigation, construction of the proposed project would reduce impacts for all criteria pollutants below South Coast Air Quality Management District (SCAQMD) significance thresholds. Mitigation measures would: require IEUA's contractor(s) to use off-road equipment that meets the U.S. EPA certified Tier 4 Final engines, or engines that are certified to meet or exceed the emission ratings for U.S. EPA Tier 4 Final or Interim engines, such that average daily nitrogen oxide (NOX) emissions are verified to be below the SCAQMD regional significance threshold of 100 pounds per day. As a result, there will not be any unavoidable project specific or cumulative adverse impacts to air quality from implementing the project as proposed.

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
and federal control measures. Thus, emissions of criteria pollutants related to electricity consumption are not attributable to individual projects. Furthermore, the CBP would be consistent with the SCAQMD 2016 Air Quality Management Plan (AQMP), and as such would not result in or cause National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) violations. Construction- and operation-source emissions would not exceed the applicable SCAQMD Localized Significance Thresholds and would be less than significant. Mitigation is required to reduce the project's contribution to significant air quality emissions.	

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
BIOLOGICAL RESOURCES BIO-1 All future CBP Infrastructure projects shall be required to consult with a qualified professional to determine the need for site-specific biological surveys. Where a site has been determined to require a site-specific survey by a qualified professional, in any case in which a future CBP Infrastructure project will affect undeveloped land, or in which IEUA seeks State Funding, site surveys shall be conducted in accordance with appropriate standards by a qualified biologist/ecologist, except where such surveys have already been conducted (i.e. at RP-4). If sensitive species are identified as a result of the survey for which mitigation/compensation must be provided in accordance with regulatory requirements, the CNDDB will be notified and the following subsequent mitigation actions will be taken: a. The project proponent shall provide compensation for sensitive habitat acreage lost by acquiring and protecting in perpetuity (through property or mitigation bank credit acquisition) habitat for the sensitive species at a ratio of not less than 1:1 for habitat lost. The property acquisition shall include the presence of at least one animal or plant per animal or plant lost at the development site to compensate for the loss of individual sensitive species. b. The final mitigation may differ from the above values based on negotiations between the project proponent and USFWS and CDFW for any incidental take permits for listed species. IEUA shall retain a copy of the incidental take permit as verification that the mitigation of significant biological resource impacts at a project site with sensitive biological resources has been accomplished. c. Preconstruction botanical surveys for special-status plant communities and special-status plant species will be conducted in areas that were not previously surveyed because of access or timing issues or project design changes; pre-construction surveys for special-status plant communities and special-status plant species will be conducted before the start of ground-disturbing activities during the appropriate blooming period(s) for the species. If special-status plants or plant communities are identified, the following hierarchy of actions shall be taken: a) find an alternative site; b) avoid the plants and maintain them onsite after completing the project; or c) provide compensatory mitigation offsite.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-2	Biological Resources Management Plan (BRMP): During final design and prior to issuance of construction permits, a BRMP will be prepared to assemble the biological resources mitigation measures for each specific infrastructure improvement in the future. The BRMP will include terms and conditions from applicable permits and agreements and make provisions for monitoring assignments, scheduling, and responsibility. The BRMP will also discuss habitat replacement and revegetation, protection during ground-disturbing activities, performance (growth) standards, maintenance criteria, and monitoring requirements for temporary and permanent native plant community impacts. The parameters of the BRMP will be formed with the mitigation measures from subsequent CEQA documentation, including terms and conditions as applicable from the USFWS, USACE, SWRCB/RWQCB, and CDFW.	IEUA
BIO-3	Prior to discharge of fill or streambed alteration of state or federal water jurisdictional areas, IEUA shall obtain regulatory permits from the U.S. Army Corps of Engineers, local Regional Water Quality Control Board and the California Department of Fish and Wildlife as required. Any future project that must discharge fill into a channel or otherwise alter a streambed shall be minimized to the extent feasible, and any discharge of fill not avoidable shall be mitigated through compensatory mitigation. Mitigation can be provided by restoration of temporary impacts, enhancement of existing resources, or purchasing into any authorized mitigation bank or in-lieu fee program; by selecting a site of comparable acreage near the site and enhancing it with a native riparian habitat or invasive species removal in accordance with a habitat mitigation plan approved by regulatory agencies; or by acquiring sufficient compensatory habitat to meet regulatory agency requirements. Typically, regulatory agencies require mitigation for jurisdictional waters without any riparian or wetland habitat to be mitigated at a 1:1 ratio. For loss of any riparian or other wetland areas, the mitigation ratio will begin at 2:1 and the ratio will rise based on the type of habitat, habitat quality, and presence of sensitive or listed plants or animals in the affected area. A Habitat Mitigation and Monitoring Proposal shall be prepared and reviewed and approved by the appropriate regulatory agencies. IEUA will also obtain permits from the regulatory agencies (U.S. Army Corps of Engineers, Regional Water Quality Control Board, CDFW and any other applicable regulatory agency with jurisdiction over the proposed facility improvement) if any impacts to jurisdictional areas will occur. These agencies can impose greater mitigation requirements in their permits, but IEUA will utilize the ratios outlined above as the minimum required to offset or compensate for impacts to jurisdictional waters, riparian areas or other wetlands.	IEUA
BIO-4	Jurisdictional Water Preconstruction Surveys: A federal and state jurisdictional water preconstruction survey will be conducted at least three months before the start of ground-disturbing activities to identify and map all jurisdictional waters in the project footprint and up to a 250-foot buffer around the project footprint, subject to legal property access restrictions. The purpose of this survey is to confirm the extent of jurisdictional waters within the project footprint and adjacent up to 250-foot buffer. If possible, surveys would be performed during the spring, when plant species are in bloom and hydrological indicators are most readily identifiable. These results would then be used to calculate impact acreages and determine the amount of compensatory mitigation required to offset the loss of wetland functions and values.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-5	To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal will be conducted outside of the State identified nesting season (nesting season is approximately from February 15 through September 1 of a given calendar year). Alternatively, a nesting bird survey that demonstrates that no bird nests will be disturbed during project construction can be conducted by a qualified biologist no more than 14 days prior to initiation of ground disturbance; construction may only commence once a qualified biologist has demonstrated that no nesting birds are present at a given site. IEUA shall coordinate with the CDFW to identify the appropriate nesting bird survey protocol. The results of the nesting bird survey will be documented in a report submitted by the avian biologist to IEUA. IEUA, in coordination with CDFW and USFWS (as appropriate), may designate nest buffers outside of which construction activities may be allowed to proceed.	IEUA
BIO-6	All future CBP Infrastructure projects shall be required to consult with a qualified professional to determine the need for site-specific protocol burrowing owl surveys. Prior to commencement of construction activity where a site has been determined to require a protocol burrowing owl survey by a qualified professional, or in locations that are not fully developed, a protocol burrowing owl survey will be conducted using the 2012 survey protocol methodology identified in the "Staff Report on Burrowing Owl Mitigation, State of California, Natural Resources Agency, Department of Fish and Game, March 7, 2012", or the most recent CDFW survey protocol available. Protocol surveys shall be conducted by a qualified biologist to determine if any burrowing owl burrows are located within the potential area of impact. If occupied burrows may be impacted, an impact minimization plan shall be developed in coordination with CDFW and submitted to IEUA that will protect the burrow in place or provide for passive relocation to an alternate burrow within the vicinity but outside of the project footprint in accordance with current CDFW guidelines. Active nests must be avoided with a 250-foot buffer until all nestlings have fledged.	IEUA
BIO-7	Prior to commencement of construction activity on a project facility within a MSHCP/HCP plan area, consistency with that plan, or take authorization through that plan, shall be obtained. Through avoidance, compensation or a comparable mitigation alternative, each project shall be shown to be consistent with a MSHCP/HCP.	IEUA
BIO-8	During the design phase of future CBP Infrastructure projects, IEUA shall place primary emphasis on the preservation of large, unbroken blocks of natural open space and wildlife habitat area, and protect the integrity of habitat linkages. As part of this emphasis, IEUA shall facilitate programs for purchase of lands, clustering of development to increase the amount of preserved open space, and assurances that the construction of facilities or infrastructure improvements meet standards identical to the environmental protection policies applicable to the specific facilities improvement.	IEUA
BIO-9	Require facility designs and maintenance activities to be planned to protect habitat values and to preserve significant, viable habitat areas and habitat connection in their natural conditions. A qualified biologist shall be retained to determine the scope of the following for a given project site: a. Within designated habitat areas of rare, threatened or endangered species, prohibit disturbance of protected biotic resources. b. Within riparian areas and wetlands subject to state or federal regulations, riparian woodlands, oak and walnut woodland, and habitat linkages, require that the vegetative resources which contribute to habitat carrying capacity (vegetative diversity, faunal resting sites, foraging areas, and food sources) are preserved in place or replaced so as not to result in a measurable reduction in the reproductive capacity of sensitive biotic resources. c. Within habitats of plants listed by the CNDDB or CNPS as "special" or "of concern," require that new facilities do not result in a reduction in the number of these plants, if they are present.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-10	Maximize the preservation of individual oak, sycamore and walnut trees within proposed CBP Infrastructure sites. Preservation is defined within this measure as follows: existing oak, sycamore and walnut trees within a given Project site shall be retained within the site to the maximum extent feasible except where their preservation would interfere with functional and reasonable project design. Where the preservation of individual trees is not possible, IEUA shall comply with the local jurisdiction's tree ordinance, municipal code, or other local regulations. If no tree ordinance exists within the local jurisdiction, and a project will remove healthy trees as defined by a qualified arborist, (1) IEUA shall replace all trees removed at a 1:1 ratio, and (2) the specific location selected for a well shall avoid rock outcroppings and other scenic resources as defined in CEQA Guidelines Appendix G. If this cannot be accomplished a second tier CEQA evaluation shall be completed.	IEUA
BIO- 11	Require the establishment of buffer zones adjacent to areas of biological resources as recommended and defined by the site biologist. Such buffer zones shall be of adequate width to protect biological resources from grading and construction activities, as well as from the long-term use of adjacent lands. Permitted land modification activities with preservation and buffer areas are to be limited to those that are consistent with the maintenance of the reproductive capacity of the identified resources. The land uses and design of project facilities adjacent to a vegetative preservation area, as well as activities within the designated buffer area are not to be permitted to disturb natural drainage patterns to the point that vegetative resources receive too much or too little water to permit their ongoing health. In addition, landscape adjacent to areas of preserved biological resources shall be designed so as to avoid invasive species which could negatively impact the value of the preserved resource.	IEUA
BIO-12	As part of completion of the final site development, after ground disturbance has occurred within or adjacent to any natural area, the disturbed areas shall be revegetated using a plant mix of native plant species that are suitable for long term vegetation management at the specific site, which shall be implemented in cooperation with regulatory agencies and with oversight from a qualified biologist. The seeds mix shall be verified to contain the minimum amount of invasive plant species seeds reasonably available for the project area.	IEUA
BIO-13	Clean Construction Equipment. During construction, equipment will be washed before entering the project footprint to reduce potential indirect impacts from inadvertent introduction of nonnative invasive plant species. Mud and plant materials will be removed from construction equipment when working in native plant communities, near special-status plant communities, or in areas where special-status plant species have been identified.	IEUA
BIO-14	Contractor Education and Environmental Training. Personnel who work onsite will attend a Contractor Education and Environmental Training session conducted by a qualified biologist. The environmental training will cover general and specific biological information on the special-status plant species that may be present near the construction site, including the distribution of the resources, the recovery efforts, the legal status of the resources, and the penalties for violation of project permits and laws. The Contractor Education and Environmental Training sessions will be given before the initiation of construction activities and repeated, as needed, when new personnel begin work within the project limits. Daily updates and synopsis of the training will be performed during the daily safety ("tailgate") meeting. All personnel who attend the training will be required to sign an attendance list stating that they have received the Contractor Education and Environmental Training, and such tracking sheets shall be maintained for inspection by IEUA.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-15	Biological Monitor to Be Present during Construction Activities in areas where impacts to Riparian, Riverine, Wetland, Endangered Species or Endangered Species critical habitat occurs. A biological monitor (or monitors) will be present onsite during construction activities that could result in direct or indirect impacts on sensitive biological resources (including listed species) and to oversee permit compliance and monitoring efforts for all special-status resources. A biological monitor (qualified biologist) is any person who has a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field and/or has demonstrated field experience in and knowledge about the identification and life history of the special-status species or jurisdictional waters that could be affected by project activities. The biological monitor(s) will be responsible for monitoring the construction contractor to ensure compliance with the Section 404 Individual Permit, Section 401 Water Quality Certification and the Lake and Streambed Alteration Agreement. Activities to ensure compliance would include performing construction-monitoring activities, including monitoring environmental fencing, identifying areas where special-status plant species are or may be present, and advising the Contractor of methods that may minimize or avoid impacts on these resources. Biological monitor(s) will be required to be present in all areas during ground disturbance activities and for all construction activities conducted within or adjacent to identified Environmentally Sensitive Areas, Wildlife Exclusion Fencing, and Non-Disturbance Zones as defined by the project biologist.	IEUA
BIO-16	Food and Trash: All food-related trash items (e.g., wrappers, cans, bottles, food scraps) will be disposed of in closed containers and removed at least once a week from the construction site.	IEUA
BIO-17	Rodenticides and Herbicides: Use of rodenticides and herbicides in the project footprint will be restricted at the direction of the project biologist. This measure is necessary to prevent poisoning of special-status species and the potential reduction or depletion of the prey populations of special–status wildlife species. Where pesticides must be used, they must be used in full accordance with use instructions for the particular chemical and at the direction of the project biologist.	IEUA
BIO-18	Wildlife Exclusion Fencing: Exclusion barriers (e.g., silt fences) will be installed at the edge of the construction footprint and along the outer perimeter of Environmentally Sensitive Areas and Environmentally Restricted Areas as defined by the project biologist prior to the commencement of construction activities to restrict special-status species from entering the construction area during construction. The design specifications of the exclusion fencing will be determined through consultation with the USFWS and/or CDFW, as appropriate. Clearance surveys will be conducted for special-status species after the exclusion fence is installed in compliance with USFWS and/or CDFW requirements. The project biologist shall determine the frequency in which clearance surveys will be conducted to determine the efficacy of the exclusion fencing.	IEUA
BIO-19	Equipment Staging Areas: Prior to the commencement of construction, the Project Proponent shall identify staging areas for construction equipment to be utilized during construction that will be located outside sensitive biological resources areas, including habitat for special-status species, jurisdictional waters, and wildlife movement corridors.	IEUA
BIO-20	Plastic mono-filament netting (erosion-control matting) or similar material will not be used in erosion control materials to prevent potential harm to wildlife. Materials such as coconut coir matting or tackified hydroseeding compounds will be used as substitutes.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-21	Vehicle Traffic: During ground-disturbing activities, project-related vehicle traffic will be restricted within the construction area to established roads, construction areas, and other designated areas to prevent avoidable impacts. Access routes will be clearly flagged, to ensure traffic outside of the designated areas will be prohibited.	IEUA
BIO-22	Entrapment Prevention: All excavated, steep-sided holes or trenches more than 8 inches deep will be covered at the close of each working day with plywood or similar materials, or a minimum of one escape ramp constructed of earth fill for every 10 feet of trenching will be provided to prevent the entrapment of wildlife. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. All culverts or similar enclosed structures with a diameter of 4 inches or greater will be covered, screened, or stored more than 1 foot off the ground to prevent use by wildlife. Stored material will be cleared for common and special-status wildlife species before the pipe is subsequently used or moved.	IEUA
BIO-23	Weed Control Plan: Prior to the commencement of construction, a Weed Control Plan will be developed for IEUA by the project biologist to minimize or avoid the spread of weeds during ground-disturbing activities. In the Weed Control Plan, the following topics will be addressed: • A schedule for noxious weed surveys shall be addressed. • Weed control treatments shall be addressed and ultimately implemented by IEUA, including permitted herbicides, and manual and mechanical methods for application; herbicide application will be restricted in Environmentally Sensitive Areas (as defined by the project biologist). • The timing of the weed control treatment for each plant species shall be addressed. • Fire prevention measures shall be addressed. IEUA shall maintain records demonstrating implementation of the Weed Control Plan, and shall make those records available to inspection by regulatory agency upon request.	IEUA
BIO-24	Dewatering/Water Diversion Plan: If construction is planned to occur where there is open or flowing water, prior to the commencement of construction IEUA shall submit the Dewatering Plan prepared in coordination with the resource agencies (e.g., USACE, SWRCB/RWQCB, and CDFW, as appropriate). The Dewatering Plan shall identify how open or flowing water will be routed around construction areas, such as through the creation of cofferdams. If cofferdams are constructed, implementation of the following cofferdam or water diversion measures shall be implemented to avoid and lessen impacts on jurisdictional waters during construction: • The cofferdams, filter fabric, and corrugated steel pipe are to be removed from the creek bed after completion of the project. • The timing of work within all channelized waters is to be coordinated with the regulatory agencies. • The cofferdam is to be placed upstream of the work area to direct base flows through an appropriately sized diversion pipe. The diversion pipe will extend through the Contractor's work area, where possible, and outlet through a sandbag dam at the downstream end. • Sediment-catch basins immediately below the construction site are to be constructed when performing in-channel construction to prevent silt- and sediment-laden water from entering the main stream flow. Accumulated sediments shall be periodically removed from the catch basins.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
BIO-25	Permanent Water Diversion Projects: The IEUA participates in an ongoing monitoring and mitigation program to avoid adverse impacts to the riparian habitat in the Prado Basin because of implementation of the Peace II Agreement which is currently set to expire in 2030. IEUA shall continue to support preparation of the annual Prado Basin Habitat Sustainability Monitoring Program beyond its expiration in 2030, or shall implement a comparable and equally effective monitoring program in its place to ensure such a program is in place for the duration of the proposed diversion of up to 16,000 AFY from the Santa Ana River anticipated to result from implementation of the CBP. IEUA shall conduct a second-tier CEQA evaluation for a proposed water diversion project associated with the CBP. The potential impacts to Prado Basin and sensitive habitat (for example riparian, wetland, or critical habitat) from implementation of such diversion projects shall receive public review, including pertinent wildlife management agencies and interested parties.	IEUA
BIO-26	Landscaping at Future CBP Infrastructure Sites: IEUA shall require that any landscaping at future CBP Infrastructure sites shall be landscaped with water-wise or xeric landscape plants (native plants where feasible) to minimize future water demand.	IEUA

Impact Description	Impact After Mitigation
Development of the CBP, because the specific locations for future CBP projects are not presently known, there is a potential that a future CBP facility may be developed in an area containing significant biological resources that cannot be avoided. Future CBP facilities may be installed within sites that contain significant biological resources that may be impacted without mitigation. These impacts may include direct impacts such as the removal or modification of local hydrology, the redirection of flow, and the placement of fill material. Potential indirect impacts on jurisdictional waters include a number of water-quality-related impacts: erosion and transport of fine sediments or fill downstream of construction to unintentional release of contaminants into jurisdictional waters that are outside of the project footprint. Temporary impacts on jurisdictional waters include the placement of temporary fill during construction in both man-made and natural jurisdictional waters. Temporary fill could be placed during the construction of access roads and staging/equipment storage areas. The temporary fill would result in a temporary loss of jurisdictional waters and could potentially increase erosion and sediment transport into adjacent areas. In the case of man-made features, these impacts would remove or disrupt the limited biological functions that these features provide. In natural areas, these activities would remove or disrupt the hydrology, vegetation, wildlife use, water quality conditions, and other biological functions provided by the resources. Furthermore, the CBP operations may result in a reduction in surface flows in the Santa Ana River and into Prado Basin. cumulative flow reductions may result in reduced acreage of healthy riparian forest that supports sensitive species such as least Bell's vireo as well as aquatic species such as Santa Ana sucker and Southern California arroyo chub.	As described in Subchapter 4.5 of the 2022 CBP FPEIR, because the specific locations for future CBP projects are not presently known, there is a potential that a future CBP facility may be developed in an area containing significant biological resources that cannot be avoided. Substantial mitigation is provided to minimize impacts such that, a future CBP facility would not be developed in an area containing significant biological resources that cannot be avoided. However, it has been determined that even with the implementation of substantial mitigation measures to avoid contributing to cumulatively considerable impacts to covered species and supporting habitat, which can be mitigated by implementing the HCP, impacts to one species cannot be completely avoided. The proposed CBP project operations may result in a reduction in surface flows in the Santa Ana River and into Prado Basin. In addition, Low Impact Development ordnances, local policies, and municipal storm water detention regulations will encourage water conservation and flow detention, resulting in a cumulative reduction in surface flows reaching Prado Basin. Thus, the proposed project is forecast to cause significant unavoidable adverse impact to biological resources, specifically implementation of the CBP will contribute cumulatively to potential significant impacts to the Santa Ana Sucker due to the reduction in cumulative flows to the Santa Ana River.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
CULTURAL RESOURCES CUL-1 Where a future discretionary project requiring additional CEQA review is proposed within an existing facility that has been totally disturbed due to it undergoing past engineered site preparation (such as a well site or water treatment facility site), the agency implementing the CBP project will not be required to complete a follow on cultural resources report (Phase I Cultural Resources Investigation) unless IEUA is seeking additional State or federal funding, in which case IEUA shall prepare a Phase I Cultural Resources Investigation to satisfy State CEQA-plus or federal agency requirements. Where a Phase I Cultural Resources Investigation is not required or has already been completed (such as at RP-4), the following shall be required to minimize impacts to any accidentally exposed cultural resource materials: • Should any subsurface cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist meeting the Secretary of Interior Standards for Archaeology. Responsibility for making this determination shall be with IEUA's trained onsite inspector. An archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures in accordance with the State CEQA Guidelines.	IEUA
CUL-2 Where a future discretionary project requiring additional CEQA review is proposed within an undisturbed site and/or a site that will require substantial earthmoving activities and/or excavation, and/or IEUA is seeking State or federal funding, IEUA shall complete a follow-on cultural resources report (Phase I Cultural Resources Investigation) regardless of whether IEUA is seeking State or federal funding. Where a Phase I Cultural Resources Investigation is required, the following phases of identification, evaluation, mitigation, and monitoring shall be followed for a given CBP Infrastructure facility: 1. Phase I (Identification): A Phase I Investigation to identify historical, archaeological, or paleontological resources in a project site shall include the following research procedures, as appropriate: • Focused historical/archaeological resources records searches at SCCIC and/or EIC, depending on the project location, and paleontological resources records searches by NHMLAC, SBCM, and/or the Western Science Center in Hemet; • Historical background research, geoarchaeological profile analysis, and paleontological literature review; • Consultation with the State of California Native American Heritage Commission, Native American tribes in the surrounding area in accordance with AB52, pertinent local government agencies, and local historic preservation groups; • Field survey of the project area by qualified professionals of the pertinent discipline and at the appropriate level of intensity as determined on the basis of sensitivity assessment and site conditions; • Field recordation of any cultural resources encountered during the survey and proper documentation of the resources for incorporation into the appropriate inventories or databases. 2. Phase II (Evaluation): If cultural resources are encountered in a project site and cannot be avoided, a Phase II investigation shall be required to evaluate the potential significance of the resources in accordance with the statutory/regulatory framework outlined above. A typical Phase II study consists of the following research procedures:	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
• Preparation of a research design to discuss the specific goals and objectives of the study in the context of important scientific questions that may be addressed with the findings and the significance criteria to be used for the evaluation, and to formulate the proper methodology to accomplish such goals; • In-depth exploration of historical, archaeological, or paleontological literature, archival records, as well as oral historical accounts for information pertaining to the cultural resources under evaluation; • Fieldwork to ascertain the nature and extent of the archaeological/paleontological remains or resource-sensitive sediments identified during the Phase I study, such as surface collection of artifacts, controlled excavation of units, trenches, and/or shovel test pits, and collection of soil samples; • Laboratory processing and analyses of the cultural artifacts, fossil specimens, and/or soil samples for the proper recovery, identification, recordation, and cataloguing of the materials collected during the fieldwork and to prepare the assemblage for permanent curation, if warranted. 3. Phase III (Mitigation/Data Recovery): For resources that prove to be significant under the appropriate criteria, mitigation of potential project impact is required. The first option is avoidance by selecting and implementing a CBP Infrastructure facility at an alternative site without significant cultural or paleontological resources. Depending on the characteristics of each resource type and the unique aspects of significance for each individual resource, mitigation may be accomplished through a variety of different methods, which shall be determined by a qualified archaeologist, paleontologist, historian, or other applicable professional in the "cultural resources" field. Typical mitigation for historical, archaeological, or paleontological resources, however, may focus on the following procedures, aimed mainly at the preservation of physical and/or archival data about a significant cultural resource that would be impacted by the project: • Data recovery through further excavation at an archaeological site or a paleontological locality to collect a representative sample of the identified remains, followed by laboratory processing and analysis as well as preparation for permanent curation; • Comprehensive documentation of architectural and historical data about a significant building, structure, or object using methods comparable to the appropriate level of the Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER) for permanent curation at a repository or repositories that provides access to the public; • Adjustments to project plans to minimize potential impact on the significance and integrity of the resource(s) in question. 4. Phase IV (Monitoring): At locations that are considered sensitive for subsurface deposits of undetected archaeological or paleontological remains, all earth-moving operations shall be monitored continuously or periodically, as warranted, by qualified professional practitioners. Archaeological monitoring programs shall be coordinated with the nearest Native American groups, who may wish to participate, as put forth in mitigation measures TCR-1 through TCR-3.	
CUL-3 After each phase of the studies required by mitigation measure CUL-2 has been completed, where required, a complete report on the methods, results, and final conclusions of the research procedures shall be prepared and submitted to South Central Coastal Information Center (SCCIC), Eastern Information Center (EIC), Natural History Museum of Los Angeles County (NHMLAC), and/or San Bernardino County Museum (SBCM), as appropriate and in addition to IEUA for the project, for permanent documentation and easy references by future researchers.	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
CUL-4	Prior to commencement of construction of CBP Infrastructure facilities (excluding those facilities that have undergone site specific Cultural Resources Investigations, such as at RP-4), IEUA shall confer with the CBP project stakeholders to establish a programmatic agreement with SHPO that will stipulate a set of mutually accepted guidelines that address research procedures and the types of potential cultural resources that may be excluded from further consideration before CBP Infrastructure facilities are implemented, such as common infrastructure features that are more than 50 years of age, but have a low potential to be considered historically significant, such as existing roadways and minor, utilitarian structures serving as pumphouses or reservoirs, as well as numerous historic-period buildings that are adjacent to the project boundaries but are unlikely to receive any direct or indirect impact. Once this agreement has been made with SHPO, IEUA shall retain the agreement in the Project file, and shall ensure that any CBP partner agencies are given copies of the agreement for reference on future CBP Infrastructure facilities. For CBP projects that are in development prior to an agreement with SHPO, all types of cultural resources shall be considered by the professionals assessing historical resources within the project footprint; regardless, the steps provided in mitigation measure CUL-2 shall be followed to assess and minimize impacts to sensitive cultural resources within a given site.	IEUA

Impact Description	Impact After Mitigation
As described in Subchapter 4.6 of the 2022 CBP FPEIR, the Chino Basin is a large expanse of area that may contain historical, archaeological, or paleontological resources. As such, future CBP projects may be developed within sites that contain such resources. Since the proposed project is at the programmatic level, specific locations for many of the proposed CBP projects have not yet been determined. As such, substantive mitigation has been identified to minimize potentially significant impacts to cultural resources.	As described in Subchapter 4.6 of the 2022 CBP FPEIR, mitigation measures required to reduce cultural resource impacts would: exclude highly disturbed sites from requiring further cultural resource evaluation except to adhere to procedures pertaining to the treatment of accidental discoveries, unless IEUA is seeking State funding for the project; ensure that future CBP projects that are located within undisturbed areas, within a site that will require substantial earthmoving activities and/or excavation, and/or IEUA is seeking State funding, will require a follow on Phase I Cultural Resources Investigation and enforce several phases or steps beyond the completion of a Phase I Cultural Resources Investigation that would cover the identification, evaluation, mitigation, and monitoring associated with a given project where resources may be located; ensure that a complete report on the methods, results, and final conclusions of the research procedures is prepared and submitted to SCCIC, EIC, NHMLAC, and/or SBCM for projects containing cultural resources; and, set a precedent for future CBP projects that would streamline the design and completion of future Phase I Cultural Resources Investigations. As described in Subchapter 4.6 of the 2022 CBP FPEIR, no unavoidable significant impact to cultural resources will result from implementing the proposed Project.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
ENERGY No Mitigation Required.	--

Impact Description	Impact After Mitigation
As discussed in Subchapter 4.7, CBP construction and operation would not result in inefficient, wasteful or unnecessary consumption of energy and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is because the CBP would result in an overall net reduction in electricity consumption associated with local water supplies over the 25-year term of the proposed water transfer agreement, as described in Chapter 3, Project Description. Impacts would be less than significant without the need for added mitigation. The CBP would replace imported SWP water, which is energy-intensive, with a local, recycled water source in call years. Furthermore, IEUA would procure energy to serve CBP facilities from SCE, which has historically achieved the State's Renewables Portfolio Standard (RPS) program and anticipates meeting the RPS of 60 percent renewable energy by 2030. IEUA would also explore options for using additional on-site renewable energy, and therefore the CBP would not obstruct the 2017 Scoping Plan. Impacts would be less than significant. Additionally, the CBP would support the IEUA Climate Change Action Plan (CCAP) objective to strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources. With compliance with current federal and State regulations pertaining to energy conservation, the proposed CBP is anticipated to have a less than significant impact on energy demand and resources.	No mitigation is required. Impacts are less than significant.

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
GEOLOGY AND SOILS GEO-1 Prior to construction of each improvement, a design-level geotechnical investigation, including collection of site-specific subsurface data if appropriate, shall be completed. The geotechnical evaluation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, subsidence, and landslide potential. 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 proposed projects. If the project specific geotechnical study cannot mitigate potential seismic related impacts, then the facility shall be relocated. If relocation is not possible a second tier CEQA evaluation shall be completed.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
GEO-2	For each well development or other CBP project that is less than one acre in size requiring ground disturbing activities such as grading, IEUA shall identify and implement best management practices (BMPs, such as hay bales, wattles, detention basins, silt fences, coir rolls, etc.) to ensure that the discharge of the storm runoff from the construction site does not cause erosion downstream of the discharge point. If any substantial erosion or sedimentation occurs as a result of discharging storm water from a project construction site, any erosion or sedimentation damage shall be restored to pre-discharge conditions.	IEUA
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. Treatment of any discovered paleontological resources shall follow the phasing and corresponding actions identified under MM CUL-2.	IEUA

Impact Description	Impact After Mitigation
The Chino Basin contains substantial geological and soils constraints. Due to these substantial constraints and the installation of future CBP related facilities in locations where such constraints may occur, a potential for significant geology and soils resources impacts from implementation of the CBP was identified.	Significant geology and soils impacts can be reduced through the implementation of mitigation. Several mitigation measures were identified to minimize geology and soils impacts including those that would: ensure new facilities are located outside of delineated fault zones through relocation, implementation of seismic design measures, or subsequent CEQA documentation; reduce potential impacts from geological hazards through a design level geotechnical investigation with implementation of specific design recommendations, relocation of the site, or subsequent CEQA documentation; ensure that the proposed facilities associated with the CBP that are less than one acre in size would not exacerbate conditions related to erosion associated with runoff from construction sites through the implementation of BMPs; minimize impacts to paleontological resources through requiring site-specific studies, where necessary. As described in Subchapter 4.8 of the 2022 CBP FPEIR, no unavoidable significant impact to geology and soils will result from implementing the proposed project.

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
GREENHOUSE GASES		
GHG-1	IEUA shall implement all feasible GHG reduction measures during construction. These may include, but should not be limited to, the following measures identified in the CAPCOA 2010 report, Quantifying Greenhouse Gas Mitigation Measures: • Use alternative fuels for construction equipment • Use electric and hybrid construction equipment	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
• Limit construction equipment idling beyond regulation requirements • Institute a heavy-duty off-road vehicle plan • Implement a construction vehicle inventory tracking system	
GHG-2 IEUA shall implement all feasible GHG reduction measures during operations. These may include, but should not be limited to, the following measures identified in the CAPCOA 2010 report, Quantifying Greenhouse Gas Mitigation Measures: • Exceed Title 24 Building energy efficiency standards • Procure 100 percent renewable electricity from Southern California Edison, a community choice aggregation program, and/or other on-site and off-site renewable energy systems • Utilize electric or hybrid vehicles and/or encourage operations and maintenance employees to carpool or otherwise commute using a method other than a single-occupancy fossil-fuel powered vehicle	IEUA

Impact Description	Impact After Mitigation
As described in Subchapter 4.9, implementation of the proposed CBP is projected to result in a net decrease of approximately 15,753 MT of CO_2e in call years, while under a non-call year scenario the CBP would emit an estimated 6,435 MT of CO_2e. In total, operation of the CBP would result in a net reduction in greenhouse gas (GHG) emissions of approximately 5,535 MT of CO_2e (including the reduction from offsetting SWP imports) over the 25-year term of the proposed water transfer agreements. As a result of the uncertainty surrounding the future power mix and energy demands of the proposed CBP, the CBP would potentially fail to procure its electricity from carbon-neutral electricity sources by 2045. Therefore, the long-term, indirect impacts of the CBP's operational GHG emissions would be potentially significant in both call and non-call years.	Implementation of mitigation that would ensure that IEUA implement all feasible GHG reduction measures during operations is required, but does not reduce operations-related emissions below significance thresholds. Additionally, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. As such, while mitigation ensuring IEUA implements all feasible GHG reduction measures during operations would minimize impacts to the greatest extent feasible, construction-related impacts from implementation of the proposed CBP would be potentially significant. Thus, exceedances of applicable SCAQMD regional thresholds are considered significant and unavoidable, and the construction and operation of the proposed project could create a significant cumulative impact to global climate change.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
HAZARDS AND HAZARDOUS MATERIALS HAZ-1 For CBP facilities that handle hazardous materials or generate hazardous waste, the Hazardous Materials Business Plan prepared and submitted to the Certified Unified Program Agency shall incorporate best management practices designed to minimize the potential for accidental release of such chemicals and shall meet the standards required by California law for Hazardous Materials Business Plans. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes. The Hazardous Materials Business Plan shall be approved prior to operation of the given facility.	IEUA
HAZ-2 The Hazardous Materials Business Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control, and collection of any released	IEUA

	Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
	hazardous material. Prior to issuance of the certificate of occupancy, each facility shall ensure that necessary equipment has been installed and training of personnel has occurred to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.	
HAZ-3	Prior to occupancy of any site for which storage of any acutely hazardous material will be required, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released hazardous material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.	IEUA
HAZ-4	All hazardous materials during both operation and construction of CBP Facilities shall be delivered to a licensed treatment, disposal, or recycling facility and be disposed of in accordance with State and federal law.	IEUA
HAZ-5	Before determining that an area contaminated as a result of an accidental release during project operation or construction is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken and tested within the contaminated area to verify that these clean-up thresholds have been met in compliance with State and federal law.	IEUA
HAZ-6	All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater Pollution Prevention Plan (SWPPP) prepared or each future facility developed under the CBP. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.	IEUA
HAZ-7	Prior to final site selection for future CBP facilities, IEUA shall obtain a Phase I Environmental Site Assessment (ESA) for the selected site. If a site contains contamination, the agency shall either avoid the site by selecting an alternative location or shall remove any contamination at the site (remediate) to a level of concentration that eliminates hazard to employees working at the site and that will not conflict with the installation and future operation of the facility. For sites located on agricultural land, this can include soil contaminated with unacceptable concentrations of pesticides or herbicides that shall be remediated through removal or blending to reduce concentrations below thresholds of significance established for the particular pesticide or herbicide in compliance with State and federal law.	IEUA
HAZ-8	Should an unknown contaminated site be encountered during construction of CBP facilities, all work in the immediate area shall cease; the type of contamination and its extent shall be determined; and the local Certified Unified Program Agency or other regulatory agencies (such as the DTSC or Regional Board) shall be notified. Based on investigations of the contamination, the site may be closed and avoided or the contaminant(s) shall be remediated to a threshold acceptable to the Certified Unified Program Agency or other regulatory agency threshold and any contaminated soil or other material shall be delivered to an authorized treatment or disposal site.	IEUA
HAZ-9	Prior to finalizing site selection of a CBP facility within an airport safety zone, input from the affected airport management entity shall be solicited. For projects within airport safety zones, facility design shall follow the guidelines of the appropriate airport land use compatibility plan. If a potential conflict with an airport land use compatibility plan is identified, IEUA shall relocate the facility outside the area of conflict, or if the site is deemed essential, IEUA shall propose an alternative design that reduces any conflict to a less than significant level of conflict. As an example, a pump station or reservoir could be installed below ground instead of above ground.	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
Impact Description	**Impact After Mitigation**
The Chino Basin contains substantial hazards and hazardous materials issue constraints. Due to these substantial constraints and the installation of future CBP infrastructure facilities in locations where such constraints may exist, a potential for significant hazards and hazardous materials issue impacts from implementation of the CBP were identified in Subchapter 4.10 of the 2022 CBP FPEIR.	The hazards and hazardous materials evaluation in the 2022 CBP ~~D~~FPEIR concluded that the identified hazards on the project site can be adequately mitigated to a level of impact that is less significant. Several mitigation measures were identified to minimize hazards and hazardous materials impacts including those that would: ensure that applicable CBP facilities Business Plans incorporate best management practices designed to minimize the potential for accidental release of such chemicals; ensure that applicable CBP facilities Business Plans identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material; ensure sensitive receptors will not be exposed to significant health threat by modeling the pathways of release and implementing specific measures that would minimize potential exposure to acutely hazardous materials; ensure hazardous materials are disposed of and delivered to licensed facilities; ensure the establishment of and adherence to specific thresholds of acceptable clean-up of hazardous materials; ensure the preparation of and adherence to vector management plans; ensure remediation of an accidental spill or discharge of hazardous material in compliance with State and local regulations; ensure that sites for future CBP facilities obtain a Phase I Environmental Site Assessment and either avoid or remediate a site that is contaminated; ensure that any unknown contamination is remediated and handled according to the local CUPA; ensure compliance with the appropriate airport land use plan and coordination with the appropriate airport management agencies to ensure safety for people residing or working within the project area; ensure that construction traffic is managed safely; and, ensure that fire hazard reduction measures are enforced. Therefore, though there will be some adverse impacts as a result of implementing the project, specific mitigation measures have been identified to reduce potential project specific and cumulative (direct and indirect) impacts to a less than significant level for hazards and hazardous material issues. Thus, the project is not forecast to cause any unavoidable significant adverse hazards or hazardous material impacts.

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
HYDROLOGY AND WATER QUALITY	
HYD-1 Watermaster shall review the IEUA's Storage and Recovery Program application for the CBP and estimate the surface and ground water systems' response (estimate the potential for new pumping sustainability challenges). Watermaster shall then prepare a report that describes the response and potential Material Physical Injury (MPI) to the Chino Basin and shall develop mitigation requirements pursuant to MM HYD-2 to mitigate MPI caused by the CBP. The IEUA shall develop mitigation measures pursuant to these requirements established by the Watermaster; these measures shall be	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
	incorporated into its Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures shall be incorporated into the CBP storage agreement.	
HYD-2	To mitigate MPI caused by the IEUA's proposed Storage and Recovery Program application (as described above under HYD-1), the data gathered through Watermaster's comprehensive groundwater-level monitoring shall be used to identify potential impacts on pumping sustainability and to develop mitigation requirements to mitigate for these impacts. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or 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 (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.	IEUA
HYD-3	Watermaster shall review the IEUA's Storage and Recovery Program application for the CBP and estimate the surface and ground water systems' response (estimate the potential for new land subsidence). Watermaster shall then prepare a report that describes the response and potential MPI to the Chino Basin and shall develop mitigation requirements to mitigate MPI caused by the proposed CBP. The IEUA shall develop mitigation measures pursuant to these requirements pursuant to MM HYD-4 established by the Watermaster; these measures shall be incorporated into its Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the CBP storage agreement.	IEUA
HYD-4	To mitigate the potential for new land subsidence caused by the IEUA's proposed Storage and Recovery Program application (as described above under HYD-3), the data gathered through Watermaster's comprehensive groundwater-level and ground-level monitoring shall be used to identify the potential for new land subsidence and to develop mitigation requirements to mitigate for these impacts. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or TAKE cycles to ensure the CBP does not contribute to the lowering of groundwater-levels below the new land subsidence metric, (2) providing an alternate supply to MZ-1 producers to maintain groundwater-levels above the new land subsidence metric, to the extent that the CBP affects them, (3) a combination of (1) and (2) above, and (4) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.	IEUA
HYD-5	Watermaster shall estimate the reduction in net recharge and Safe Yield for the CBP and deduct it from water stored in the CBP storage account, which will compensate for its impact on net recharge and Safe Yield. Watermaster shall review these impacts and develop mitigation requirements for the CBP. The IEUA shall develop mitigation measures pursuant to the requirements suggested in MM HYD-6 and established by Watermaster; these measures shall be incorporated into the IEUA's Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures shall be incorporated into the CBP storage agreement.	IEUA
HYD-6	To mitigate reduction in net recharge and Safe Yield caused by the CBP (as described above under HYD-5), the Watermaster's comprehensive monitoring and modeling that estimates net recharge of the Chino Basin shall be used to identify potential and actual losses of net recharge and to develop mitigation requirements to mitigate impacts thereof. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or TAKE cycles to minimize reductions in net recharge, (2) deducting the reduction in net recharge from the IEUA's Storage and Recovery account, (3) recharge additional water to mitigate reductions in net recharge, (4) construct facilities in the southern part of the Basin to eliminate the reduction of net recharge due the CBP, (5) a combination of (1) through (4), and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.	IEUA
HYD-7	Watermaster shall periodically review current and projected Basin conditions and shall compare this information to the projected Basin conditions assumed in the evaluation of the CBP Storage and Recovery Program application process, compare the projected CBP operations to actual operations. The Watermaster shall then make findings regarding the	IEUA

	Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
	efficacy of the mitigation program and requirements required herein and by the CBP storage agreement. Based on Watermaster's review and subsequent findings, where applicable, Watermaster shall require changes and/or modifications in the CBP storage agreement that will adequately mitigate MPI and related adverse impacts including but not limited to pumping sustainability, net recharge and safe yield, subsidence, hydraulic control, and groundwater quality.	
HYD-8	Prior to the commencement of construction of any CBP project that will disturb less than one acre (i.e., that is not subject to the California Construction Stormwater General Permit), IEUA shall require implementation of and construction contractor(s) shall select best management practices (BMPs) to achieve a reduction in pollutants from stormwater discharge to the maximum extent practicable during the construction of each CBP facility, and to control urban runoff after each CBP facility is constructed and is in operation. Examples of BMP(s) that would achieve a reduction in pollutants include, but are not limited to: • The use of silt fences or coir rolls; • The use of temporary stormwater desilting or retention basins; • The use of water bars to reduce the velocity of stormwater runoff; • The use of wheel washers on construction equipment leaving the site; • The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads; • The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and • Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.	IEUA
HYD-9	Prior to commencement of construction of project facilities, IEUA shall be required to either: (1) Prepare a No Net Discharge Report demonstrating that within each facility surface runoff shall be collected and retained (for use onsite) or detained and percolated into the ground on the site such that site development results in no net increase in offsite stormwater flows. Detainment shall be achieved through Low Impact Development techniques whenever feasible, and shall include techniques that remove the majority of urban storm runoff pollutants, such as petroleum products and sediment. The purpose of this measure is to remove the onsite contribution to cumulative urban storm runoff and ensure the discharge from the sites is treated to reduce contributions of urban pollutants to downstream flows and to groundwater; or, where it is not feasible to eliminate stormwater flows off of a site or where otherwise appropriate, the Watermaster and/or Implementing Agency shall: (2) Prepare a grading and drainage plan that identifies anticipated changes in flow that would occur on site and minimizes any potential increases in discharge, erosion, or sedimentation potential in accordance with applicable regulations and requirements for the County and/or the City in which the facility would be located. In addition, all new drainage facilities shall be designed in accordance with standards and regulations. The plan shall identify and implement retention basins, best management practices, and other measures to ensure that potential increases in storm water flows and erosion would be minimized, in accordance with local requirements.	IEUA
HYD-10	To minimize potential ground disturbances associated with installation and maintenance of wellhead treatment at existing wells, the equipment and treatment facilities shall be installed within or along existing disturbed easements or rights-of-way or otherwise disturbed areas, including access roads and pipeline or existing utility easements, except where only undisturbed area exists within an existing well site footprint.	IEUA

Environmental Category / Avoidance, Minimization and Mitigation Measures		Responsible Agency
HYD-11	For long-term mitigation of site disturbances at CBP facility locations, all areas not covered by structures shall be covered with hardscape (concrete, asphalt, gravel, etc.), native vegetation and/or man-made landscape areas (for example, grass). Revegetated or landscaped areas shall provide sufficient cover to ensure that, after a two-year period, erosion will not occur from concentrated flows (rills, gully, etc.) and sediment transport will be minimal as part of sheet flows.	IEUA
HYD-12	All new and expanded water treatment facilities associated with the CBP shall ensure that any brine generated from the water treatment process that cannot be otherwise treated on-site is disposed of in accordance with state and local regulations—such as through disposal to a brine line (Non-Reclaimable Wastewater System, Etiwanda Wastewater Line, and Inland Empire Brine Line, etc.)—to prevent brine from being discharged into the local stormwater collection system.	IEUA
HYD-13	IEUA shall verify that any given CBP facility (excepting those located at existing facilities [wells, water treatment plants, etc.] and pipelines and turnouts located belowground) is located outside of the 100-year floodplain by utilizing the FEMA FIRM panels for the selected area prior to project implementation. If a given project is located outside of the 100-year floodplain, then no subsequent CEQA documentation specific to floodplains are required. However, if a project is located within the 100-year floodplain either (1) a new location outside of the 100-year floodplain shall be selected, or (2) a second tier CEQA evaluation shall be completed that would address the given project's location within the 100-year floodplain.	IEUA

Impact Description	Impact After Mitigation
As described in Subchapter 4.11, the overall hydrology (watershed, drainage and flood hazards) and water quality impacts that would result from implementation of the CBP could be significant without the implementation of substantive mitigation measures. As such, several mitigation measures were identified to minimize impacts related to hydrology and water quality.	With implementation of the required mitigation, the hydrology and water quality analysis in the DEIR concluded that the project can be development without causing significant adverse effects on hydrology and water quality resource issues. Several mitigation measures were identified to minimize impacts related to hydrology and water quality, such as those that would: ensure that the Watermaster reviews IEUA's storage and recovery program application and gathers the appropriate data to (1) determine whether future CBP projects would result in loss of pumping sustainability, result in potential reduction in net recharge and impacts to Safe Yield, and/or result in new subsidence, and (2) respond with appropriate mitigation to minimize the potential adverse hydrological impacts that may occur from a project; address the plan of response by the Watermaster should Chino Basin conditions vary from the projections that have been modeled as part of the CBP (and all supporting documentation); require implementation of BMPs for projects of less than one acre in size that would be comparable to the requirements of the Construction General Permit and Stormwater Pollution Prevention Plan, which are required for larger projects; ensure that drainage is managed through either runoff collection or development of a drainage plan for a given CBP project; require CBP projects at existing well sites to remain within disturbed areas wherever feasible to minimize the potential for further ground disturbance at these sites; require all disturbed areas that are not covered in hardscape or vegetation to be revegetated or landscaped at future CBP facility sites; and, ensure that brine generated by water treatment systems would be

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
disposed of in a manner that would minimize the potential for release of polluted runoff. Therefore, though there will be some adverse impacts as a result of implementing the project, specific mitigation measures have been identified to reduce potential project specific and cumulative (direct and indirect) effects to a less than significant impact level for hydrology and water quality issues. Thus, the project is not forecast to cause any unavoidable significant adverse hydrology and water quality impacts.	

Environmental Category / Avoidance, Minimization and Mitigation Measures	Responsible Agency
LAND USE / PLANNING LU-1 Following selection of sites for future CBP-related facilities, each site and associated facility shall be evaluated for potential incompatibility with adjacent existing or proposed land uses. Where future facility operations can create significant incompatibilities (lighting, noise, use of hazardous materials, traffic, etc.) with adjacent uses, an alternative site shall be selected, or subsequent CEQA documentation shall be prepared that identifies the specific project design features or mitigation measures that will be utilized to reduce potential incompatible activities or effects to below significance thresholds established in the general plan for the jurisdiction where the facility will be located.	--

Impact Description	Impact After Mitigation
As described in Subchapter 4.12 of the 2022 CBP FPEIR, the project does not propose any action that could physically divide an established community. The CBP would not conflict with the goals and policies of the applicable General Plans. In addition, IEUA would coordinate directly with local agencies with jurisdiction to ensure compatibility with existing adjacent land uses. However, a potential conflict could result from future CBP facilities being developed in locations that are incompatible (as a result of lighting, noise, use of hazardous materials, traffic, etc.) with adjacent uses. As such, mitigation is required to reduce potentially significant land use and planning impacts.	As described in Subchapter 4.12 of the 2022 CBP FPEIR, impacts related to land use and planning are minimal; however, mitigation is provided to address the potential for conflicts with land use from CBP related facilities. This mitigation would ensure that the facilities associated with the CBP are developed in appropriate areas, and conform with the surrounding land uses or are developed to minimize conflicts with adjacent land uses. With implementation of this mitigation measure, the project-related land use and planning impacts can be reduced below a level of significance, and as such, the proposed project will not cause unavoidable significant land use and planning impacts.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
MINERAL RESOURCES MR-1 IEUA shall locate each facility proposed under the CBP outside of sites designated for the extraction of or as containing significant mineral resources (such as, located within MRZ-2 zones) or otherwise identified by the local jurisdiction as containing important mineral resources (such as, designated by the local general plan as being located within a mineral extraction related land use). Where it is not feasible to locate such facilities outside of sites designated for mineral resources, subsequent CEQA documentation shall be prepared to identify specific measures to mitigate the loss of mineral resources.	--

Impact Description	Impact After Mitigation
As described in Subchapter 4.13 of the 2022 CBP FPEIR, limited mineral resources occur in the northern portion of the Chino Basin. As such, there is a nominal potential for future CBP facilities to be installed within a mineral resource zone. Given that the locations for future CBP facilities are not presently known, the development of future CBP facilities could result in a significant impacts to mineral resources.	As described in Subchapter 4.13 of the 2022 CBP FPEIR, limited mineral resources occur in the northern portion of the Chino Basin. As such, there is a nominal potential for future CBP facilities to be installed within a mineral resource zone. However, mitigation has been identified to minimize mineral resource impacts that would ensure that the proposed facilities associated with the CBP would not result in significant loss of mineral resources through either relocation, or compensation for development proposed to be located within an area containing significant mineral resources. With implementation of mitigation, project-related mineral resource impacts can be reduced below a level of significance, and as such, the proposed project will not cause unavoidable significant mineral resource impacts.

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
NOISE		
NOI-1	The following construction noise control practices shall be implemented at all CBP construction sites: • Construction staging and activities shall be located in areas as far as practicable from sensitive receivers or in areas where receivers can be shielded from construction noise. • Whenever practicable, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously. • All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers. • IEUA shall provide a non-automated telephone number for local residents to call to submit complaints associated with construction noise during all phases of construction. IEUA shall maintain a log of complaints and shall address complaints to minimize noise issues for neighbors.	IEUA
NOI-2	Project-level construction noise studies shall be conducted for the following project activities that would exceed the screening criteria for a less than significant impact: • All projects under Project Category 1, if the center of the construction site would be located within 225 feet of residential land uses and/or within 50 feet of commercial land uses • All projects under Project Category 2, if the center of the construction site would be located within 100 feet of residential and/or commercial land uses • Wellhead treatment projects under Project Category 4, if the center of the construction site would be located within 100 feet of residential land uses and/or within 50 feet of commercial land uses Such noise studies shall identify the existing ambient noise levels, characterize the nearest sensitive receivers, estimate the noise levels receivers will experience during construction of individual projects, compare estimated noise levels to the daytime and/or nighttime construction noise criteria in the FTA (2018) Transit Noise and Vibration Impact Assessment Manual, outline measures that may be used to reduce noise levels, and determine the amount of noise reduction that would occur with implementation of these measures. If the individual project would be constructed	IEUA

	Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
	concurrently with development projects located within a 0.5-mile radius of the individual project location, the noise study shall also consider the cumulative impact of construction noise on sensitive receivers. If the project-level noise study concludes that noise reduction measures are required, Mitigation Measure NOI-3 shall be implemented.	
NOI-3	If the results of the project-level construction noise study prepared under Mitigation Measure NOI-2 determine noise reduction measures are required, noise reduction measures shall be implemented to reduce noise levels to at or below the daytime and/or nighttime construction noise criteria in the FTA (2018) Transit Noise and Vibration Impact Assessment Manual. Construction noise reduction measures may include, but would not be limited to, the use of mufflers, sound blankets/barriers, and/or enclosures; scheduling construction activities to minimize simultaneous operation of noise-producing equipment; and/or temporary accommodations for affected residents. If applicable, construction noise reduction measures shall be implemented to reduce cumulative noise levels to local jurisdiction or FTA (2018) construction noise criteria. If project-level construction noise cannot be reduced to at or below the local jurisdiction acceptable noise levels or daytime and/or nighttime construction noise criteria in the FTA (2018) Transit Noise and Vibration Impact Assessment Manual, IEUA shall seek a variance from the local noise ordinance prior to initiating construction.	IEUA
NOI-4	Prior to the commencement of construction activities for individual projects with noise-generating components (i.e., extraction wells, pump stations, and wellhead treatment facilities) where sensitive receivers are located within 1,000 feet of the individual project sites, project-level operational noise studies shall be conducted. Such noise studies shall identify the ambient noise levels, characterize the nearest sensitive receivers, estimate the noise levels receivers will experience during operation of individual projects during the operational period, and compare estimated noise levels to the noise level standards of the applicable jurisdiction. If one or more other individual CBP projects with noise-generating components are proposed to be located within 1,000 feet of the individual project under evaluation, the operational noise study shall also evaluate the combined operational noise levels generated by all CBP projects within 1,000 feet of the individual project site. The operational noise study shall also outline measures that shall be implemented to reduce noise levels below the local jurisdiction's noise standards and demonstrate how implementation of these noise reduction measures would reduce noise levels below the applicable standards. Noise reduction measures may include, but would not be limited to, alternative site design, alternative orientation of noise sources, alternative equipment selection, use of sound enclosures, and construction of berms and/or barriers. Noise reduction measures shall be implemented to reduce noise levels to the noise level standards of the applicable jurisdiction. If project-level operational noise cannot be reduced to at or below the local jurisdiction acceptable noise levels, IEUA shall either (1) select an alternative site location that avoids exceeding the noise level standards of the applicable jurisdiction at the nearest sensitive receptor, or (2) undergo subsequent CEQA documentation to assess potential site-specific noise impacts from locating a future facility in close proximity to sensitive receptors.	IEUA
NOI-5	Whenever practicable, vibration-generating equipment including bull dozers, loaded trucks, drill rigs, vibratory rollers, and jackhammers shall operate outside the minimum distances specified in Table 4.14-25 of the draft PEIR for historic sites, other structures, and vibration-sensitive receivers during CBP construction activities. Furthermore, whenever practicable, vibration-generating equipment including bull dozers, loaded trucks, drill rigs, vibratory rollers, and jackhammers shall not be operated concurrently with vibration-generating equipment associated with cumulative development projects located within 600 feet of CBP construction sites. (copied here to accompany this measure)	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
Table 4.14-25 **VIBRATION LEVEL CONTOURS DURING CONSTRUCTION ACTIVITIES**		

Equipment	Minimum Distance to Receiving Land Use for a Less Than Significant Impact (feet)			
	Historic Sites	All Other Structures	Daytime Vibration-Sensitive Land Uses	Nighttime Vibration-Sensitive Land Uses
Large Bull Dozer	20	15	10	55
Small Bull Dozer	5	5	5	5
Loaded Truck	20	10	10	35
Drill Rig5	20	15	15	55
Vibratory Roller	40	30	25	110
Jackhammer	10	5	5	25

NOI-6	Whenever practicable at CBP construction sites within 120 feet of historic sites, other structures, and vibration-sensitive receivers during CBP construction activities, non-vibratory rollers and small bull dozers shall be utilized instead of vibratory rollers and large bull dozers.	IEUA
NOI-7	If operation of construction equipment outside the specified buffer distances in Table 4.14-25 of the draft PEIR (copied and provided under NOI-5) is not practicable, a detailed study of vibration impacts shall be conducted prior to the commencement of construction for that project. Such vibration studies shall characterize the nearest historic sites, structures, and/or sensitive receivers; estimate the vibration levels receivers will experience during construction of individual projects; compare estimated vibration levels to applicable FTA (2018) Transit Noise and Vibration Impact Assessment Manual and Caltrans (2020) Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01); standards for vibration impacts related to structural damage and human annoyance; outline any measures that may be used to reduce vibration levels; and determine the amount of vibration reduction that would occur with implementation of these measures. Vibration reduction measures may include, but would not be limited to, the use of non-vibratory equipment, vibration monitoring, repair of structural damage, the installation of wave barriers, maximization of the distance between vibratory equipment and receivers, restriction of vibration-generating activities to daytime hours, and/or temporary relocation of affected residents. Construction vibration reduction measures shall be implemented to reduce vibration levels to FTA (2018) and Caltrans (2020) construction vibration thresholds. If project-level construction vibration cannot be reduced to at or below the FTA (2018) and Caltrans (2020) construction vibration thresholds, IEUA shall either (1) select an alternative site location that avoids exceeding the FTA (2018) and Caltrans (2020) construction vibration thresholds at the nearest historic sites, structures, and/or sensitive receivers, or (2) undergo subsequent CEQA documentation to assess potential site-specific vibration impacts from locating a future facility in close proximity to historic sites, structures, and/or sensitive receivers. If the individual project would be constructed concurrently with cumulative development projects located within a 600-foot radius of the individual project construction site, the vibration study shall also consider the cumulative impact of	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
combined vibration levels at the nearest sensitive receivers by estimating the combined vibration levels receivers will experience during construction of individual projects and cumulative development; compare estimated vibration levels to applicable standards for vibration impacts related to structural damage and human annoyance identified by Caltrans (2020) and the FTA (2018); identify whether the individual project's contribution to any identified cumulative impact would be cumulatively considerable; outline any measures that may be used to reduce the project's contribution to combined vibration levels; and determine the amount of vibration reduction that would occur with implementation of these measures. Such measures may include, but are not limited to, the use of non-vibratory equipment, vibration monitoring, repair of structural damage, the installation of wave barriers, maximization of the distance between vibratory equipment and receivers, restriction of vibration-generating activities to daytime hours, and/or temporary relocation of affected residents. Construction vibration reduction measures shall be implemented to reduce cumulative vibration levels to Caltrans and FTA construction vibration thresholds. If cumulative construction vibration cannot be reduced to at or below the FTA (2018) and Caltrans (2020) construction vibration thresholds, IEUA shall either (1) select alternative site locations that avoid exceeding the FTA (2018) and Caltrans (2020) construction vibration thresholds at the nearest historic sites, structures, and/or sensitive receivers, or (2) undergo subsequent CEQA documentation to assess potential site-specific vibration impacts from locating a future facility in close proximity to historic sites, structures, and/or sensitive receivers.	

Impact Description	Impact After Mitigation
The Chino Basin contains extensive areas with noise sensitive land uses. Due to these substantial noise constraints and the installation of future noise-producing CBP facilities in locations where such noise sensitive uses may exist, a potential exists for significant noise impacts from implementation of the CBP. Noise conditions will be unavoidably altered by implementation of the proposed project, in both the short- and long-term, but this change in noise condition is not forecast to result in significant adverse impacts with implementation of mitigation measures listed above.	As described in Subchapter 4.14 of the 2022 CBP FPEIR, several mitigation measures were identified to minimize noise impacts, including those that would: ensure construction noise minimization practices are in place; ensure that construction noise studies are conducted for specific CBP projects; ensure that construction noise and vibration reduction measures are implemented where identified in the site specific noise study, and where project-level construction noise cannot be reduced below significance thresholds, IEUA shall seek a variance from the local noise ordinance prior to initiating construction; ensure operational noise studies are conducted for specific CBP project sites with operational noise reduction measures implemented, where applicable, and ensure that where operational noise cannot be reduced to below significance thresholds at a specific site, an alternative location is selected or subsequent CEQA documentation shall be performed; ensure that vibration generating equipment operate outside of the minimum distances from sensitive receivers; ensure that minimal-vibration-producing equipment is used near historic structures; and, where construction must occur outside of the specified buffer distance intended to minimize construction related vibration, mitigation is implemented, where vibration levels cannot be reduced to below significance thresholds, an alternative location is selected or subsequent CEQA documentation shall be performed. With implementation of these mitigation measures, the project-related noise impacts can be reduced to a less than significant impact level.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
POPULATION AND HOUSING POP-1 If future CBP facilities must be located on parcels occupied by existing housing and displaces that housing as a result, IEUA will assist with a relocation plan in conformance with Section 7260 et seq. of the California Government Code ("California Relocation Assistance Law" or the "Act") to ensure that short- and long-term housing of comparable quality and value are made available to the occupant(s) prior to initiating construction of the facility.	IEUA

Impact Description	Impact After Mitigation
As described in Subchapter 4.15 of the 2022 CBP FPEIR, the proposed project would not induce population growth beyond that which has been planned for in the City and County General Plans or SCAG planning documents. The proposed project is growth accommodating, but it does not in and of itself create opportunities for additional people to move to the region, nor to construct additional housing beyond those previously under consideration to accommodate the population envisioned within the applicable General Plans at buildout within each city and county located in the Chino Basin area. However, given that the locations of the proposed wells are presently unknown, it is remotely possible that the development of specific facilities could adversely impact existing housing. Mitigation is required to reduce this impact to a level of less than significant.	As described in Subchapter 4.15 of the 2022 CBP FPEIR, implementation of the CBP would not significantly induce growth within the Chino Basin; however, mitigation is provided to address the potential for CBP related facilities to displace housing and/or persons. This mitigation would ensure that the facilities associated with the CBP that are located on parcels containing housing would be minimized through the provision of short- and long-term housing of comparable quality, thereby minimizing impacts below significance thresholds. With implementation of this mitigation measure, the project-related population and housing impacts can be reduced below significance thresholds, and as such, the proposed project will not cause unavoidable significant population and housing impacts.

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
PUBLIC SERVICES – FIRE PROTECTION PS-1 CBP facilities shall be fenced or otherwise have access controlled to prevent illegal trespass to attractive nuisances, such as construction sites.	IEUA
PS-2 CBP facilities proposed to be located within vacant parkland or CBP facilities proposed to be located within existing park or recreation facilities that would require more than one acre of disturbance shall be either (1) relocated to avoid significant impacts to parkland or (2) shall provide supplemental parkland within the corresponding jurisdiction equal or greater to the amount of parkland or recreation facilities lost as a result of implementation of the CBP facility.	

Impact Description	Impact After Mitigation
Due to the limited population increase that would occur as a result of implementation of the CBP, the demand for public services (fire, sheriff, schools, libraries, etc.) would be minimal. However, it is anticipated that all sites containing facilities associated with the proposed project would be fenced in and contain security lighting, which would minimize the future need for police protection from trespass. Though a significant demand for police protection services is not anticipated, mitigation is proposed to address trespass issues. Additionally, construction and staging areas may result in the temporary closure of parks or portions of parks. However, several parks in the Chino Basin area would be available for use. This increased use of other	As described in Subchapter 4.16 of the 2022 CBP FPEIR, implementation of the CBP would not significantly impact fire protection, police protection schools, recreation/parks or other public facilities. However, several mitigation measures were identified to minimize impacts to police protection and recreation/parks including those that would: minimize the potential for trespass that could exacerbate demand for police protection services; and, minimize the potential for loss of park or recreational facilities as a result of CBP projects through relocation or provision of supplemental parkland or recreation facilities. With implementation of these mitigation measure, the project-related

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
parks would be temporary, during construction only. Once construction is completed, parks would return to serve their original purpose, with only slightly less parkland area available for use due to the development of a CBP facility within the existing park. Additionally, there is a potential for wells or other CBP facilities to be developed within a vacant site designated for park use, which would effectively minimize available designated parkland within the Chino Basin. As such mitigation is required to reduce this impact to a level of less than significant.	police protection and park/recreation impacts can be reduced to a less than significant impact level.	

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
RECREATION REC-1 IEUA shall prepare subsequent CEQA documentation for any Park or Recreation facilities required to be developed as part of implementation of mitigation measure PS-2—i.e., in the event a CBP Facility would be result in loss of parkland or recreation facilities.		
Impact Description	**Impact After Mitigation**	
Under the proposed WVWRP, no recreational facilities are proposed. As stated under Public Facilities, the development of CBP facilities may be located within parks or facilities designated for parks and/or recreation use. Construction and staging areas within parks and/or recreation facilities at which CBP facilities may be installed may result in the temporary closure of such facilities or portions of such facilities. However, several park and recreation facilities in the Chino Basin area would be available for use. This increased use of other park and recreation facilities would be temporary, during construction only. Once construction is completed, park and recreation facilities would return to serve their original purpose, with only slightly less land area available for such uses. In addition to CBP facility development within existing park and recreation facilities, there is a potential for CBP facilities to be developed within a vacant site designated for park use, which would effectively minimize available designated parkland within the Chino Basin. As such, mitigation is required to reduce this impact to a level of less than significant. Additionally, depending on the area required for the given CBP facility, an individual project could result in the removal of all or a portion of a park or recreational facility. As such, mitigation is required to ensure that, should loss of recreation or park facilities occur, replacement occurs resulting in impacts to recreational facilities are minimized.	As described in Subchapter 4.17 of the 2022 CBP FPEIR, implementation of the CBP would not significantly impact recreation. However, mitigation identified under Public Services that would minimize the potential for loss of park or recreational facilities as a result of CBP projects would minimize impacts under this issue as well. Furthermore, mitigation is provided to ensure that, should construction of recreation or park facilities be required as a part of the CBP, a subsequent CEQA determination will be prepared to ensure that impacts are appropriately assessed and mitigated. With implementation of this mitigation measure, the project-related recreation impacts can be reduced below the level of significance, and as such, the proposed project will not cause unavoidable significant recreation impacts.	

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TRANSPORTATION / TRAFFIC TRAN-1 Prepare and Implement Construction Transportation Management Plan A construction Transportation Management Plan (TMP) shall be developed and implemented by IEUA in coordination with the respective jurisdictions, SBCTA, and/or other relevant parties during construction of the proposed project. The TMP shall conform to Caltrans' Transportation Management Plan Guidelines and shall include but is not limited to: Construction Traffic Routes and Staging Locations: The TMP shall identify construction staging site locations and potential road closures, alternate routes for detours, and planned truck routes for construction-related vehicle trips, including but not limited to haul trucks, material delivery trucks, and equipment delivery trucks. It shall also identify alternative safe routes and policies to maintain safety along bicycle and pedestrian routes during construction. Construction vehicle routes shall avoid local residential streets and avoid peak morning and evening commute hours to the maximum extent practicable. Staging locations, alternate detour routes, and construction vehicle routes shall avoid other active construction projects within 0.25 mile of the project construction sites to the maximum extent practicable. Damage Repair: The TMP shall include the following requirements to minimize damage to the existing roadway network: • A list of precautionary measures to protect the existing roadway network, including but not limited to pavements, curbs, gutters, sidewalks, and drainage structures, shall be outlined. The construction contractor(s) shall be required to implement these measures throughout the duration of construction of the water conveyance pipelines. • The roadway network along the proposed water distribution alignment(s) shall be surveyed prior to the start of project construction activities, and existing roadway conditions shall be summarized in a brief report. • Any damage to the roadway network that occurs as a result of project construction activities shall be noted, and IEUA or its contractors shall repair all damage. Coordination with Emergency Services: The TMP shall include requirements to notify local emergency response providers, including relevant police and sheriff departments, ambulance services, and paramedic services at least one week prior to the start of work within public rights-of-way if lane and/or road closures are required. To the extent practicable, the duration of disruptions/closures to roadways and critical access points for emergency services shall be minimized. Coordination with Active Transportation Facilities: The TMP shall require coordination with owners/operators of any affected active transportation facilities to minimize the duration of disruptions/closures to bike paths, pedestrian trails, and adjacent access points. Coordination with SBCTA: If the proposed project affects access to existing transit stops, the TMP shall also include temporary, alternative transit stops and directional signage, as determined in coordination with SBCTA and Metrolink. Coordination with Caltrans: If the proposed project requires lane and/or road closures of State highways or State highway ramps, the TMP shall require coordination with Caltrans to ensure the TMP conforms with Caltrans' Transportation Management Plan Guidelines.	IEUA

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Coordination with Nearby Construction Sites: The TMP shall identify all active construction projects within 0.25 mile of project construction sites and require coordination with the applicants and/or contractors of these projects during all phases of construction regarding the following: • All temporary lane and/or roadway closures shall be coordinated to limit overlap of roadway closures • All major deliveries and haul truck trips shall be coordinated to limit the occurrence of simultaneous deliveries and haul truck trips • IEUA, its contractor(s), or its representative(s) shall meet on a regular basis with the applicant(s), contractor(s) or their representative(s) of active construction projects within 0.25 mile of the project construction sites during construction to address any outstanding issues related to construction vehicles. Transportation Control and Safety: The TMP shall provide for roadway vehicle control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle, and pedestrian circulation and access by emergency responders. Plan Approval: The TMP shall be submitted to SBCTA and the respective city community development departments for review and approval.	

Impact Description	Impact After Mitigation
Since transportation system facilities occur throughout much of the Chino Basin and the installation of future water infrastructure facilities can directly impact roadways or traffic on such roadways, a potential for significant transportation/traffic impacts from implementation of the CBP was identified in Subchapter 4.18 of the 2022 CBP FPEIR. Construction requires mitigation to implement Transportation Management Plan (TMP). In the long-term, operation of the CBP will generate minimal traffic. Ultimately, operation of the CBP would not generate a significant traffic impact and no operational mitigation is required.	Impacts to nearby roadways during construction can be mitigated through implementation of mitigation to ensure that a TMP is put in place. This mitigation would minimize impacts to transportation from construction by requiring all construction activities to be conducted in accordance with an approved construction traffic management plan. With implementation of this mitigation measure, the project-related transportation impacts can be reduced below the level of significance, and as such, the proposed project will not cause unavoidable significant recreation impacts.

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TRIBAL CULTURAL RESOURCES		
TCR-1	Where a future discretionary project requiring additional CEQA review occurs within an existing facility that has been totally disturbed due to it undergoing past engineered site preparation (such as a well site, water treatment facility, or wastewater treatment plant site), IEUA shall notify the San Manuel Band of Mission Indians and Gabrieleño Band of Mission Indians – Kizh Nation, but will point out that the project falls under the CBP evaluation and that the site is fully developed. No further cultural resources or TCR investigation will be conducted unless the Tribe identifies specific TCR resources/values at such site(s).	IEUA
TCR-2	Where a future discretionary project requiring additional CEQA review occurs at an undisturbed site, IEUA shall notify the San Manuel Band of Mission Indians (SMBMI) and Gabrieleño Band of Mission Indians – Kizh Nation to provide the Tribe with an opportunity to consult on the project.	IEUA

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	If the AB 52 consultation results in a request to consult from one or more Tribe, and this request results in more than one Tribe requesting field monitoring or archaeological monitoring and testing, then IEUA, in partnership with qualified historical/archeological professional and/or in partnership with the State Historic Preservation Office Tribal Liaison (reachable at tribalaffairs@parks.ca.gov), shall work with the Tribes to determine which entity is more culturally affiliated with the specific CBP site, and thus which entity will monitor the site, as only a single Tribe's monitor(s) shall be funded in the monitoring effort. Each of the Tribes shall be informed in the case of inadvertent discovery, and shall be contacted, and provided information regarding the nature of the find, so as to enable Tribal input in regards to significance and treatment. IEUA and Agency partners shall consult with the Tribes in a collaborative manner in order to create a Treatment Plan that is agreeable to both of the Tribes, or in the event that the discovery clearly pertains to one specific Tribe, IEUA shall collaborate with that Tribe to create a Treatment Plan that is agreeable to the specific Tribe. The Treatment Plan ultimately agreed upon shall be enforced as mitigation applicable to the specific project for which it is created. The Treatment Plan shall include enforceable mitigation measures that shall include components, such as: archaeological monitoring, actions that shall be taken should tribal cultural resources be discovered, treatment of resources should they be discovered, preservation actions for discovered resources, procedures for funerary objects and human remains, etc. Where SMBMI is the only Tribe that expresses an interest in consulting on a future CBP project the provisions of -3 PART A shall then be followed through. Where the Gabrieleño Band of Mission Indians – Kizh Nation is the only Tribe that expresses an interest in consulting on a project, the provisions of TCR-3 PART B shall then be followed through.	
TCR-3	PART A Following the provisions of TRC-2, above, if the San Manuel Band of Mission Indians (SMBMI) are the only tribe that requests to consult on a given CBP project, the terms of the Mitigation Measures provided by the Tribe shall be applied to the project, where applicable, and as follows: SM-CUL-1 Archaeological Monitoring and Testing At least one archaeologist with at least 3 years of regional experience in archaeology and a Tribal monitor representing the San Manuel Band of Mission Indians shall conduct subsurface archaeological testing on the project site via the employ of a number of subsurface investigative methods, including shovel test probes, remote sensing, and/or deep testing via controlled units or trenching of appropriate landscapes, with a sample size of at least 25% of the area of concern dug and dry-sifted through 1/8-inch mesh screens, prior to any ground-disturbing activity. A Testing Plan shall be created by the archaeologist and submitted to the SMBMI and IEUA for review at least 10 business days prior to implementation, so as to provide time to review/modify the Plan, if needed. The Plan shall outline the protocol of presence/absence testing and contain a Treatment Plan detailing that 1) no collection of artifacts or excavation of features shall occur during testing, and 2) all discovered resources shall be properly recorded and reburied in situ. If the results of testing, as approved by SMBMI, are positive, then SMBMI and IEUA shall, in good faith, consult	IEUA

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concerning appropriate treatment of the finding(s), guidance for which is outlined in SM-TCR-1. If the results of testing, as approved by SMBMI, are negative, then SMBMI will conclude consultation unless any discoveries are made during project implementation. Any and all discoveries made during project implementation shall be subject to the Treatment Plan outlined within the Testing Plan developed as described above and the guidelines contained in SM-TCR-1. If resources are identified during testing as described above, an archaeological monitor and a Tribal monitor from SMBMI with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist and submitted to the IEUA for dissemination to the SMBMI. Once all parties review and approve the plan, it shall be adopted by the IEUA – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan. SM-TCR-1 <u>Treatment of Cultural Resources</u> If a pre-contact cultural resource is discovered during archaeological presence/absence testing, the discovery shall be properly recorded and then reburied in situ. A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), the archaeologist, and the IEUA shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), avoidance (or other appropriate treatment) of the discovered resource, and the potential need for construction monitoring during project implementation. Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe, unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by IEUA and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site. It is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by SMBMI and the IEUA, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to IEUA, CHRIS, and SMBMI. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining	

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the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.). Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with SMBMI to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Lead Agency/Developing Agency to pay for those fees. All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the IEUA and SMBMI for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the IEUA, and SMBMI. SM-TCR-2 <u>Inadvertent Discoveries of Human Remains/Funerary Objects</u> In the event that any human remains are discovered within the project area, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately who shall notify SMBMI and the IEUA. The IEUA shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, and IEUA to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code § 5097.98. Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The IEUA should accommodate on-site reburial in a location mutually agreed upon by the Parties. It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human	

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remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and IEUA, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r). PART B Following the provisions of TRC-2, above, if the Gabrieleño Band of Mission Indians – Kizh Nation are the only tribe that requests to consult on a given CBP project, the terms of the Mitigation Measures provided by the Tribe shall be applied to the project, where applicable, and as follows: G-TCR-1: Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities A. The IEUA shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians - Kizh Nation. The monitor shall be retained pursuant to the provisions in CBP MMs TRC-1 and TRC-2 above. The Native American Monitor shall be retained for the applicable CBP project site during ground disturbing activity. "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching. B. A copy of the executed monitoring agreement shall be submitted to IEUA prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity. C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground- disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the IEUA upon written request to the Tribe. D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the IEUA that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the IEUA that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs. E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the including for educational, cultural and/or historic purposes. G-TCR-2: Unanticipated Discovery of Human Remains and Associated Funerary Objects	

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A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute. B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed. C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).) E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes. F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance. G-TCR-3: Procedures for Burials and Funerary Remains: A. As the Most Likely Descendant (MLD), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term “human remains” encompasses more than human bones. In ancient times, as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created. C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made	

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exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials. D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.	

Impact Description	Impact After Mitigation
As described in Subchapter 4.19 of the ~~is D~~ 2022 CBP FPEIR, the San Manuel Band of Mission Indians requested continued participation with this project's CEQA process and future project implemented under the CBP. Concerns expressed include the following: accidental exposure of subsurface cultural resources and proper management of such resources; concerns over exposure of human remains and proper management; and presence of Native American monitors during future ground disturbing activities. Through incorporation of mitigation measures, impacts to Tribal Cultural Resources are considered less that significant.	Through incorporation of mitigation measures, impacts to Tribal Cultural Resources are considered less that significant. The mitigation measures provide a hierarchy from which to approach future CBP projects, involving (1) notification to the three tribes at project sites that have been totally disturbed; (2) at undisturbed project sites, AB 52 consultation will be initiated and a records search shall be performed as part of a site specific Phase I evaluation, and the site shall be surveyed; and (3) further site-specific study of large scale projects, tribal and archaeological monitoring, and , and specific treatment requirements for buried Tribal Cultural Resources that may be uncovered during construction of future projects. Thus, with implementation of mitigation to protect tribal cultural resources, the project would not cause significant unavoidable adverse impacts to tribal cultural resources

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UTILITIES AND SERVICE SYSTEMS		
UTIL-1	Implementation of a Drainage Plan to Reduce Downstream Flows. Prior to issuance of permits for construction of project facilities, IEUA shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites (consistent with MS4 requirements) so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bio-retention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.	IEUA
UTIL-2	For future CBP projects that do not have access to electrical or natural gas connections in the immediate vicinity (defined here as a 1,000-foot buffer from a given project site), and will require either extension of infrastructure or creation of new infrastructure to meet electricity and/or natural gas needs at a future CBP facility site, subsequent CEQA documentation shall be prepared that fully analyzes the impacts that would result from extension or development of electrical or natural gas infrastructure.	IEUA
UTIL-3	For future CBP projects that do not have access to telecommunication connections in the immediate vicinity (defined here as a 1,000-foot buffer from a given project site), and will require either extension of infrastructure or creation of new infrastructure to meet telecommunication needs at a future CBP facility site, subsequent CEQA documentation shall be prepared that fully analyzes the impacts that would result from extension or development of electrical or natural gas infrastructure.	IEUA
UTIL-4	Should the agencies operating the brine disposal systems (Orange County Sanitation District [OCSD]and Los Angeles County Sanitation District [LACSD]) determine that the capacity requested on behalf of CBP operations is greater than that which can be accommodated with existing treatment capacities, subsequent CEQA documentation addressing the required facility expansions shall be prepared. I.e., should the CBP require access to greater capacity from an existing brine disposal system (including the IEBL, the NRWS, or the Etiwanda Wastewater Line [EWL]) beyond that which can be accommodated by existing facilities--excluding pipeline connections required to connect CBP facilities to these brine disposal systems (such as the 8,200 LF proposed to be installed as part of the CBP)—subsequent CEQA documentation shall be prepared.	IEUA
UTIL-5	The contract with demolition and construction contractors for a given CBP project shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled. This includes but is not limited to wood, metals, concrete, road base and asphalt. The contractors for a given CBP project shall submit a recycling plan to IEUA for review and approval prior to issuance of permits for the construction of demolition/construction activities.	IEUA
UTIL-6	The contract with demolition and construction contractors for a given CBP project shall include the requirement that all soils that are planned to be exported from the site that can be recycled shall be recycled for re-use; alternatively, soils shall be reused on site to balance soil import/export.	IEUA

Impact Description	Impact After Mitigation
Subchapter 4.20 concluded that implementation of the CBP could significantly impact stormwater drainage, energy, natural gas telecommunications, or solid waste as a result of requiring the construction or extension of such utilities as a result of development of the CBP. This is because the proposed CBP may be developed within sites that would require extension of or that may impact existing utility service systems. The provision of sufficient water supply within the Chino Basin could be impacted significantly by the development of the	Subchapter 4.20 concluded that implementation of the CBP would not significantly impact stormwater drainage, energy, natural gas telecommunications, or solid waste. Additionally, mitigation is required to minimize impacts related to stormwater through implementation of a drainage plan to reduce downstream flows for future CBP projects. Mitigation is required to address potential impacts related to solid waste including those that would: ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted from the local landfill, which will minimize the

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CBP without the implementation of mitigation. Additionally, the CBP could impact wastewater system capacities as a result of demand on brine conveyance and treatment systems that are required in order to support the project. The CBP could also generate solid waste that could be in excess of landfill capacities or could conflict with the applicable regulations pertaining to the disposal of solid waste. Mitigation is required in order to ensure significant solid waste impacts do not occur. Furthermore, as discussed under Subchapter 4.20 of this RDPEIR, the proposed CBP could result in significant impacts related to construction-related GHG emissions that would exceed the approximated SCAQMD thresholds for construction activities, thus the extension and construction of new water and wastewater facilities would result in a potentially significant impact.	potential for CBP projects to generate waste in excess of local landfill capacities; and ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycling and ultimately reuse, thereby diverting this waste stream from the local landfill. The construction of infrastructure related to energy and natural gas was analyzed and determined to be less than significant with the implementation of mitigation. This mitigation would ensure that CBP projects not located in an area containing adjacent access to electricity and natural gas infrastructure would require subsequent CEQA documentation. With implementation of this mitigation the proposed project will not cause unavoidable significant adverse impacts to energy or natural gas. The construction of infrastructure related to telecommunications was determined to be less than significant with the implementation of mitigation. This mitigation would ensure that CBP projects not located in an area containing adjacent access to telecommunication infrastructure would require subsequent CEQA documentation. With implementation of this mitigation the proposed project will not cause unavoidable significant adverse impacts to telecommunications. Based on the facts and findings presented in the RDPEIR analysis, the proposed project will not cause unavoidable significant adverse impacts to stormwater drainage, energy, natural gas, telecommunications, or solid waste. Implementation of mitigation measures pertaining to solid waste would: ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted from the local landfill, which will minimize the potential for CBP projects to generate waste in excess of local landfill capacities; ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycled and ultimately reuse, thereby diverting this waste stream from the local landfill; and, ensure that recyclable waste streams are diverted from the local landfill, thereby ensuring compliance with the required 50 percent waste diversion mandated by the State and minimize the potential for CBP projects to generate waste in excess of local landfill capacities. The topic of water and wastewater infrastructure were also discussed in Subchapter 4.20. The extension of water and wastewater related infra-structure was determined to be potentially significant. However, the provision of sufficient water supply within the Chino Basin was determined to be less than significant with the implementation of mitigation that would minimize impacts related to loss of pumping sustainability, result in potential reduction in net recharge and impacts to Safe Yield, and/or result in new subsidence. These mitigation measures will ensure that sufficient water supplies are	

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
	available to serve the Parties within the Chino Basin. The mitigation is extracted from Subchapter 4.11, Hydrology and Water Quality (discussed above) and would create a hierarchy of checks and balances as part of the sustainable management of the Basin through continuous monitoring of known issues within the Basin and a comparable mitigative response to ensure that these issues do not result in a significant impact. Additionally, the provision of sufficient wastewater treatment capacity at area wastewater treatment plants would be ensured through mitigation that would ensure subsequent CEQA documentation is required where the overall CBP would require greater brine conveyance capacity than area brine disposal facilities can accommodate. As such, impacts related to wastewater treatment capacities at area and regional facilities would be less than significant with the implementation of mitigation. However, as discussed under Subchapter 4.20 of this RDPEIR, the proposed CBP could result in significant impacts related to construction-related GHG emissions that would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030 that would result from the extension of water- and wastewater-related infrastructure. Such construction of the CBP has the potential to hinder statewide GHG emissions targets, and therefore the proposed CBP could result in significant and unavoidable GHG impacts related to construction of new or expansion or modifications to existing water and wastewater facilities.	

Environmental Category /Avoidance, Minimization and Mitigation Measures		Responsible Agency
WILDFIRE		
WF-1	Prior to initiating construction of proposed facilities within public rights-of-way (ROW), IEUA shall prepare and implement a Traffic Control Plan that contains comprehensive strategies for maintaining emergency access during construction. Strategies shall include, but are not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches, flag persons and related assets to manage the flow of traffic, and identification of alternate routing around construction zones, where necessary. In addition, police, fire, and other emergency service providers (local agencies, Caltrans, and other service providers) shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. IEUA shall ensure that the Traffic Control Plan and other construction activities are consistent with the San Bernardino County Operational Area Emergency Response Plan, and are reviewed and approved by the local agency with authority over construction within the public ROW.	IEUA
WF-2	Prior to construction of facilities located in areas designated as High or Very High Fire Hazard Severity Zones (FHSZs) by CAL FIRE, fire hazard reduction measures shall be incorporated into a fire management plan/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to	IEUA

Environmental Category /Avoidance, Minimization and Mitigation Measures	Responsible Agency
use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that can include 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 shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the IEUA and provided to CAL FIRE for review and comment, where appropriate, and approved prior to construction within high and very high FHSZs and implemented once approved. The fire management plan shall also include sufficient defensible space or other measures at a facility site located in a high or very high FHSZ to minimize fire exposure and damage to a level acceptable to the IEUA over the long-term.	

Impact Description	Impact After Mitigation
The location of CBP facilities would likely not be located in designated very high fire hazard severity zones, but since many of the proposed CBP facilities sites have not yet been identified, it is possible that one or more future facilities could be required to locate within such areas.	The analysis of wildfire issues in Subchapter 4.21~~8~~ impacts from implementing the CBP are less than significant with mitigation incorporated. Mitigation was identified to minimize impacts to wildfire (gathered from other sections of the IS) that would: reduce the project's potential traffic conflicts that could be exacerbating in high fire hazard zones by requiring all construction activities to be conducted in accordance with an approved construction traffic control plan; and, ensure fire hazard reduction measures are incorporated into a fire management plan/fuel modification plan for the proposed facility. Thus, with implementation of mitigation to minimize wildfire impacts, the project would not cause significant unavoidable adverse impacts under wildfire.

Table 1.6-1
TABULAR COMPARISON OF PROJECT ALTERNATIVES

	Would the Project Result in Significant Adverse Impacts to the Resource Issues?	***Would the Alternative Result in Equal, Greater, or Less Impacts than the Project?***		
	Proposed Project (Chino Basin Program)	**No Project Alternative**	**Alternative 1: Baseline Water Quality Alternative**	**Alternative 2: Regional Water Quality and Reliability Plan**
Aesthetics	No Impacts LSM	=	▼	=
Agricultural	No Impacts LSM	=	▼	=
Air Quality	Yes Impacts LSM	▼	▼	=
Biological Resources	Yes Impacts would be Significant	▼	▼	=
Cultural Resources	No Impacts LSM	▼	▼	=
Energy	No Impacts LS	▼	=	=
Geology and Soils	No Impacts LSM	▼	=	▼
Greenhouse Gas	No Impacts would be Significant	▼	=	▲
Hazards and Hazardous Materials	No Impacts LSM	▼	▼	=
Hydrology and Water Quality	No Impacts LSM	▲	▼	=
Land Use and Planning	No Impacts LSM	▼	▼	=
Mineral Resources	No Impacts LSM	▼	▼	=
Noise	No Impacts LSM	▼	▼	=
Population and Housing	No Impacts LSM	▼	▼	=
Public Services	No Impacts LSM	▼	▼	=
Recreation	No Impacts LSM	▼	▼	=
Transportation	No Impacts LSM	▼	▼	▼
Tribal Cultural Resources	No Impacts LSM	▼	▼	=
Utilities and Service Systems	Yes Impacts would be Significant	=	▼	=

	Would the Project Result in Significant Adverse Impacts to the Resource Issues?	***Would the Alternative Result in Equal, Greater, or Less Impacts than the Project?***		
	Proposed Project (Chino Basin Program)	**No Project Alternative**	**Alternative 1: Baseline Water Quality Alternative**	**Alternative 2: Regional Water Quality and Reliability Plan**
Wildfire	No Impacts LSM	▼	▼	=

▲ Alternative is likely to result in greater impacts to issue when compared to Proposed Project.
▼ Alternative is likely to result in reduced impacts to issue when compared to Proposed Project.
= Alternative is likely to result in comparable overall impacts to issue when compared to the Proposed Project.
LSM = less than significant with mitigation measures
LS = less than significant

	~~*Would the Project/Alternative Result in Significant Adverse Impacts to the Resource Issues of …?*~~				~~Which is the environmentally superior Alternative?~~
	~~Chino Basin Program (CBP)~~	~~No Project Alternative (NPA~~	~~Alternative 1: Baseline Water Quality Action Alternative (BWQAA)~~	~~Alternative 2: Regional Water Quality and Reliability Plan~~	
~~Aesthetics~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Agricultural~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Air Quality~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Biological Resources~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~NPA and BWQAA are equal~~
~~Cultural Resources~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Energy~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Geology & Soils~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Greenhouse Gas~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	~~NPA~~
~~Hazards & Hazardous Materials~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Hydrology & Water Quality~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~CBP, BWQAA and Alternative 2 are equal~~
~~Land Use & Planning~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Mineral Resources~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Noise~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Population & Housing~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Public Services~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Recreation~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Transportation & Traffic~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~

~~Utilities & Service Systems~~	~~Yes~~	~~Yes~~	~~No~~	~~Yes~~	~~BWQAA~~
~~Wildfire~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~*Would Meet Project Objectives?*~~	~~Yes~~	~~No~~	~~Some~~	~~All Except One~~	-

CHAPTER 2 – INTRODUCTION

2.1 BACKGROUND

The Inland Empire Utilities Agency (IEUA or Agency) serves as a wholesale imported water distributor for the Chino Groundwater Basin (Chino Basin) and provides industrial/municipal wastewater collection and treatment and other related utility services for the western portion of the Santa Ana River watershed in the southwestern-most portion of San Bernardino County. Current services provided or programs supported by IEUA also include: production of recycled water; sewage collection and treatment; distribution of imported and recycled water supplies; co-composting of manure and municipal biosolids; desalinization of groundwater supplies; renewable energy generation; and disposal of non-reclaimable industrial wastewater and brine.

IEUA and its local partners have developed long-term plans to implement a variety of new infrastructure to meet future needs for wastewater treatment and potable water supplies while increasing resiliency and sustainability of regional water resources management. The CBP provides an opportunity to implement critical long-term project components of these plans, addressing local, regional, and potentially statewide and federal water resources management issues. The CBP is a revolutionary, first-of-its-kind program designed to help the region move beyond traditional water management practices and into a new era of water use optimization. The CBP promotes proactive investment in managing the water quality of the Chino Basin and in meeting regional water supply reliability needs in the face of climate change, while leveraging California's interregional plumbing system and the Chino Basin's future potential for water recycling to produce benefits to local, State and federal interest.

The CBP was submitted for Proposition 1 – Water Storage Investment Program (WSIP) funding and was awarded $269M ~~$206.9M~~ in conditional funding as of August 2025 ~~in July 2018~~. Under the WSIP, the CBP is proposed as a ~~25-year~~ conjunctive use project that would develop and utilize a new AWPF to treat and store up to 15,000 acre feet per year (AFY) of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons. The CBP would increase additional available groundwater supplies in the adjudicated Chino Basin through increased water recycling that would result from operation of a new advanced water purification facility (AWPF) and through groundwater storage by operation of new injection wells. The CBP would thereby enable IEUA to dedicate a commensurate amount of this "new" water locally generated from the AWPF to remain in the State Water Project system up at Lake Oroville in Northern California that would otherwise be delivered to Southern California. The additional Lake Oroville water would subsequently be released in the form of pulse flows in the Feather River to improve habitat conditions for native salmonids and achieve environmental benefits.

The CBP has identified the following project objectives, which also help address local, State and federal objectives as follows:

- **Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin:** The project provides groundwater recharge facilities to recharge high quality recycled water, thus reducing TDS levels within the Chino Groundwater Basin.
- **Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin:** With the implementation of AWPF with an expected effluent concentration of 100 mg/L, the recycled water TDS will be significantly reduced.
- **Develop Infrastructure That Addresses Long Term Supply Vulnerabilities:** The CBP would improve the use of recycled water at a regional level through new regional pipelines

enabling greater potential access to recycled water and enhances local groundwater supplies through the installation of additional extraction wells and through the installation of new wellhead treatment systems that would bring existing out-of-service wells online.

- **Provide a Source of Water for Emergency Response:** The project results in 15,000 AFY in local supplies which can be used to augment the water supply portfolio during unplanned or catastrophic events.
- **Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~:** The project develops a highly reliable new water supply ~~formally~~ dedicated to supporting regional water reliability while balancing environmental sustainability ~~benefit that can be deployed dynamically and managed flexibly to address varying and changing ecological needs~~.

Pursuant to Section 15060(d) of the CEQA Guidelines, upon finding that the proposed CBP might have one or more significant effects on the existing project environment and surrounding environment, IEUA determined that an environmental impact report (EIR) should be prepared to address potential impacts from the CBP. Thus, IEUA prepared the Chino Basin Program Draft Environmental Impact Report (DPEIR or Draft PEIR) and then finalized the CBP Final PEIR (FPEIR) in May 2022 that evaluates the potential broad scope or programmatic environmental impacts that would result from constructing and implementing the proposed project. However, as described in Subsection 1.1, Background and Purpose of the Recirculated Draft Program Environmental Impact Report, on June 16, 2022, the City of Ontario (Petitioners) filed a lawsuit against IEUA alleging, among other things, that IEUA failed to comply with CEQA in approving the CBP. The matter came before the San Bernardino County Superior Court at a hearing on August 21, 2025. The Court concluded IEUA failed to comply with CEQA in three narrow circumstances. The Court issued a Peremptory Writ of Mandate on December 8, 2025 that ordered that IEUA is restrained from reapproving the CBP unless and until IEUA addresses the following violations identified in the Court's September 4, 2025 Ruling on Petition for Writ of Mandate:

(1) Respondents "piecemealed" the evaluation of the effects of the CBP by failing to evaluate the effects of the CBP and the Feather River Exchange outside of the Chino Basin;
(2) Respondents used an unstable and inconsistent project description that evaluates the effects of a project life of 25 years, but then justifies the CBP based on purported water supply benefits over 50 years; and,
(3) Respondents adopted a biased and determinative project objective to justify a refusal to evaluate reasonable alternatives to the CBP.

Thus, in response to the Court's Peremptory Writ of Mandate, IEUA has chosen to take specific action necessary to bring its consideration of the CBP into compliance with CEQA. IEUA has determined that revising the relevant sections of the 2022 CBP FPEIR to address the inadequacies identified by the Court is the appropriate process for complying with the Court's ruling and Peremptory Writ of Mandate. This RDPEIR has been prepared pursuant to Section 15234(d) of the CEQA Guidelines, which only requires additional environmental review of portions of the 2022 CBP FPEIR found by the Court not to comply with CEQA, consistent with principles of res judicata.

The information CEQA and the CEQA Guidelines require to be included in an EIR is included in this RDPEIR, and it addresses each of the 20 topics identified in Appendix G of the CEQA Guidelines, as follows: aesthetics, agriculture and forestry resources, air quality, biological

resources, cultural resources, energy, geology/soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire.

2.2 PURPOSE AND USE OF AN EIR

CEQA was adopted to further the Legislature's goal of maintaining the quality of the environment for the people of the State. Compliance with CEQA, and its implementing CEQA Guidelines, requires an agency making a decision on a project (defined as an action that can change the physical environment) to consider that project's potential environmental effects/impacts before granting any discretionary approvals or entitlements for it. Further, the State adopted a policy "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." Thus, an agency, in this case IEUA, must examine feasible alternatives and identify feasible mitigation measures as part of the environmental review process. CEQA also states "that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof." (Public Resources Code § 21002.)

When applied to a specific project, such as the proposed CBP, the reviewing agency is required to identify the potential environmental impacts of implementing the project and, where potential significant impacts are identified, must determine whether there are feasible mitigation measures or alternatives that can be implemented to avoid or substantially lessen the significant environmental effects of a project. The first step in this process—determination that an EIR is required and issuance of a Notice of Preparation of an EIR (NOP)—has been completed for the CBP. This constitutes the "project being considered for approval and implementation" by IEUA. IEUA has now prepared this RDPEIR to address any potential significant impacts that may result from implementation of the proposed CBP project.

As stated above, the following environmental issues will be analyzed in this RDPEIR: aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire.

2.2.1 NOP and Scoping Meeting Comment Letters and Responses

IEUA prepared and circulated a Notice of Preparation (NOP) for the project. The NOP public review period through the State Clearinghouse began on September 16, 2021 and ended on October 15, 2021. Respondents were requested to send their input as to the scope and content of environmental information and issues that should be addressed in the RDPEIR no later than 30 days after receipt of the NOP. The NOP was distributed to interested agencies, the State Clearinghouse (SCH# 2021090310), and a list of interested parties compiled by IEUA. IEUA held a scoping meeting on October 6, 2020 at 6 p.m. at the IEUA's Agency Headquarters Board Room located at 6075 Kimball Avenue, Building A, Chino, CA 91708. The date, time and location of the scoping meeting were announced in the NOP.

IEUA received seven written responses to the NOP but received no comments, written or oral, at the scoping meeting. The seven written comments are summarized below, and a brief response

to each issue organized by environmental topic is provided following the summary of each comment letter. Copies of each letter are provided below in Subchapter 8.2. The location where the issues raised in the comments are addressed is described in the following text.

Comment Letter #1 from California State Water Resources Control Board, Division of Drinking Water (DDW) (dated 10/11/21) states:

- *DDW would like to see the following addressed in the EIR:*
  - *Include a list of all the water systems within the Project, the water system's number, and water system components that will be added to each system that will trigger a drinking water supply permit amendment.*
  - *Include a description of these new or modified components of the Project in enough detail to determine if a new water supply permit or permit amendment will be required.*
  - *Provide a project site map that includes all new or modified water system components with the water system they belong to.*
  - *Include the State Water Resources Control Board, Division of Drinking Water, in any list of agencies that will be approving a permit, and the drinking water permit(s) mentioned under any list of permits needed.*

Comment Letter #2 from Native American Heritage Commission (NAHC) (dated 9/20/21) states:

- *This letter summarizes the applicability of AB 52 and SB 18 to a given project.*
- *This letter summarizes AB 52 requirements.*
- *This letter summarizes SB 18 requirements.*
- *This letter summarizes recommendations for Cultural Resource Assessments as follows:*
  - *The IEUA should contact the appropriate California Historical Research Information System (CHRIS) Center for an archaeological records search.*
  - *Archaeological surveys, where required, should be prepared in a professional report.*
  - *The NAHC should be contacted for a sacred lands file search and to procure a Native American Tribal Consultation List.*
  - *Lack of surface evidence does not preclude the existence of subsurface evidence and as such, the IEUA should include mitigation that addresses the potential for inadvertent discovery, provisions for the deposition of cultural items, and include provisions for the treatment and disposition of native American human remains.*

Comment Letter #3 from the San Bernardino County Department of Public Works (dated 10/12/21) states:

- *This letter advises that the project may alter existing or future storm drains and as such is subject to the San Bernardino County Flood Control District's (SBCFCD) Comprehensive Storm Drain Plans (CSDP) and Master Plans of Drainage (MPD): CSDP 1: Rancho Cucamonga, Chino Airport Master Storm Drain Plan (MSDP), Chino Hills MPD, Chino Hills Area MPD, and W. Cucamonga MPD, CSDP 2: Upland MPD, Ontario MPD, Montclair MPD, Fontana MPD, and Chino MPD.*
- *Impacts associated with the project's occurrence in the Flood Zones mentioned and mitigation should be discussed within the Draft EA prior to adoption by the IEUA.*
- *IEUA enforce, at a minimum, the most current FEMA regulations for construction within a Special Flood Hazard Area (SFHA) and coordinate the project with the U.S. Army Corps. of Engineers (USACOE) within the Prado Dam Inundation area.*

- *Any encroachments on SBCFCD right-of-way or facilities, including but not limited to access, fencing and grading, utility crossings, landscaping, new and/or alteration to drainage connections will require a permit from SBCFCD prior to start of construction. The necessity for permits, and any impacts associated with them, should be addressed in the project environmental documents prior to adoption and certification.*

Comment Letter #4 from the South Coast Air Quality Management District (SCAQMD) (dated 10/12/21) states:

- *In order to ensure that impacts from the permits are fully and adequately evaluated as required under CEQA Guidelines Section 15096(b), it is recommended that the IEUA initiate consultation with South Coast AQMD.*
- *Staff recommends that the IEUA use South Coast AQMD's CEQA Air Quality Handbook and website as guidance when preparing the air quality and greenhouse gas analyses.*
- *It is also recommended that the IEUA use the CalEEMod land use emissions software*
- *Staff recommends that the IEUA quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds and localized significance thresholds (LSTs) to determine the project's air quality impacts.*
- *The IEUA should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project, including both construction and operational impacts.*
    - *Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and hauling trips).*
    - *Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust).*
    - *Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis.*
    - *Emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA operational thresholds to determine the level of significance.*
- *If the project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the IEUA perform a mobile source health risk assessment.*
- *In the event that the project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Several resources to assist the IEUA with identifying potential mitigation measures for the project include:*
    - *South Coast AQMD's CEQA Air Quality Handbook.*
    - *South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan.*
      Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

Comment Letter #5 from the City of Ontario (dated 10/14/21) states:

- *The Project Description should include the following:*
  - *Describe the Agency participation and financing for the Program and expand on how it is anticipated that the program will be paid for at a local level.*
  - *Describe the administration of performance criteria during call years for participating and non-participating agencies, including limitations on access to imported water for either participating or non-participating agencies.*
  - *Identify the sources and supply of recycled water to be treated and pledged to the program, and include a description of the Project's compliance with participating agency's Right to First Purchase of treated wastewater per the Regional Sewerage Contract.*
- *The City of Ontario believes that the program objectives should be modified as follows:*
  - *Objective 3, which states "Develop infrastructure that addresses long term supply vulnerabilities" should be removed and replaced with the City's proposed Objective 7.*
  - *Objective 4 should be revised to state "provide a **local** source of water…"*
  - *Objective 5 should be revised to state "Enhance recharge **(injection wells and/or recharge basins)** and…"*
  - *Objective 6 should be revised to state "Develop a solution to produce environmental benefits by enhancing local supply and reducing reliance on important water."*
  - *Proposed Objective 7, which Ontario proposes should replace Objective 3, states "Develop local water resources by utilizing recycled water locally in the Chino Groundwater Basin to meet the current and future needs of a growing region"*
  - *Proposed Objective 8 states "Minimize the need for additional infrastructure by optimizing existing infrastructure."*
  - *Proposed Objective 9 states "Comply and be consistent with the Regional Sewerage Contract, including but not limited to compliance with each Contracting Agency's Right of First Purchase of treated wastewater."*
- *The City of Ontario proposes there be an alternative defined as the Local Control and Supply Alternative that evaluates treating and injecting, what they believe to be, currently underutilized recycled water in the Chino Groundwater Basin for local use with no export or in-lieu elements, to include the following components:*
  - *Make beneficial use of recycled water currently being discharged to the Santa Ana River.*
  - *Develop a local supply by advance treated recycled water which would be available to agencies in any given year, enabling agencies to reduce reliance on imported water.*
  - *Provide purified water pumping and conveyance for groundwater injection (injection wells and/or recharge basins).*
  - *Implement and be consistent with the rights of contracting parties pursuant to the Regional Sewage Contract.*
  - *This alternative would not include the following components:*
    - *Groundwater extraction and treatment*
    - *Potable water pumping and conveyance*
    - *Potable water usage (MWD pump-back or in-lieu)*
  - *This alternative would only include PUT components with participating agencies extracting the advanced water from the Basin using existing infrastructure.*

Comment Letter #6 from the California Department of Fish and Wildlife (CDFW) (dated 10/14/21) states:

- *The CDFW letter addresses CDFW's role as a trustee and responsible agency.*
- *CDFW recommends that the EIR specifically include:*
  - *An assessment of the various habitat types, and a map that identifies the location of each habitat type.*
  - *A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected.*
  - *A complete, recent inventory of rare, threatened, endangered, and other sensitive species within, as well as any offsite areas with the potential to be affected.*
- *CDFW strongly encourages that future climate or demographic changes that will affect the sustainable management of a groundwater basin, as well as environmental uses and the hydrologic links between surface and groundwater be incorporated.*
- *CDFW recommends that the EIR utilize a hybrid approach to cumulative impacts, with a list of past, present, and probable future projects/activities being considered in combination with baseline conditions, projections, and adopted planning documents.*
- *The 2017 Annual Report determined that: 1) discharge in the Santa Ana River and its tributaries has declined since 2005; 2) decreases in the normalized difference vegetation index (NDVI) observed from 2015-2017 at several areas occurred during the growing-season for both Chino Creek and Mill Creek; and 3) northern reaches above the Mill Creek and the Santa Ana River confluence are "losing reaches" characterized by streambed recharge, while most other areas along Chino Creek and Mill Creek are "gaining reaches" characterized by groundwater discharge. CDFW again urges that this, along with other available data, be used to analyze the potential cumulative impacts of the Program.*
- *CDFW recommends that IEUA utilize the Basin Technical Advisory Committee (BTAC) findings and continue to collaborate to ensure groundwater and surface water impacts are adequately evaluated and considered.*
- *CDFW attached notable goals, objectives, and performance monitoring and asks that IEUA keep these in mind when preparing the EIR*:
  - *Approximately 70% of the supply is of local origin coming from local groundwater, local precipitation and surface flows, and recycled water*
  - *Maintain reliable and resilient water supplies and reduce dependency on imported water.*
  - *Manage at the watershed scale for preservation and enhancement of the natural hydrology to benefit human and natural communities.*
  - *Preserve and enhance the ecosystem services provided by open space and habitat within the watershed.*
- *CDFW recommends that the EIR address a reasonable range of alternatives, including the no project alternative, which should address climate change and drought that may affect the community.*
- *CDFW indicates that the EIR should identify mitigation measures and alternatives to avoid or minimize potential impacts to the extent feasible:*
  - *The EIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to any project or activity within the Program, or that may be impacted due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors.*
  - *The EIR should include measures to fully avoid and otherwise protect sensitive plant communities from direct and indirect impacts.*
  - *California Species of Special Concern (CSSC) should be considered during the environmental review process.*

- *CDFW considers adverse impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the EIR should include mitigation measures for these adverse impacts.*
- *The EIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset project-induced qualitative and quantitative losses of biological values.*
- *If sensitive species and/or their habitat may be impacted, CDFW recommends the inclusion of specific mitigation in the EIR.*
- *CDFW recommends that the EIR specify mitigation that is roughly proportional to the level of impacts.*
- *Plans for restoration and revegetation should be prepared by persons with expertise in Southern California ecosystems and native plant restoration techniques. CDFW outlines what the plans should entail.*
- *CDFW recommends that the EIR include the results of avian surveys, as well as specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. The EIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the project site.*
- *To avoid direct mortality, CDFW recommends that the IEUA condition the EIR to require that a CDFW-approved qualified biologist be retained to be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way special status species or other wildlife of low or limited mobility that would otherwise be injured or killed from project-related activities.*
- *CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species*
- *CDFW recommends that the EIR address all Project impacts to listed species and specify a mitigation monitoring and reporting program that will meet the requirements of the California Endangered Species Act (CESA).*
- *CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Public Resources Code § 21065). To facilitate issuance of an LSA Agreement, if necessary, the PEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments.*
- *To ameliorate the water demands of this Project, CDFW recommends incorporation of water-wise concepts in project landscape design plans.*
- *CDFW requests that the IEUA report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB).*
- *CDFW notes the required filing fees*

Comment Letter #7 from the Orange County Water District (OCWD) (dated 10/14/21) states:

- *OCWD states it believes that IEUA must divert 17,000 AFY of tertiary recycled water to the Santa Ana River (SAR) or its tributaries above the Prado Dam.*
- *OCWD relays support for IEUA's effort to utilize wastewater to meet growing demands and reduce independence on imported water, while also complying with the Basin objective for TDS.*

- *OCWD recharges all baseflow of the SAR discharged from Prado Dam, and as such, if the CBP would reduce flows to the SAR, OCWD assumes it will need to increase reliance on imported water.*
- *OCWD states that the EIR should discuss and quantify the change in the amount of imported water to Southern California during an average year and over the 25-year lifespan of the CBP that would result from its implementation.*
- *OCWD states that the EIR should analyze and quantify the biological benefit to Salmonids by accounting for the change in imported water needs of Southern California as a whole as a result of the CBP.*
- *OCWD states that the EIR should analyze and quantify the greenhouse gas emissions by accounting for the CBP's impact on Southern California's total imported water needs.*
- *Should the CBP result in the removal of 17,000 AFY of surface water from the Santa Ana River Watershed, biological impacts could occur, and should therefore be sufficiently analyzed to determine whether there would be negative impacts to the Prado Basin riparian habitat. Mitigation should be addressed to ensure specific actions are taken to minimize negative consequences of the CBP.*

A brief response to each issue raised is provided below organized by Chapter and environmental topic.

Chapter 3: Project Description

Comment Letter #1 (DDW): The comment letter supplied by the DDW requested a list of all the water systems within the CBP, the water system's number, and water system components that will be added to each system that will trigger a drinking water supply permit amendment, and a description of these new or modified components of the project in enough detail to determine if a new water supply permit or permit amendment will be required. Additionally, DDW requested a project site map that includes all new or modified water system components with the water system they belong to, and the inclusion of the DDW in the list of agencies from which the CBP implementation would require permits, as well as a list of the types of permits required.

Response: The water systems, water system numbers, components, and descriptions thereof of facilities requiring drinking water supply permits cannot yet be supplied to DDW, as the specific details of what connections will be required have not yet been defined. At this time, the water agencies that have expressed an interest in future connections to the CBP facilities are Jurupa Community Services District (JCSD), Cucamonga Valley Water District (CVWD), and Fontana Water Company (FWC). The water system numbers of these agencies are as follows:

- *JCSD – 3310021*
- *CVWD – 3610018*
- *FWC – 3610041*

Other member agency water systems may connect to CBP infrastructure in the future, but it is not known at this time which additional agencies and water systems would connect to the CBP infrastructure. IEUA and its CBP partner agencies are aware that water system permit amendments will be required and will facilitate the application for water system permits applied when the project specific details are known, which is anticipated to be during the design phase. Detailed descriptions of the project components are found in the Project Description, but as stated above, specific sites and connections have not yet been selected. The figures that have been prepared for the proposed project in the Project Description depict the PUT and TAKE Alternatives, and at this time, these are the most detailed figures available. The DDW is included

in the list provided under Subchapter 3.13, Entitlements, Approvals and Other Agency Participation, found in the Project Description along with the anticipated types of permits to be required.

Comment Letter #5 (Ontario): The comment letter supplied by the City of Ontario requests that: the CBP Objectives be revised (Objectives), the project description describe the Agency participation and financing for the Program and expand on how it is anticipated that the program will be paid for at a local level (Financing), the project description describe the administration of performance criteria during call years for participating and non-participating agencies, including limitations on access to imported water for either participating or non-participating agencies (Imported Water), and the project description identify the sources and supply of recycled water to be treated and pledged to the program (Recycled Water Source), and include a description of the Project's compliance with participating agency's Right to First Purchase of treated wastewater per the Regional Sewerage Contract (RFP Compliance).

Response (Objectives): CEQA does not require a lead agency to modify its project objectives in deference to comments responding to a NOP. The Objectives that have been suggested by the City of Ontario would fundamentally alter the purpose and objectives of the CBP project. Furthermore, the Objectives that have been identified in the Project Description for the CBP were developed in conjunction with the description of the project as IEUA submitted it for Proposition 1 – Water Storage Investment Program (WSIP) funding. ~~As such, it is imperative that the Objectives remain as follows (and as extracted from Chapter 3, the Project Description):~~ The Objectives, therefore, are as follows (as modified by this RDPEIR).

- *Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin.*
- *Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin.*
- *Develop Infrastructure That Addresses Long Term Supply Vulnerabilities.*
- *Provide a Source of Water for Emergency Response.*
- *Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~*

Response (Financing): IEUA appreciates Ontario's comment. Financing of the CBP has been addressed in CBP Workshops, and is specifically addressed in the WSIP Feasibility Study Report and the Carollo TM called "Chino Basin Program Rate Impact Analysis – October 2021", which have been made available to all IEUA member agencies for comment, including the City of Ontario. The financing of the CBP is not a CEQA issue, and is therefore not addressed in this RDPEIR.

Response (Imported Water): This question was previously asked, and the response that was provided stated that CBP performance does not reduce imported water availability to IEUA agencies. CBP Participating Agencies will take stored CBP water and use it locally in-lieu of purchasing water from Metropolitan.

Response (Recycled Water Source): The question was previously asked and the response that was provided stated that the AWPF recycled water for the CBP will be from Participating Agencies.

Response (RFP Compliance): The question was previously asked and the response that was provided stated that CBP-participating agencies will have first priority to CBP-water supplies.

Comment Letter #6 (CDFW): CDFW attached notable goals, objectives, and performance monitoring and asks that IEUA keep these in mind when preparing the EIR; these are:

- Approximately 70% of the supply is of local origin coming from local groundwater, local precipitation and surface flows, and recycled water.
- Maintain reliable and resilient water supplies and reduce dependency on imported water.
- Manage at the watershed scale for preservation and enhancement of the natural hydrology to benefit human and natural communities.
- Preserve and enhance the ecosystem services provided by open space and habitat within the watershed.

Response: The proposed project would aim to contribute to localizing the water supply, as it would reduce dependency on imported water through the provision of 15,000 AFY of advanced purified water that would be injected into the Chino Basin. IEUA would pump locally stored groundwater and deliver it to MWD or use the water locally instead of taking raw imported water from MWD (referred to as in lieu). MWD would then leave behind an equivalent amount of water in Lake Oroville to be dedicated and released for the requested ecosystem benefit. The benefits and objectives of the CBP are described in Chapter 3, the Project Description.

Furthermore, the CBP RDPEIR provides substantial data regarding the region's natural resources; future management of both biology and hydrological resources; and ecosystem values. As stated above, the vast majority of site-specific impacts are shown as occurring within urban areas, not within sensitive habitats. Loss of sensitive habitat without mitigation is not anticipated. The CBP is intended to be overlaid atop the ongoing Chino Basin water management programs, and when implemented will maintain resilience and the ability to continue to use recycled water for recharge into the Chino Groundwater Basin. These findings are substantiated in the DEIR, primarily the hydrology and water quality (Subchapter 4.11), and biology (Subchapter 4.5) sections.

Comment Letter #7 (OCWD): The OCWD comment letter states that OCWD believes that IEUA must divert 17,000 AFY of tertiary recycled water to the Santa Ana River (SAR) or its tributaries above the Prado Dam.

Response: OCWD is correct in this assumption, and this is outlined in Subsection 3.5.3 of the Project Description.

Comment Letter #7 (OCWD): The OCWD comment letter relays support for IEUA's effort to utilize wastewater to meet growing demands and reduce independence on imported water, while also complying with the Basin objective for TDS.

Response: IEUA appreciates OCWD's comments. How the CBP would utilize wastewater to meet growing demands and reduce independence on imported water, while also complying with the Basin objective for TDS is further discussed in the Project Description for the CBP (Chapter 3).

Comment Letter #7 (OCWD): OCWD states that the EIR should discuss and quantify the change in the amount of imported water to Southern California during an average year and over the 25-year lifespan of the CBP that would result from its implementation.

Response: As stated in the Project Description under Subsection 3.5.1, over the 25 year program a total of 375,000 AF would be recharged and a commensurate amount would be extracted. This is the total amount of imported water that would be off-set by the CBP over the 25 year life of the

project. IEUA has acknowledged in this RDPEIR that the proposed CBP would result in a reduction in surplus flows to the Santa Ana River (SAR). While IEUA would continue to meet its baseflow obligations to the SAR, and is projected to exceed its baseflow obligations to the SAR even with the proposed diversions of recycled water from IEUA, WRCRWA, and Rialto, the proposed CBP would probably result in a reduction in surplus flows to the SAR. IEUA is aware that OCWD currently recharges essentially all baseflow of the SAR water discharged from the Prado Dam, and understands that it may also rely on the surplus flows that IEUA has contributed to the SAR in recent years. Given the above, the proposed CBP could have a potential to reduce surplus flows to the SAR, which OCWD may rely on as a contribution to its overall groundwater supply to meet its service area demand. OCWD has indicated that it may need to increase the volume of imported water purchased in order to replace any reduction in SAR baseflow. While IEUA's modeling of the CBP suggests that the CBP would not result in a violation of the baseflow obligation to the SAR (refer to Subchapter 4.11, Hydrology and Water Quality, and the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of this RDPEIR), if OCWD has come to rely on surplus flows and would require imported water to supplement its supply as a result, the annual energy emissions that would be offset by precluding the need for imported SWP water by the CBP may be overestimated from a cumulative perspective.

Subchapter 4.2: Aesthetics
No comments specific to this topic were received.

Subchapter 4.3: Agriculture and Forestry Resources
No comments specific to this topic were received.

Subchapter 4.4: Air Quality
Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the environmental analysis utilize the following tools and resources to address the air quality environmental analysis: South Coast AQMD's CEQA Air Quality Handbook and website, CalEEMod land use emissions software, South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan, Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

Response: These tools were consulted or utilized in drafting the technical appendices (Appendices 5 and 9 to Volume 2 of the ~~is~~ 2022 CBP FPEIR ~~DPEIR~~ address Air Quality and Greenhouse Gas respectively) and in crafting the environmental analyses for the Air Quality and Greenhouse Gas (GHG) Subchapters (4.4 and 4.9).

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the IEUA quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds and LSTs to determine the project's air quality impacts.

Response: The emissions were calculated and compared against the significance thresholds referenced above. LSTs are discussed under Subsection 4.4.4.2, and under Subsection 4.4.5(c). Criteria pollutants and emissions thereof are discussed under Subsection 4.4.2.4, 4.4.4.1, and under Subsection 4.4.5(b) of the 2022 CBP FPEIR.

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the IEUA should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project, including both construction and operational impacts, including overlapping construction and operational activities.

Response: All phases of the project and all pollutant sources related to the project during construction, operation, and any overlapping construction and operational activities are addressed under Subsection 4.4.5 of the 2022 CBP FPEIR.

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the IEUA should, if the project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, perform a mobile source health risk assessment.

Response: No health risk assessment has been performed as this project would not generate or attract diesel fueled vehicular trips. Toxic Air Contaminant Emissions are discussed under Subsection 4.4.5(b) of the 2022 CBP FPEIR.

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that, in the event that the project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts.

Response: The proposed project would, without the implementation of mitigation, result in a significant construction emission impact. As such, mitigation is required and shall be implemented to ensure that project related nitrogen oxide (NO_x) impacts will be reduced below the SCAQMD's regional significance threshold. This is addressed under Subsection 4.4.5(b) of the 2022 CBP FPEIR.

Subchapter 4.5: Biological Resources

Comment Letter #6 (CDFW): The comment letter provided by CDFW recommended that the EIR specifically include:

- An assessment of the various habitat types, and a map that identifies the location of each habitat type.
- A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected.
- A complete, recent inventory of rare, threatened, endangered, and other sensitive species within, as well as any offsite areas with the potential to be affected.

Response: Note that the proposed project is programmatic in nature, and most of the locations in which CBP facilities will be installed have not yet been identified. IEUA reviewed the various regional data bases and concluded that the Santa Ana River Habitat Conservation Plan Draft EIR (SAR HCP DEIR) contained the most current and expansive discussion of the habitat types, assessment of biological resources, and discussion of rare, threatened, endangered and sensitive species regarding the Upper Santa Ana River Watershed. This document was incorporated by reference on the whole, and specific sections with pertinent data are referenced and provided in the text of Subchapter 4.5 of the 2022 CBP FPEIR and provided in detail in Appendix 6 of Volume 2 of the 2022 CBP FPEIR. In addition, the General Biology report prepared in 2020 in conjunction with the Chino Basin Watermaster Optimum Basin Management Program Update (OBMPU) Draft

EIR is also provided in Appendix 6 for additional regional information. Much of the data provided for the Santa Ana River Habitat Conservation Plan (SAR HCP) and HCP DEIR has been included in the Environmental Setting of Subchapter 4.5, under Subsection 4.5.2 of the 2022 CBP FPEIR. A complete, recent inventory of rare, threatened, endangered, and other sensitive species can be found in this subsection, and this as well as a general biological inventory that is specific to the development at RP-4 can be found in Appendix 6 of Volume 2 of the 2022 CBP FPEIR, in the site-specific Biological Resources Assessment prepared for the proposed AWPF at RP-4. As individual sites for proposed CBP Infrastructure facilities are identified in the future comparable studies will be completed and provided to CDFW for review.

Comment Letter #6 (CDFW): CDFW recommends that the EIR utilize a hybrid approach to cumulative impacts, with a list of past, present, and probable future projects/activities being considered in combination with baseline conditions, projections, and adopted planning documents.

Response: The cumulative impact projections were made using regional planning documents and site-specific technical studies, and more specifically modeling that takes into account the existing and projected conditions within the Basin, with the proposed CBP being analyzed against these existing and projected conditions. Additionally, the cumulative impact evaluation in this RDPEIR relies upon the cumulative evaluation of impacts forecast in the SAR HCP DEIR, and the Avoidance and Mitigation Measures (AMMS) identified to offset impacts that are forecast in the Upper SAR watershed. Cumulative impacts are discussed in each issue subchapter of Chapter 4 in this document, and are either located at the end of each subchapter, or at the end of each individual issue under each subchapter. Cumulatively considerable impacts from implementation of the CBP were identified for the topics of Biological Resources, Greenhouse Gas, and Utilities and Service Systems. As future sites are located and evaluated, potential impacts at these sites that may contribute to cumulative effects within the Upper SAR watershed will be evaluated on a case-by-case basis.

Specifically, as this recommendation applies to biological resources, the proposed CBP project operations may result in a reduction in surface flows in the Santa Ana River and into Prado Basin. In addition, Low Impact Development ordinances, local policies, and municipal storm water detention regulations will encourage water conservation and flow detention, resulting in a cumulative reduction in surface flows reaching Prado Basin. These cumulative flow reductions may result in reduced acreage of healthy riparian forest that supports sensitive species such as least Bell's vireo as well as aquatic species such as the Santa Ana Sucker and Southern California arroyo chub. To mitigate the effects of the cumulative diversions on habitat values and conservation objectives, the SAR HCP determined that potential impacts of water management agencies in the Upper Santa Ana River Watershed that cumulative impacts to covered species and supporting habitat can be mitigated by implementing the HCP, though cumulative impacts to the Santa Ana Sucker are anticipated to be cumulatively considerable. The SAR HCP DEIR concluded that such impacts should be treated as cumulatively considerable and unavoidably significant given the possibility that the effectiveness of some of the HCP mitigation measures cannot be guaranteed to be successful. As a contributor to this cumulative effect and a Permittee Agency, IEUA concurs with this finding and has identified it as a cumulatively considerable contribution to cumulative biological resource impacts in the area. This discussion can be found in Subchapter 4.5, specifically under Subsection 4.5.8 of the 2022 CBP FPEIR.

Comment Letter #6 (CDFW): The CDFW comment letter states that the 2017 Annual Report determined that: 1) discharge in the Santa Ana River and its tributaries has declined since 2005;

2) decreases in the normalized difference vegetation index (NDVI) observed from 2015-2017 at several areas occurred during the growing-season for both Chino Creek and Mill Creek; and 3) northern reaches above the Mill Creek and the Santa Ana River confluence are "losing reaches" characterized by streambed recharge, while most other areas along Chino Creek and Mill Creek are "gaining reaches" characterized by groundwater discharge. CDFW again urges that this, along with other available data, be used to analyze the potential cumulative impacts of the Program.

Response: Please refer to the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of the 2022 CBP FPEIR, as it addresses the impacts to the SAR baseflow by IEUA. Additionally, these issues are addressed in this RDPEIR and in the HCP DEIR. Pertinent sections of the HCP DEIR are provided in Appendix 6 of the CBP F~~D~~PEIR.

The CBP is not anticipated to result in the inability of IEUA or WMWD to meet the baseflow obligation, and is therefore not anticipated to result in a significant impact to the health of the habitat supported at Prado Basin as the minimum annual flow of 34,000 AFY will continue to be available even with implementation of the CBP. As such, the habitat within Prado Basin is supported by surface water inflows, rising groundwater, and detention by the Prado Dam. Future flows have been cumulatively modified for Upper Santa Ana River and Prado Basin in the SAR HCP described above. IEUA is a Permittee Agency and is expected to be a participant in the future SAR HCP. IEUA's operational water diversions have a potential to contribute to a cumulative adverse impact on biological resources both in the Upper Santa Ana River channel and Prado Basin. Based on implementing avoidance and mitigation measures in accordance with the mitigation outlined in the SAR HCP DEIR (presented in Appendix 6 of Volume 2 of the 2022 CBP FPEIR), the impacts to 21 of the identified covered species can be reduced to a less than cumulatively considerable adverse impact or even beneficial impacts. However, according to the SAR HCP DEIR the cumulative operational diversions from the SAR may contribute to a significant adverse impact on the Santa Ana Sucker. As described above, this impact is not unequivocal; it is based on insufficient data to ensure that all of the proposed avoidance and mitigation measures are effective, particularly translocation, which "may not achieve their intended result." IEUA concurs with the preceding cumulative impact findings of the SAR HCP DEIR. This discussion can be found under Subsection 4.5.6 (1a) and 2(a), as well as under 4.5.7 of the 2022 CBP FPEIR, which, in addition to the data provided in Appendix 6 of the 2022 CBP FPEIR containing the SAR HCP DEIR's environmental analysis, addresses mitigation that would reduce impacts from the CBP on biological resources to the greatest extent feasible.

Comment Letter #6 (CDFW): CDFW indicates that the EIR should identify mitigation measures and alternatives to avoid or minimize potential impacts to the extent feasible:

- The EIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to any project or activity within the Program, or that may be impacted due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors.
- The EIR should include measures to fully avoid and otherwise protect sensitive plant communities from direct and indirect impacts.
- California Species of Special Concern (CSSC) should be considered during the environmental review process.
- CDFW considers adverse impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the EIR should include mitigation measures for these adverse impacts.

- The EIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset project-induced qualitative and quantitative losses of biological values.
- If sensitive species and/or their habitat may be impacted, CDFW recommends the inclusion of specific mitigation in the EIR.
- CDFW recommends that the EIR specify mitigation that is roughly proportional to the level of impacts.
- Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. CDFW outlines what the plans should entail.
- CDFW recommends that the EIR include the results of avian surveys, as well as specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. The EIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the project site.
- To avoid direct mortality, CDFW recommends that the lead agency condition the EIR to require that a CDFW-approved qualified biologist be retained to be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way special status species or other wildlife of low or limited mobility that would otherwise be injured or killed from project-related activities.
- CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species
- CDFW therefore recommends that the EIR addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of CESA.

Response: Detailed mitigation measures are provided in Subchapter 4.5 of the 2022 CBP FPEIR, and IEUA believes they conform with the content identified above. Please note that each future site will be evaluated by a professionally qualified biologist and the first decision by IEUA will be whether to relocate a particular facility (avoidance) to another site based on sensitivity of biological resources identified at the location.

Comment Letter #6 (CDFW): The comment letter supplied by CDFW indicates that CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (Public Resources Code § 21065). To facilitate issuance of an LSA Agreement, if necessary, the RDPEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments.

*Response: Mitigation measure MM **BIO-3** requires the IEUA to obtain the appropriate regulatory permits, including an LSA Agreement, and also addresses the types of mitigation that would be provided to fully address potential impacts thereof. Furthermore, IEUA will focus on avoidance of disturbing stream channel or other wetland or riparian resources. Additionally, MM **BIO-4** requires jurisdictional water preconstruction surveys at all future selected CBP sites, and the results would be used to calculate impact acreages and determine the amount of compensatory mitigation required to offset the loss of wetland functions and values. These measures can be found under Subsection 4.5.7 of the 2022 CBP FPEIR. At this time, the locations for most CBP facilities are unknown, and as such it would be speculative to identify site specific impacts to lake, stream, or riparian resources. Hence, MMs **BIO-3** and **BIO-4**, are required to ensure that any such impacts will be fully mitigated.*

Comment Letter #6 (CDFW): The CDFW comment letter recommends that, to ameliorate the water demands of this project, the lead agency should incorporate water-wise concepts in project landscape design plans.

*Response: This practice has been in place at IEUA facilities for many years and will continue to be incorporated in future CBP facility design. Furthermore, mitigation (MM **BIO-26**) is provided to accomplish this objective such that any landscaping required to support CBP facility sites will use water-wise or xeric landscaping.*

Comment Letter #6 (CDFW): The comment letter supplied by CDFW requests that any special status species and natural communities detected during Project surveys are submitted to the CNDDB.

Response: No special status species or natural communities were detected during project survey for RP-4; however, future site-specific biological resources assessments will be required to report their findings to the CNDDB.

Comment Letter #6 (CDFW): The CDFW comment letter notes the required filing fees.

Response: IEUA is aware of the filing fees and appreciates CDFW's reminder.

Comment Letter #7 (OCWD): The comment letter provided by OCWD recommends that, should the CBP result in the removal of specifically the 17,000 AFY baseflow obligation from the Santa Ana River Watershed, biological impacts could occur, and should therefore be sufficiently analyzed to determine whether there would be negative impacts to the Prado Basin riparian habitat. Mitigation should be addressed to ensure specific actions are taken to minimize negative consequences of the CBP.

Response: As stated under the above response to CDFW's comment letter, the Addendum to the Technical Memorandum prepared by West Yost, provided as Appendix 4 to Volume 2 of the 2022 CBP FPEIR, addresses the CBP's impacts to the SAR baseflow. This Addendum indicates that the CBP is not anticipated to result in the inability of IEUA or WMWD to meet the baseflow obligation. As such, it is not anticipated to result in a significant impact to the health of the habitat supported at Prado Basin as the minimum annual flow of 34,000 AFY will continue to be available even with implementation of the CBP.

As OCWD is aware, habitat within Prado Basin is supported by surface water inflows, rising groundwater, and detention by the Prado Dam. Future flows have been cumulatively modified for Upper Santa Ana River and Prado Basin in the SAR HCP. IEUA is a Permittee Agency and is expected to be a participant in the future SAR HCP. IEUA's operational water diversions have a potential to contribute to a cumulative adverse impact on biological resources in both the Upper Santa Ana River channel and Prado Basin. Based on implementing avoidance and mitigation measures in accordance with the mitigation outlined in the SAR HCP DEIR (presented in Appendix 6 of Volume 2 of the 2022 CBP FPEIR), the impacts to 21 of the identified covered species can be reduced to a less than cumulatively considerable adverse impact or even beneficial impacts. However, according to the SAR HCP DEIR the cumulative operational diversions from the SAR may contribute to a significant adverse impact on the Santa Ana Sucker. As described above, this impact is not unequivocal; it is based on insufficient data to ensure that all of the proposed avoidance and mitigation measures are effective, particularly translocation, which "may not achieve their intended result." IEUA concurs with the preceding cumulative impact

findings of the SAR HCP DEIR. This discussion can be found under Subsection 4.5.6 (1a) and 2(a), as well as under 4.5.7, of the 2022 CBP FPEIR which, in addition to the data provided in Appendix 6 containing the SAR HCP DEIR's environmental analysis, addresses mitigation that would reduce impacts from the CBP on biological resources to the greatest extent feasible.

Comment Letter #7 (OCWD): OCWD states that the EIR should analyze and quantify the biological benefit to Salmonids by accounting for the change in imported water needs of Southern California as a whole as a result of the CBP.

Response: Please refer to the discussion of cumulative impacts under Subsection 4.5.8 in the Biological Resources Subchapter (4.5) of the 2022 CBP FPEIR. There would be a benefit to the Salmonids through improvement of habitat conditions likely during dry years. The pulse flows that would occur during "call years" would improve the survival of out-migrating salmon.

Subchapter 4.6: Cultural Resources

Comment Letter #2 (NAHC): The comment letter supplied by the NAHC recommends that the Cultural Resources Assessment be prepared in accordance with its standards.

Response: The Cultural Resources Assessment specific to the development at RP-4 has been prepared in accordance with the NAHC's recommended standards. This report is provided as Appendix 7 to Volume 2 of the ~~is~~ 2022 CBP F~~D~~PEIR.

Comment Letter #2 (NAHC): The comment letter supplied by the NAHC recommends that they be contacted for a sacred lands file search and to procure a Native American Tribal Consultation List.

Response: This comment is noted, and IEUA will follow through with this requirement upon future site specific cultural resource investigations.

Comment Letter #2 (NAHC): The comment letter supplied by the NAHC indicates that lack of surface evidence does not preclude the existence of subsurface evidence and as such, IEUA should include mitigation that addresses the potential for inadvertent discovery, provisions for the deposition of cultural items, and include provisions for the treatment and disposition of native American human remains.

Response: Given that many of the locations for specific CBP facilities have not yet been identified, the Cultural Resources environmental analysis assumes that subsurface, as well as unknown aboveground historical, archaeological, paleontological, and tribal cultural resources may exist within future CBP project sites. Detailed mitigation has been provided to address the potential for such resources to exist, and to address the treatment and disposition of such resources should they be discovered. These mitigation measures can be found under Subsection 4.6.6.

Subchapter 4.7: Energy

No comments specific to this topic were received.

Subchapter 4.8: Geology and Soils

No comments specific to this topic were received.

Subchapter 4.9: Greenhouse Gases (GHG)

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the

environmental analysis utilize the following tools and resources to address the GHG environmental analysis: South Coast AQMD's CEQA Air Quality Handbook and website, CalEEMod land use emissions software, South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan, Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

Response: These tools were consulted and/or utilized in drafting the ~~DPEIR's~~ technical appendices (Appendices 5 and 9 to Volume 2 of the ~~is~~ 2022 CBP F~~D~~PEIR address Air Quality and Greenhouse Gas respectively) and in crafting the environmental analyses for the Air Quality and Greenhouse Gas (GHG) Subchapters (4.4 and 4.9).

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that the IEUA should identify any potential adverse air quality and greenhouse gas impacts that could occur from all phases of the project, including both construction and operational impacts, including overlapping construction and operational activities.

Response: All phases of the project, including construction, operation, and any overlapping construction and operational activities, are evaluated in terms of GHG emission potential under Subchapter 4.9, GHG; specifically, under Subsections 4.9.4 and 4.9.5.

Comment Letter #4 (SCAQMD): The comment letter supplied by SCAQMD recommends that, in the event that the project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts.

Response: The proposed project could, with or without the implementation of mitigation, result in significant construction and operations related GHG emissions. This is because, since IEUA does not know to what extent these measures will be sufficient to reduce either operational or construction related emissions below the SCAQMD threshold, it is not possible to ensure that this significant construction and operations-related impacts would be avoided. No feasible mitigation exists that would ensure the CBP's construction and operations are reduced below the identified SCAQMD thresholds. This is addressed under Subsection 4.9.5(a).

Comment Letter #7 (OCWD): OCWD states that the EIR should analyze and quantify the greenhouse gas emissions by accounting for the CBP's impact on Southern California's total imported water needs.

Response: The response to this comment can be found at Subsection 4.9.5(a), under the cumulative impact analysis. An excerpt has been provided as follows: While IEUA would continue to meet its baseflow obligations to the SAR, and is projected to exceed its baseflow obligations to the SAR even with the proposed diversions of recycled water from IEUA, WRCRWA, and Rialto, the proposed CBP would probably result in a reduction in surplus flows to the SAR. As such, though IEUA's modeling of the CBP suggests that the CBP would not result in a violation of the baseflow obligation to the SAR (refer to Subchapter 4.11, Hydrology and Water Quality, and the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of the ~~is~~ 2022 CBP F~~D~~PEIR), if OCWD has come to rely on surplus flows and would require imported water to supplement its supply as a result, the annual energy emissions that would be offset by precluding the need for imported SWP water by the CBP may be overestimated from a cumulative perspective.

From a cumulative perspective, if the CBP would result in OCWD requiring an increase in imported water due to reduced surplus flows to the SAR, the cumulative energy demand would be increased commensurate with the amount of imported water OCWD would require from the SWP, thereby requiring energy to deliver an unknown amount of imported water to OCWD to supplement its supply. Nevertheless, as determined above, the CBP could contribute cumulatively considerable GHG emissions as a result of the CBP's electricity consumption itself, which may not be carbon-neutral by 2045, thereby potentially hindering the State's 2030 and long-term GHG emission reduction goals. It would be somewhat speculative to determine to what extent the increased use of imported water by OCWD would increase the CBP's cumulative contribution to GHG emissions; regardless, the CBP could contribute to a cumulatively considerable GHG impact that cannot be mitigated.

Subchapter 4.10: Hazards and Hazardous Materials

No comments specific to this topic were received.

Subchapter 4.11: Hydrology and Water Quality

Comment Letter #3 (San Bernardino County Department of Public Works): The comment letter from the San Bernardino County Department of Public Works relates to flood hazards that might result from the proposed CBP.

Response: The flood hazards are addressed at Subsection 4.11.5, under issues c(iv) and d. Mitigation is provided to ensure that impacts related to future CBP facilities located in flood hazard zones are fully addressed and reduced below significance thresholds.

Comment Letter #3 (San Bernardino County Department of Public Works): The comment letter from the San Bernardino County Department of Public Works relates to coordination with the USACOE within the Prado Dam Inundation Area.

Response: The risk associated with flood hazards is addressed at Subsection 4.11.5, under issues c(iv) and d. Mitigation that covers development in all 100-year floodplains within the CBP project area is provided to ensure that impacts related to future CBP facilities located in flood hazard zones are fully addressed and reduced below significance thresholds. No CBP projects are anticipated to be located within the Prado Dam Inundation Area specifically, and where any CBP facility, excepting those that are located at existing permitted facilities and pipelines and turnouts located belowground, must be located within either the Prado Dam Inundation Area specifically, or within a 100-year flood hazard, subsequent CEQA documentation would be required. In such subsequent CEQA documentation, USAOCE coordination, where applicable, would be addressed.

Comment Letter #6 (CDFW): The comment letter from CDFW recommends that future climate or demographic changes that will affect the sustainable management of a groundwater basin, as well as environmental uses and the hydrologic links between surface and groundwater be incorporated.

Response: Through the use of the SAR HCP DEIR, the RDPEIR's Subchapter 4.11 addresses the data regarding hydrologic links between surface and groundwater. The groundwater model utilized to analyze the impacts from the CBP on the Basin takes climate change into account and also takes into account the baseline conditions, which indirectly account for demographic changes in the area. Surface flows are discussed throughout this RDPEIR, including in Subchapters 4.7 and 4.9 (Energy and Greenhouse Gas) as they relate to Santa Ana River (SAR) diversions and

baseflows, as well as Subchapter 4.5, Biological Resources of the 2022 CBP FPEIR, and finally under Subchapter 4.11, as the impacts to the SAR have been fully addressed therein and within the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of the 2022 CBP FPEIR.

As discussed in the 2022 CBP F~~D~~PEIR, the demographic changes are less important for this project because the vast majority of the proposed facilities will be located within existing urbanized areas, essentially between Interstate 10 and Interstate 210 (north/south) and the San Bernardino/Los Angeles County boundary and Sierra Avenue (east/west). If forecasts of future climate change are accepted, there will be greater amounts of precipitation in the project area in some years, but also a potential for more years of drought. As a member of the SAR HCP (permittee with covered activities) and a participant in the Chino Basin Watermaster's programs, IEUA is already committed to adaptive management to address both water management and the habitat supported by surface and groundwater within the Chino Basin and the Upper Santa Ana River watershed, including climate change.

Comment Letter #6 (CDFW): CDFW recommends that IEUA utilize the Basin Technical Advisory Committee (BTAC) findings and continue to collaborate to ensure groundwater and surface water impacts are adequately evaluated and considered.

Response: Through the use of the SAR HCP DEIR, the RDPEIR's Subchapter 4.11 addresses the data regarding hydrologic links between surface and groundwater. These are found in this RDPEIR and in the SAR HCP DEIR and the Technical Memoranda provided by West Yost. Pertinent sections of the SAR HCP DEIR are provided in Appendix 6 of the CBP F~~D~~PEIR and in Appendix 4 of the 2022 CBP F~~D~~PEIR, respectively.

Subchapter 4.12: Land Use and Planning

Comment Letter #3 (San Bernardino County Department of Public Works): The comment letter from the San Bernardino County Department of Public Works indicates that any encroachments on the SBCFCD's right-of-way or facilities, including but not limited to access, fencing and grading, utility crossings, landscaping, new and/or alteration to drainage connections will require a permit from the SBCFCD prior to start of construction. The necessity for permits, and any impacts associated with them, should be addressed in the Project environmental documents prior to adoption and certification.

Response: The proposed CBP would be constructed within locations that have not yet been selected. As a result, it is not possible to indicate whether any SBCFCD encroachment permits would be required in order to implement the proposed project. However, should the proposed project require encroachment within SBCFCD rights-of-way or facilities, IEUA shall coordinate with SBCFCD and obtain the appropriate permits and notify the SBCFCD upon selection of a location within SBCFCD rights-of-way or facilities.

Subchapter 4.13: Mineral Resources

No comments specific to this topic were received.

Subchapter 4.14: Noise

No comments specific to this topic were received.

Subchapter 4.15: Population and Housing

No comments specific to this topic were received.

Subchapter 4.16: Public Services
No comments specific to this topic were received.

Subchapter 4.17: Recreation
No comments specific to this topic were received.

Subchapter 4.18: Transportation and Traffic
No comments specific to this topic were received.

Subchapter 4.19: Tribal Cultural Resources
The comments received by the NAHC (comment letter #2), apply to Tribal Cultural Resources, in addition to Cultural Resources. Refer to the discussion above regarding ~~the DPEIR's~~ Subchapter 4.6: Cultural Resources, for responses to NAHC's comments.

Subchapter 4.20: Utilities and Service Systems
No comments specific to this topic were received.

Subchapter 4.21: Wildfire
No comments specific to this topic were received.

Chapter 5: Alternatives
Comment Letter #5 (Ontario): The comment letter supplied by the City of Ontario requests that a Local Control and Supply Alternative that evaluates only PUT components, with no TAKE components, be included as an alternative to the CBP.

Response: Mr. Burton's claim that "CEQA requires the alternatives to be evaluated at the same level of detail as the proposed project to comply with CEQA informational standards…" is incorrect. (See CEQA Guidelines section 15126.6(d) & (f).)

The ~~Baseline Compliance Alternative~~ Baseline Water Quality Action Alternative, which has been extracted from the WSIP Feasibility Study Report, is comparable to the requested Local Control and Supply Alternative. This alternative includes no TAKE facilities, would make beneficial use of some recycled water that is currently discharged to the Santa Ana River, as the CBP would, while continuing to meet the Santa Ana River baseflow obligations, reduce reliance on imported water through the provision of a new AWPF with PUT facilities and no TAKE facilities, as this comment requests. The discussion of alternatives to the CBP is addressed in Chapter 5 of this RDPEIR.

Comment Letter #6 (CDFW): The comment letter from CDFW recommends that the EIR address a reasonable range of alternatives, including the no project alternative, which should address climate change and drought that may affect the community.

Response: The RDPEIR evaluates a reasonable range of alternatives, including the mandatory No Project Alternative plus two other alternatives, one that evaluates a Baseline Compliance Alternative (only developing PUT facilities, including a new AWPF comparable to the one proposed by the CBP), and another that evaluates a Regional Water Quality and Reliability Plan Alternative that includes a 15,000 AF Capacity AWPF, injection wells, purified water conveyance facilities, and brine conveyance, as well as extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system; no connections to MWD's water distribution system would be required. Furthermore, the analysis of the No Project Alternative identifies the potential for significant impacts to occur, including those

related to climate change and drought. This analysis can be found under Subchapter 5.3, while the ~~Baseline Compliance Alternative~~ Baseline Water Quality Action Alternative and Regional Water Quality and Reliability Plan Alternative can be found under Subchapters 5.4 and 5.5, respectively.

A copy of the Notice of Preparation and NOP Distribution list are provided in Subchapter 8.1 of this RDPEIR. A copy of the referenced comment letters/comments is also provided in Subchapter 8.2 of this RDPEIR.

The RDPEIR was prepared in order to address all of the issues identified in the NOP as potentially significant and to provide information intended for use by IEUA, interested and responsible agencies and parties, and the general public in evaluating the potential environmental effects of implementing the proposed project.

CEQA requires that IEUA consider the environmental information in the project record, including this RDPEIR, prior to making a decision on the proposed project. IEUA must consider and decide whether to recommend approval of the CBP as proposed and described in Chapter 3, Project Description of this RDPEIR. IEUA also has the authority to recommend modifications to the project based on input provided during the public review process for the RDPEIR.

As stated above, IEUA is the Lead Agency for the CBP pursuant to the CEQA Guidelines Section 15051(b)(1). The RDPEIR was prepared by Tom Dodson & Associates (TDA), in conjunction with Rincon Consultants, Inc. (Rincon), under contract to IEUA. TDA and Rincon were retained to assist IEUA to perform the independent review of the project required by CEQA before the RDPEIR is released. IEUA has reviewed the contents of this RDPEIR and concurs in the conclusions and findings contained herein.

2.3 SCOPE AND CONTENT OF THIS EIR

As stated previously, this RDPEIR evaluates the environmental effects of the proposed CBP based on Appendix G of the CEQA Guidelines as follows: aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire.

Based on data and analysis provided in this RDPEIR, it is concluded the proposed CBP could result in significant adverse environmental impacts to the following environmental issues: ***Biological Resources, Greenhouse Gas, and Utilities and Service Systems***. All other potential impacts were determined to be less than significant without mitigation or can be reduced to a less than significant level with implementation of the mitigation measures identified in this RDPEIR.

Furthermore, this RDPEIR addresses the deficiencies identified by the Court's September 4, 2025 Ruling on Petition for Writ of Mandate. Because the focus of this recirculation is on addressing the deficiencies identified by the Court as described above, this RDPEIR is presented with special attention to minor additions to the 2022 CBP FPEIR presented in red text. New text is shown in red, omissions are shown in red strikeout. These additions and omissions are the focus of the RDPEIR, and as a result, only new comments submitted on the revised text presented in this RDPEIR will be considered by IEUA. Thus, in response to the Court's Peremptory Writ of

Mandate, IEUA has chosen to take specific action necessary to bring its consideration of the CBP into compliance with CEQA. IEUA has determined that revising the relevant sections of the 2022 CBP FPEIR to address the inadequacies identified by the Court is the appropriate process for complying with the Court's ruling and Peremptory Writ of Mandate. This RDPEIR has been prepared pursuant to Section 15234(d) of the CEQA Guidelines, which only requires additional environmental review of portions of the 2022 CBP FPEIR found by the Court not to comply with CEQA, consistent with principles of res judicata.

The Court identified the following violations in its September 4, 2025 Ruling on Petition for Writ of Mandate:

(1) Respondents "piecemealed" the evaluation of the effects of the CBP by failing to evaluate the effects of the CBP and the Feather River Exchange outside of the Chino Basin;
(2) Respondents used an unstable and inconsistent project description that evaluates the effects of a project life of25 years, but then justifies the CBP based on purported water supply benefits over 50 years; and,
(3) Respondents adopted a biased and determinative project objective to justify a refusal to evaluate reasonable alternatives to the CBP.

This RDPEIR addresses the above issues in the following manner:

(1) Respondents "piecemealed" the evaluation of the effects of the CBP by failing to evaluate the effects of the CBP and the Feather River Exchange outside of the Chino Basin;

a. As discussed under Subchapter 1.2, Project Background, the data contained in this CBP RDPEIR is augmented by the analysis contained in the 2024 DWR Pulse Flow FSEIR prepared for DWR, which is presented as Subchapter 8.3 to this RDPEIR. The 2024 DWR Pulse Flow FSEIR evaluates the effects of the so-called "Feather River Exchange" (henceforth referred to as the Pulse Flow Components) outside of the Chino Basin. DWR, as a responsible agency for the Pulse Flow Component of the WSIP Groundwater Projects, prepared the FSEIR to supplement the three WSIP Groundwater Projects' EIRs and to provide CEQA coverage for DWR's actions. The 2024 DWR Pulse Flow FSEIR determined that the lead agencies may consider certification of the SEIR to supplement the WSIP Groundwater Projects' EIRs (i.e. this RDPEIR) to provide CEQA coverage for relevant discretionary actions on their part.

   As previously described in Subchapter 1.6, Impacts, the 2024 DWR Pulse Flow FSEIR concluded that all impact categories analyzed in the SEIR (Hydrology and Water Quality, Biological Resources (Aquatic and Terrestrial), Cultural Resources, Tribal Cultural Resources, Energy and Greenhouse Gas Emissions, Recreation, Geology and Soils, and Agriculture and Forestry Resources) were found to be less than significant; no significant and unavoidable impacts were identified therein. IEUA puts forth that it is more effective to look at the impacts related to the Pulse Flow Component as intended in the Supplemental EIR, which is presented in Subchapter 8.3 of the RDPEIR. Thus, the impacts found therein can be reviewed for context as part of this environmental analysis, but are not reiterated as part of the Impact Analysis summarized below or found in Chapter 4 of this RDPEIR.

   This RDPEIR contains minor edits and modifications to the text throughout as it

pertains to the Pulse Flow Component. This is because when the 2022 CBP FPEIR was published, the 2024 DWR Pulse Flow FSEIR had not yet been prepared and published, and thus, IEUA put forth that it would be speculative for IEUA, which has no formal control over how implementation of the Pulse Flow Component would be managed, to analyze the Pulse Flow Component of the WSIP Groundwater Projects (which includes the proposed CBP). Thus, with the discussion contained herein, and the minor modifications throughout, IEUA therefore believes that, in providing this Supplemental EIR analysis as a Subchapter to this RDPEIR, thereby presenting the CBP and Pulse Flow Component analyses concurrently, it has corrected this deficiency identified by the Court and has brought the CEQA evaluation contained herein into compliance.

(2) Respondents used an unstable and inconsistent project description that evaluates the effects of a project life of 25 years, but then justifies the CBP based on purported water supply benefits over 50 years; and,

As discussed under Subchapter 1.2, Project Background, during the first 25 years of the project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled) locally produced CBP water supplies will directly replace a portion of imported supplies when an SWP water transfer is implemented by MWD and DWR and a pulse flow occurs in northern California. After fulfillment of the Proposition 1 WSIP exchange commitment, the facilities developed under the CBP by IEUA would continue to be operational as part of the overall project life cycle, and during this period the new water supply will be available for local use annually contributing to IEUA's available supply. This analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, it is unknown whether the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operational beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time and further would be evaluated as part of future master planning efforts.

As such, the description of the CBP (project) has been modified throughout the RDPEIR to reflect this clarification, thereby ensuring that the project description is consistent throughout. Thus, with the discussion contained herein, and the minor

modifications throughout, IEUA therefore believes that it has corrected this deficiency identified by the Court and has brought the CEQA evaluation contained herein into compliance.

(3) Respondents adopted a biased and determinative project objective to justify a refusal to evaluate reasonable alternatives to the CBP.

a. The specific objective that was the focus of this violation was the final objective that stated "Develop an Integrated Solution to Produce State and Federal Environmental Benefits." IEUA's approach to rectifying this violation and bringing this RDPEIR into compliance with CEQA is to revise and broaden this final objective, and further, to revise the Alternatives Analysis presented in Chapter 5 of this RDPEIR to demonstrate that a reasonable range of alternatives to the CBP have been evaluated. As demonstrated under Subchapters 1.4 and 2.1, the CBP objectives, the final Project Objective has been modified to state the following:

i. **Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~:** The project develops a highly reliable new water supply ~~formally~~ dedicated to supporting regional water reliability while balancing environmental sustainability ~~benefit that can be deployed dynamically and managed flexibly to address varying and changing ecological needs~~.

In addition to the modifications to the Project Objectives, revisions to which can be found throughout this RDPEIR wherever referenced, the Alternatives Analysis and summaries thereof (found in Subchapter 1.7, Alternatives, and Chapter 5, Alternatives) have been modified, as described above, to demonstrate that a reasonable range of alternatives to the CBP have been evaluated. Further, the Alternatives are compared against the revised Project Objectives. These modifications are intended to demonstrate that the Project Objectives are broad enough to fit other projects beyond the CBP, and further, demonstrate that a reasonable range of alternatives have been evaluated herein. Thus, with the discussion contained herein, and the modifications to the Alternatives Analysis, IEUA therefore believes that it has corrected this deficiency identified by the Court and has brought the CEQA evaluation contained herein into compliance.

In addition to evaluating the environmental issues listed above, this RDPEIR contains all of the sections mandated by CEQA and the CEQA Guidelines. **Table 2.3-1** provides a listing of the contents required in an EIR along with a reference to the chapter and page number where these issues can be reviewed in this document. This RDPEIR consists of two volumes. Volume 1 contains the CEQA mandated sections and some pertinent appendices. Volume 2 contains the technical appendices.

Table 2.3-1
REQUIRED EIR CONTENTS

Required Section (per CEQA Guidelines)	Section in EIR	Page Number
Table of Contents (Section 15122)	Same	ii
Summary (Section 15123)	Chapter 1	1-1
Project Description (Section 15124)	Chapter 3	3-1
Environmental Setting (Section 15125)	Chapter 4	Beginning 4-1

Required Section (per CEQA Guidelines)	Section in EIR	Page Number
Significant Environmental Effects of Proposed Project, i.e., Environmental Impacts (Section 15126(a))	Chapter 4	Beginning 4-1
Unavoidable Significant Environmental Effects (Section 15126(b))	Chapter 4	Beginning 4-1
Mitigation Measures (Section 15126(e))	Chapter 4	Beginning 4-1
Cumulative Impacts (Section 15130)	Chapter 4	Beginning 4-1 ~~and 6-2~~
Alternatives to the Proposed Action (Section 15126(f))	Chapter 5	Beginning 5-1
~~Growth-Inducing Impacts (Section 15126(d))~~	~~Chapter 6~~	~~6-1~~
~~Irreversible Environmental Changes (Section 15126(c))~~	~~Chapter 6~~	~~6-1~~
~~Effects Found Not to be Significant (Section 15128)~~	~~Chapter 1~~	~~6-1~~
Organizations and Persons Consulted (Section 15129)	Chapter 7	7-1
Appendices	Chapter 8	8-1

[1]Strikeout shows chapters that are found in the 2022 CBP FPEIR, rather than this RDPEIR.

2.4 RDPEIR FORMAT AND ORGANIZATION

The CBP RDPEIR contains seven ~~eight~~ chapters in Volume 1, with the 2022 CBP FPEIR inclusive ~~and a set~~ of its technical appendices ~~in~~ serving as Volume 2, which, when considered as a whole, provide the reviewer with an evaluation of the potential significant adverse environmental impacts from implementing the proposed CBP. As discussed in Chapter 1, Executive Summary, as affirmed in Section 15088.5(c) of the CEQA Guidelines, if the revisions to an EIR are limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. Therefore, what follows is a Recirculated DPEIR that includes the following Chapters and Subchapters:

Chapter 1 — Executive Summary
Chapter 2 — Introduction
Chapter 3 — Project Description
Subchapter 4.1 — Environmental Analysis Introduction
Subchapter 4.7 — Energy
Subchapter 4.9 — GHG
Subchapter 4.11 — Hydrology
Subchapter 4.20 — Utilities and Service Systems
Chapter 5 — Alternatives
Chapter 7 — Preparers and References
Subchapter 8.3 — 2024 DWR Pulse Flow FSEIR

The analysis and conclusions that were presented in the the CBP FPEIR as certified in May 2022 (2022 CBP FPEIR) for all other impact areas—Chapter 6 Topical Issues, Subchapter 4.2 Aesthetics, Subchapter 4.3 Agriculture and Forestry Resources, Subchapter 4.4 Air Quality, Subchapter 4.5 Biological Resources, Subchapter 4.6 Cultural Resources, Subchapter 4.8 Geology and Soils, Subchapter 4.10 Hazards and Hazardous Materials, Subchapter 4.12 Land Use and Planning, Subchapter 4.13 Mineral Resources, Subchapter 4.14 Noise, Subchapter 4.15 Population and Housing, Subchapter 4.16 Public Services, Subchapter 4.17 Recreation, Subchapter 4.18 Transportation, Subchapter 4.19 Tribal Cultural Resources, Subchapter 4.21 Wildfire, Subchapter 8.1 Notice of Preparation / Distribution List, Subchapter 8.2 NOP comment Letters, and Volume II, Technical Appendices—have not changed. Thus, those sections addressing all other impact areas will not be recirculated as part of this RDPEIR, though as previously stated, the 2022 CBP FPEIR is provided as Appendix 1 to this RDPEIR. Further, the

2022 CBP FPEIR in its entirety is available online at https://www.ieua.org/chino-basin-program-ceqa-documents/.

The following paragraphs provide a summary of the content of each chapter of the RDPEIR.

Chapter 1 contains the Executive Summary for the RDPEIR. This includes an overview of the proposed project and a tabular summary of the potential adverse impacts and mitigation measures.

Chapter 2 provides the reviewer with an Introduction to the document. This chapter of the document describes the background of the proposed project, its purpose, and its organization. The CEQA process to date is summarized and the scope of the RDPEIR is identified.

Chapter 3 contains the Project Description used to forecast environmental impacts. This chapter describes for the reviewer how the existing environment will be altered by the proposed project. Chapter 3 sets the stage for the environmental impact forecasts set out in the following chapter.

Chapter 4 presents environmental impact forecasts for each environmental issue identified at the beginning of ~~in~~ Section 2.4 ~~3~~ of this RDPEIR. Chapter 4 sets out for the reviewer an impact evaluation for each issue in the following manner: an introduction; the environmental setting; thresholds of significance; the potential impacts that may occur if the CBP is implemented; proposed mitigation measures; cumulative impacts; and significant and unavoidable impacts.

Chapter 5 contains the evaluation of range of alternatives to the proposed CBP. Included in this section is an analysis of the mandatory No Project Alternative plus two additional alternatives.

~~Chapter 6 presents the topical issues that are required in an EIR. These include any significant irreversible environmental changes and any growth inducing effects of the proposed CBP.~~

Chapter 7 describes the resources used in preparing this RDPEIR, including persons and organizations contacted; list of preparers; and bibliography.

Chapter 8 contains those materials referenced as essential appendices to the RDPEIR, such as ~~the NOP~~ the 2024 Pulse Flow FSEIR. Technical Appendices are provided in Volume 2 of the RDPEIR, under separate cover. Appendix materials are referenced at appropriate locations in the text of this RDPEIR.

2.5 AVAILABILITY OF THE CHINO BASIN PROGRAM RDPEIR

This RDPEIR is being distributed directly to all public agencies and interested persons identified in the NOP mailing list (see Subchapter 8.1), the State Clearinghouse (Office of Land Use and Climate Innovation [LCI]), Petitioners, as well as any other requesting agencies or individuals. All reviewers will be provided 45 days to review the RDPEIR and submit comments to the IEUA for consideration and response. The RDPEIR is also available for public review at IEUA's website at https://www.ieua.org/chino-basin-program-ceqa-documents/ and at the following locations during the 45-day review period:

Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708

2.6 REVIEW PROCESS

After receiving comments on the RDPEIR, IEUA will prepare a Recirculated Final PEIR for certification prior to making a recommendation to the IEUA Board regarding approval of the CBP. Information concerning the Recirculated Final PEIR public review schedule and IEUA meetings for this project can be obtained by contacting Ms. Elizabeth Hurst ~~Sylvie Lee, P.E.~~, IEUA. Questions and comments submitted by mail shall be addressed to:

Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708
Attn: Ms. Elizabeth Hurst ~~Sylvie Lee, P.E.~~
Phone: (909) 993-~~1600~~ 1634
Email: ehurst@ieua.org ~~slee@ieua.org~~

Implementation of future individual project(s) in accordance with the CBP may require a variety of approvals from other agencies. This section summarizes agency approvals that have been identified to date. This list may be expanded as the environmental review proceeds. Consequently, it should not be considered exhaustive.

- Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for a NPDES general construction stormwater discharge permit. This permit is granted by submittal of an NOI to the SWRCB, but is enforced through a Storm Water Pollution Prevention Plan (SWPPP) that identifies construction best management practices (BMPs) for the site. In the project area, the Santa Ana Regional Water Quality Control Board (RWQCB) enforces the BMP requirements described in the NPDES permit by ensuring construction activities adequately implement a SWPPP. Implementation of the SWPPP is carried out by the construction contractor, with the RWQCB and county providing enforcement oversight.

- The project may include the potential discharge of fill into or alterations of "waters of the United States," "waters of the State," and stream beds of the State of California. Regulatory permits to allow fill and/or alteration activities due to project activities such as pipeline installation are likely be required from the Army Corps of Engineers (ACOE), the RWQCB, and California Department of Fish and Wildlife (CDFW) over the life of the Chino Basin Watermaster Optimum Basin Management Program (OBMPU). A Section 404 permit for the discharge of fill material into "waters of the United States" may be required from the ACOE; a Section 401 Water Quality Certification may be required from the RWQCB; a Report of Waste Discharge may be required from the RWQCB; and a 1600 Streambed Alteration Agreement may be required from the CDFW.

- The U.S. Fish and Wildlife Service (USFWS) and/or CDFW may need to be consulted regarding threatened and endangered species documented to occur within an area of potential impact for future individual projects. This could include consultations under the Fish and Wildlife Coordination Act.

- Land use permits may be required from local jurisdictions, such as individual cities and the two counties (Riverside and San Bernardino).

- Air quality permits may be required from the South Coast Air Quality Management District (SCAQMD).

- Encroachment permits may be required from local jurisdictions, such as individual cities, California Department of Transportation (Caltrans), the two counties (Riverside and San Bernardino), flood control agencies, and private parties such as Southern California Edison, The Gas Company, or others such as BNSF Railway Company.

- The Chino Basin Watermaster has a separate approval process for the Storage and Recovery Application including material physical injury analysis and consistency with the court approved management agreements within the Chino Basin.

- State Water Resources Control Board will be a responsible agency if permits or funding are requested from the State Revolving Fund Program or Division of Drinking Water. Additionally, water supply connection permits will be required from the SWRCB's DDW upon connecting an agency supply to a new source of supply.

- The SWRCB will also be a responsible agency for the Wastewater Change Petition for the Change of Use proposed by this project.

This is considered to be a partial list of other permitting agencies for future CBP future individual projects.

CHAPTER 3 – PROJECT DESCRIPTION

All exhibits are located at the end of this chapter, not immediately following their reference in the text.

3.1 INTRODUCTION

This chapter contains a detailed description of the proposed project, the Chino Basin Program (CBP), with focus on those program characteristics and activities that have the potential to cause a direct physical change in the environment, or a reasonably foreseeable indirect physical change to the environment.

Inland Empire Utilities Agency (IEUA) and local partners have developed long-term plans to implement a variety of new infrastructure to meet future needs for wastewater treatment and potable water supplies, while increasing resiliency and sustainability of regional water resources management. Some of the facilities included in these plans are addressed in IEUA's ten-year forecast (TYF) and Integrated Water Resources Plan (IRP). The CBP provides an opportunity to implement critical long-term project components of these plans, addressing local, regional, and potentially statewide and federal water resources management issues. The CBP is a revolutionary, first-of-its-kind program designed to help the region move beyond traditional water management practices and into a new era of water use optimization. The CBP promotes proactive investment in managing the water quality of the Chino Groundwater Basin and in meeting regional water supply reliability needs in the face of climate change, while leveraging California's interregional plumbing system and the Chino Basin's future potential for water recycling to produce benefits to local, State, and federal interest.

3.1.1 IEUA Agency Background

IEUA, located in western San Bernardino County, serves approximately 875,000 residents in a 242-square mile service area. As a regional wastewater treatment agency, IEUA provides sewage utility services to seven contracting agencies under the Chino Basin Regional Sewage Service Contract: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District (CVWD) in the city of Rancho Cucamonga. In addition to the contracting agencies, IEUA provides wholesale imported water from Metropolitan Water District of Southern California (MWD) to Water Facilities Authority (WFA), CVWD in the city of Rancho Cucamonga and Fontana Water Company (FWC) in the city of Fontana; Water Facilities Authority then serves imported water to the cities of Chino, Chino Hills, Ontario, Upland, and Monte Vista Water District in the City of Montclair and adjacent unincorporated areas (**Exhibit 1**).

IEUA is a regional sewage treatment and water agency that provides wastewater treatment, solids handling, and recycled water to the west end of San Bernardino County. Its 242-square-mile service area includes the cities of Upland, Montclair, Ontario, Fontana, Chino and Chino Hills, and CVWD, which services the City of Rancho Cucamonga and the unincorporated areas of San Bernardino County, including the Chino Agricultural Preserve. IEUA, a special assessment district, is governed by a five seat publicly elected Board of Directors. Each director is assigned to one of the five divisions which are: Division 1 - Upland/Montclair; Division 2 - Ontario/ Agricultural Preserve; Division 3 - Chino/ Chino Hills; Division 4 - Fontana; and Division 5 - Rancho Cucamonga. The Regional Technical and Policy Committees provide information on technical and policy issues, and there are representatives from each of the contracting agencies on these committees.



Exhibit 1: IEUA Service Area

Five regional water recycling plants are used to treat wastewater from IEUA's service area. They are: Regional Water Recycling Plant No. 1 (RP-1), located in the City of Ontario; Regional Water Recycling Plant No. 2 (RP-2), located in the City of Chino; Regional Water Recycling Plant No. 4 (RP-4), located in the City of Rancho Cucamonga; Carbon Canyon Water Recycling Facility (CCWRF), located in the City of Chino; and Regional Water Recycling Plant No. 5 (RP-5), located in the City of Chino. Of the five plants, RP-2 is the only plant that does not produce any recycled water. In conjunction with these facilities, IEUA maintains and operates a desalter facility, Chino I Desalter, in the City of Chino and a biosolids composting facility, Inland Empire Composting Facility, in the City of Rancho Cucamonga on behalf of the Chino Basin Desalter Authority and Inland Empire Regional Composting Authority, respectively (**Exhibit 2**). IEUA is also the MWD representative for the contracting agencies.

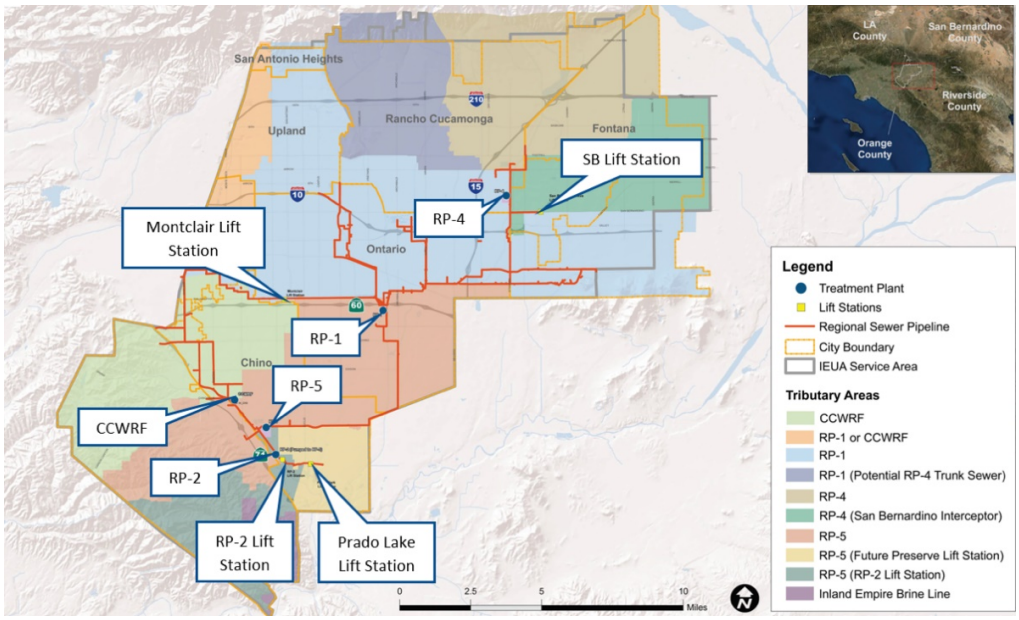


Exhibit 2: IEUA Facility Locations

The water resource inventory for the IEUA service area is made up of stormwater, recycled water, local surface water, groundwater, and imported water.

- Stormwater comes primarily from rain and snow starting in the San Gabriel Mountains and moving down through the Chino Basin watershed and diverted into groundwater recharge basins.
- Recycled water is generated from IEUA's four recycling plants.
- Local surface water is similar to stormwater, but the water is diverted and treated at a water treatment facility within the service area.
- Groundwater makes up the majority of the area's annual water supply and comes primarily from the Chino Basin and from basins adjacent to the Chino Basin. These basins include, Cucamonga, Rialto, Lytle Creek, Colton, and the Six Basins groundwater basins.
- Imported water is purchased from MWD.

Table 1 provides a recent summary of the raw water supply to the region, which is ultimately the source of supply for the recycled water processed at the IEUA water recycling facilities.

Table 1
WATER SUPPLY BY TYPE FOR IEUA SERVICE AREA

Water Supply	Percent of Total
Groundwater	30%
Desalter Product Water	15%
Imported Water (SWP)	25%
Stormwater and other local water supply	10%
Recycled Water	20%
Total	**100%**

Source: IEUA FY 2019-2020 Annual Water Use Report

3.2 PROJECT LOCATION

The Chino Basin consists of about 235-square-miles of the upper Santa Ana River watershed. The boundary of the Chino Basin is legally defined in the 1978 Judgment in the case of Chino Basin Municipal Water District vs. the City of Chino et al. The Chino Basin is an alluvial valley that is relatively flat from east to west and slopes from the north to the south at a one to two percent grade. Valley elevation ranges from about 2,000 feet in the foothills to approximately 500 feet near Prado Dam. As shown in **Figure 1**, the Chino Basin is bounded:

- on the north by the San Gabriel Mountains and the Cucamonga Basin;
- on the east by the Rialto-Colton Basin, Jurupa Hills, and the Pedley Hills;
- on the south by the La Sierra Hills and the Temescal Basin; and
- on the west by the Chino Hills, Puente Hills, and the Spadra, Pomona, and Claremont Basins.

The Chino Basin is one of the largest groundwater basins in Southern California with about 5,000,000 acre-feet (AF) of groundwater and an unused storage capacity of approximately 1,000,000 acre-feet. Cities and other water supply entities produce groundwater for all or part of their municipal and industrial supplies; and about 300 to 400 agricultural users continue to produce groundwater from the Basin. The Chino Basin is an integral part of the regional and statewide water supply system. Prior to 1978, the Basin was in an overdraft condition. After 1978,

the Basin has been operated as described in the 1978 Judgment.[1]

The principal drainage course of the Chino Basin is the Santa Ana River, which flows 69 miles across the Santa Ana Watershed from its origin in the San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Basin at the Riverside Narrows and flows along the southern boundary to the Prado Flood Control Reservoir where it is eventually discharged through the outlet at Prado Dam into Orange County. Chino Basin is traversed by a series of ephemeral and perennial streams that include: Chino Creek, San Antonio Creek, Cucamonga Creek, Deer Creek, Day Creek, Etiwanda Creek and San Sevaine Creek.

These creeks carry significant flows only during, and for a short time after, storm events that typically occur from November through March. Year-round flow occurs along the entire reach of the Santa Ana River due to year-round surface inflows at Riverside Narrows, discharges from municipal water recycling plants to the River between the Narrows and Prado Dam, and rising groundwater. Rising groundwater occurs in Chino Creek, in the Santa Ana River at Prado Dam, and potentially other locations on the Santa Ana River depending on climate and season.

The Chino Basin is mapped within the USGS – Corona North, Cucamonga Peak, Devore, Fontana, Guasti, Mount Baldy, Ontario, Prado Dam, Riverside West and San Dimas Quadrangles, 7.5 Minute Series topographic maps. The center of the Basin is located near the intersection of Haven Avenue and Mission Boulevard at Longitude 34.038040N, and Latitude 117.575954W.

3.3 EXISTING CONDITIONS OF THE BASIN

3.3.1 Chino Groundwater Basin

The proposed CBP envisions an increase the Safe Storage Capacity of the Chino Groundwater Basin (Chino Basin). As such, the following is a discussion of the background, existing circumstances of the Chino Basin and storage capacity thereof.

On January 2, 1975, several Chino Basin groundwater producers filed suit in the State of California Superior Court for San Bernardino County (Court) to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in "Chino Basin Municipal Water District v. City of Chino et. al." (Judgment). The Judgment adjudicated the groundwater rights of the Chino Basin, established the Chino Basin Watermaster (CBWM or Watermaster)—a Court created entity—to administer the Judgment, and contains a Physical Solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. **Figure 2** shows the adjudicated boundary as it is legally defined in the Judgment, the hydrologic boundary, the Chino Basin management zones, and the groundwater management zones defined by the Santa Ana Regional Water Quality Control Board (Regional Board) in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).

Watermaster is governed by a nine-member board drawn from parties from three groups: an Appropriative Pool, a Non-Agricultural Pool, and an Agricultural Pool, and three other public agencies, including IEUA, which effectively represent the water producers and wholesalers in the Chino Basin. These member agencies are considered "stakeholders" or "the Parties."

[1] Original judgment in Chino Basin Municipal Water District vs. City of Chino, et al., signed by Judge Howard B. Weiner, Case No. 164327. File transferred August 1989, by order of the Court and assigned new case number RCV51010. The restated Judgment can be found here: http://www.cbwm.org/docs/WatermasterCourtFilings/2012%20Watermaster%20Restated%20Judgment.pdf

To manage the Chino Basin for the long-term benefit of all producers in the area, the Optimum Basin Management Program (OBMP) was developed pursuant to a Judgment entered in the Superior Court of the State of California on January 27, 1978 (the Court) and compelled by further order of the Court under its continuing jurisdiction. The Watermaster administers the decree under the direction of the Court. It was granted discretionary powers to develop and implement the OBMP.

When the OBMP was developed it was expected that the Parties and other entities would use the storage space above 5,300,000 AF for conjunctive use and not exceed a storage volume of 5,800,000 AF. The Operational Storage Requirement—the storage or volume in the Chino Basin that is necessary to maintain safe yield—was estimated to be 5,300,000 AF in the OBMP. The OBMP also defined the term Safe Storage, which is an estimate of the maximum storage in the Basin that will not cause significant water-quality and high-groundwater related problems. Safe Storage was estimated to be about 5,800,000 AF in the 2000 OBMP. The Safe Storage Capacity, which is the difference between the Safe Storage (5,800,000 AF) and the Operational Storage Requirement (5,300,000 AF), was determined to be 500,000 AF in the 2000 OBMP. Water occupying the Safe Storage Capacity includes water in storage accounts (stored water), carryover water, and water that was anticipated to be stored in future groundwater Storage and Recovery Programs.

If groundwater storage exceeded 5,800,000 AF, the OBMP assumed that mitigation would be required to operate the Basin at those higher levels of storage. In the years since the 2000 OBMP was adopted, however, twenty years of additional hydrologic information, implementation experience of the OBMP through the Peace and Peace II Agreements, and related actions of the Watermaster and the Parties, have demonstrated that Safe Storage is greater than 5,800,000 AF and, although not precisely computed, the implied Safe Storage Capacity is 735,000 AF or larger.

In 2016, Watermaster identified the need to update the OBMP so that the storage management plan in the OBMP Implementation Plan could be modified to reflect an increase in managed storage accounts, which were projected to exceed the Safe Storage Capacity (SSC) limit of 500,000 AF defined in the 2000 OBMP. In 2017, IEUA adopted Addendum No. 1 to the OBMP PEIR to provide a "temporary increase in the Safe Storage Capacity from 500,000 AF to 600,000 AF for the period of July 1, 2017 through June 30, 2021 […] until a comprehensive re-evaluation of the Safe Storage Capacity value/concept can be completed before June 30, 2021."[2] Addendum No. 1 was supported with engineering work that demonstrated that this temporary increase in SSC would not cause material physical injury (MPI) to Watermaster stakeholders or loss of Hydraulic Control.[3] Addendum No. 1 was certified by IEUA in March 2017, and Safe Storage Capacity was reset to 600,000 AF through June 30, 2021.

Watermaster began the comprehensive re-evaluation of the Safe Storage Capacity concept through a stakeholder process during 2017 and 2018, which resulted in the 2018 Storage Framework Investigation Report (SFI). The SFI evaluated the Basin response, MPI and undesirable results from projections of the Parties' future storage management activities and

[2] Tom Dodson & Associates. (2017). Addendum No. 1 to the Optimum Basin Management Program Project. Page 2.
[3] MPI means material injury that is attributable to the recharge, transfer, storage and recovery, management, movement or production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels), and adverse impacts associated with rising groundwater. MPI does not include "economic injury" that results from other than physical causes. Once fully mitigated, physical injury shall not be considered to be material. (From Peace Agreement Definitions, page 8) Further, loss of Hydraulic Control means the inability to eliminate groundwater discharge from the Chino-North Groundwater Management Zone to the Santa Ana River or its reduction to less than 1,000 AFY.

potential future Storage and Recovery Programs that could store additional water in the Basin, concurrently with the Parties (cumulatively up to 1,000,000 AF). This work was based, in part, on groundwater modeling projections of the Basin using the 2017 Watermaster model that was last previously calibrated in 2011. The SFI developed a series of metrics to identify MPI and undesirable results for the use of storage space and introduced a new term called managed storage. Managed storage includes water stored by the Parties and other entities, which fluctuates over time based on the actions of the Parties and other entities.

During the period between 2018 and mid-2020, Watermaster revised its groundwater model and renamed it the 2020 Chino Valley Model (CVM). The 2020 CVM supersedes the model version used in the 2018 SFI. The CVM was used to update pumping and recharge projections to develop an updated estimate of Safe Yield for the period 2021 through 2030 (WEI, 2020). Based on this Safe Yield Investigation, Safe Yield for the period was determined to be 131,100 acre-feet per year.[4] The Court subsequently accepted Watermaster's Safe Yield recommendation and ordered the Safe Yield changed in July 2020.

In late 2020, Watermaster identified the need to amend the OBMP so that the Safe Storage Capacity of the Chino Basin could be increased to address what Watermaster deemed a "Local Storage Limitation Solution" (LSLS).[5] As such, Watermaster and IEUA authorized the preparation of Addendum No. 2 in order to enable a study of the current Safe Storage Capacity. Watermaster facilitated the preparation of a report based on the CVM regarding the use of Chino Basin storage space to update the Safe Storage Capacity based on updated water use and Safe Yield projections.

Based on the report's projection of managed storage, the LSLS was defined by the use of storage space up to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035. This definition of the LSLS balanced the need to provide for the combined use of managed storage by the Parties and the Dry Year Yield Program (DYYP)[6] through the end of the DYYP contract period (2028) and the Parties' need to hedge against future uncertainty by maximizing projected use of managed storage in the early 2030s. The increase in Safe Storage Capacity did not require the development of any new facilities or any other mitigation to minimize potential adverse impacts to the Basin, as none were projected to occur within the confines of the reset Safe Storage Capacity limits. Over time, cumulative use of the Basin for storage utilizing existing facilities at the same general existing rate of use can fully utilize managed storage space up to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035. Addendum No. 2 was certified by IEUA in March 2021, and Safe Storage Capacity was reset to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035.

A 2023 SFI was prepared to support the Chino Basin Watermaster Optimum Basin Management Program Update (OBMPU) Subsequent Environmental Impact Report (SEIR) resulting from

[4] As defined by the Judgment, Safe Yield means the long-term average annual quantity of ground water (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water) which can be produced from the Basin under cultural conditions of a particular year without causing an undesirable result.
[5] The intent of the Local Storage Limit Solution was to address the need for greater storage in the Basin to accommodate the Parties desire for greater managed storage in the Basin, whilst taking into account the Metropolitan Dry-Year Yield Program (DYYP).
[6] The DYYP can store up to 100,000 AF with maximum puts of 25,000 AFY and maximum takes of 33,000 AFY. The DYYP Storage and Recovery agreement provides that puts and takes can exceed these values if agreed to by Watermaster (as was done in fiscal years 2018 and 2009, respectively). The agreement that authorizes the DYYP will expire in 2028.

Stakeholder input in late 2022 (provided as Appendix 6b to the OBMPU SEIR).[7] The 2023 Storage Framework Investigation (SFI) provided a technical analysis of the hydrologic impacts of Storage and Recovery Programs that are contemplated in the OBMPU SEIR Project Description. The scope of work required to develop the 2023 SFI was to (i) define Storage and Recovery Program scenarios based on this OBMPU Project Description and (ii) evaluate the response of the Chino Basin to the scenarios for MPI and adverse impacts.

The projected response of the Chino Basin to the Storage and Recovery Program scenarios was simulated using the 2020 Chino Valley Model (CVM) over the period of fiscal year (FY) 2019 through FY 2060. By using the 2020 CVM as the basis for the analysis, the 2023 SFI reflected the most up to date understanding of the effects of the contemplated Storage and Recovery Programs on the Chino Basin. Put simply, the 2023 SFI analyzed the Basin response from the Chino Basin Parties' use of storage space up to 700,000 AF and the conjunctive-use by Storage and Recovery Programs from 700,000 AF to 900,000 AF, thereby contemplating an increase in SSC to 900,000 AF. The OBMPU SEIR therefore proposed the expansion of the safe storage capacity up to 900,000 AF going forward.

Thus, in 2024, the IEUA Board certified the Chino Basin Watermaster OBMPU Final Subsequent Environmental Impact Report (Final SEIR), thereby enabling the expansion of the Safe Storage Capacity up to 900,000 AF going forward (from 2024 and beyond).

3.3.2 Water Supply

Formed in 1950, IEUA is a member of the MWD and thus acts as a supplemental water provider. Approximately 25 percent of the water used in the region is imported from MWD through the State Water Project (SWP). Due to water quality limitations (salinity, total dissolved solids [TDS]) and operation of the regional recycled water program, IEUA only takes water from the SWP. IEUA strives to increase regional sustainability through the development of reliable local water supplies. These efforts include using water more efficiently, eliminating waste and unreasonable use, and making the region climate resilient through maximizing the use of recycled water. IEUA has invested in water use efficiency efforts and is on track to reduce water use.

A diverse portfolio of water supply sources has been developed within IEUA's service area. The region relies on groundwater from the Chino Basin and other basins (Cucamonga, Rialto, Lytle Creek, Colton, and the Six Basins groundwater basins), local surface water from creeks originating in the San Gabriel Mountains, recycled water produced locally, and imported water from the SWP via MWD. The IEUA IRP established a baseline water supply scenario for IEUA's service area through 2040. **Table 2** below provides the current and projected recycled water supplies in acre-feet per year (AFY) through 2040.

Table 2
CURRENT AND PROJECTED RECYCLED WATER SUPPLIES (AFY)

Recycled Water Supply	2020	2025	2030	2035	2040
	56,388[1]	60,150	63,530	64,500	67,140
NOTES: (1) For 2020, this amount is the actual supply. For 2025 to 2040, supply projections are from IEUA 2021 Wastewater and Recycled Water Demand Forecasts based on land use					

[7] Chino Basin Watermaster, 2023. 2023 Storage Framework Investigation. https://ceqanet.lci.ca.gov/2020020183/4/Attachment/oTUpcR (Accessed 01/22/26)

3.3.3 Water Demand

Current and projected recycled water demands through 2040 are provided in **Table 3** below. Recycled water demands include direct use and groundwater recharge. IEUA recycled water that is not beneficially used is discharged to the Santa Ana River as wastewater treatment plant effluent.

Table 3
CURRENT AND PROJECTED RECYCLED WATER DEMAND (AFY)

	2020	2025	2030	2035	2040
Direct Use Demands[1]	17,115	20,870	23,275	24,704	27,855
Groundwater Recharge[2]	13,381	14,962	16,420	16,420	16,420
Total	30,495	35,832	39,965	41,124	44,275
NOTES: (1) From IEUA 2021 Wastewater and Recycled Water Demand Forecasts, (2) From CBWM 2020 Storage Management Plan					

3.3.4 Water Quality

As one of the stewards responsible for managing water and wastewater in the region, IEUA continuously evaluates challenges and develops solutions to address them, all with the goal of securing a reliable/resilient, high-quality water supply in a cost-effective manner. This goal involves the use of various water sources, including imported water, stormwater, groundwater, and recycled water.

Recycled water is an increasingly essential asset to the region particularly with the uncertain future of imported water supplies due to climate change and environmental factors. Recycled water is the region's most climate resilient water supply because the amount of water available is not affected by dry years. Today, recycled water makes up approximately 15 percent of IEUA's water supply portfolio and hundreds of millions of dollars have been invested into the regional recycled water program.

The Regional Board's Basin Plan sets regulatory limitations for recycled water TDS and continued use of recycled water within the region depends on compliance with these limits. Increasing TDS levels in recycled water have been exacerbated by climate change, conservation and episodic periods of drought over the last twenty years. In 2015, there was a period where every month was setting a record-high recycled water TDS concentration. As a result, recycled water TDS approached the maximum effluent limit for recycled water (550 mg/L) in 2015, prompting an internal evaluation that was prepared in 2016. As demonstrated in **Exhibit 3**, recycled water TDS concentration over time shows a pattern of peaks and valleys, with a gradual increase over time. The 2016 preliminary evaluation demonstrated that TDS concentrations in water and wastewater supplies, and therefore recycled water, are steadily increasing, and drought conditions and water conserving activities exacerbate TDS concentrations in both (**Exhibit 4**). Based on this evaluation, IEUA concluded that implementation of an advanced water purification facility (AWPF) will be needed at some point to address increasing salinity. Furthermore, postponing treatment poses risks to maintaining the region's maximum benefit objectives associated with the Basin Plan, and consequently IEUA's compliance for its wastewater treatment operations. Maximum benefit objectives are defined in the paragraphs below. IEUA and the Watermaster raised these concerns to the RWQCB, who requested modeling and analysis to investigate the salinity challenge and

explore alternative TDS compliance metrics that are protective of beneficial uses and that could be incorporated into the Basin Plan and subsequently IEUA and Watermaster permits.

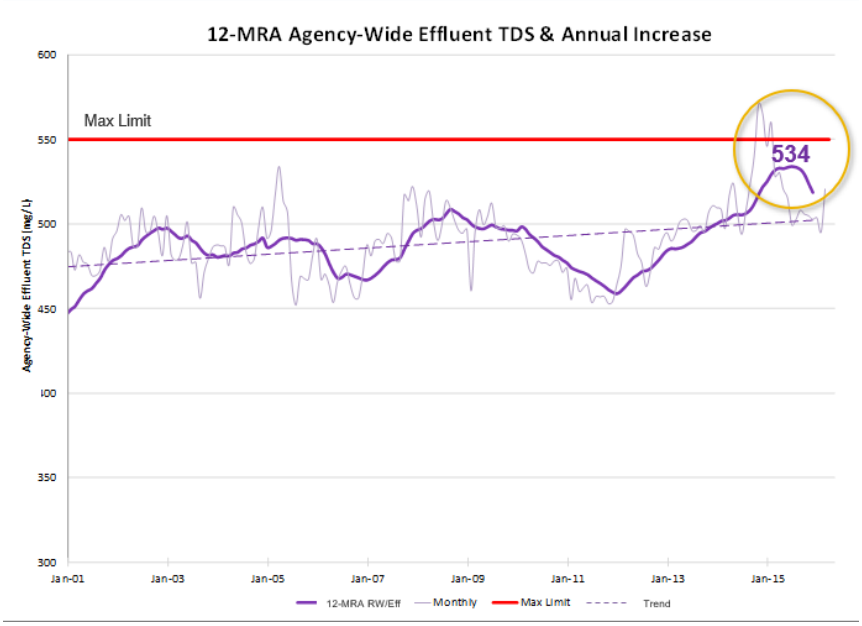


Exhibit 3: Agency-wide Recycled Water Effluent TDS Concentration (2001–2016)

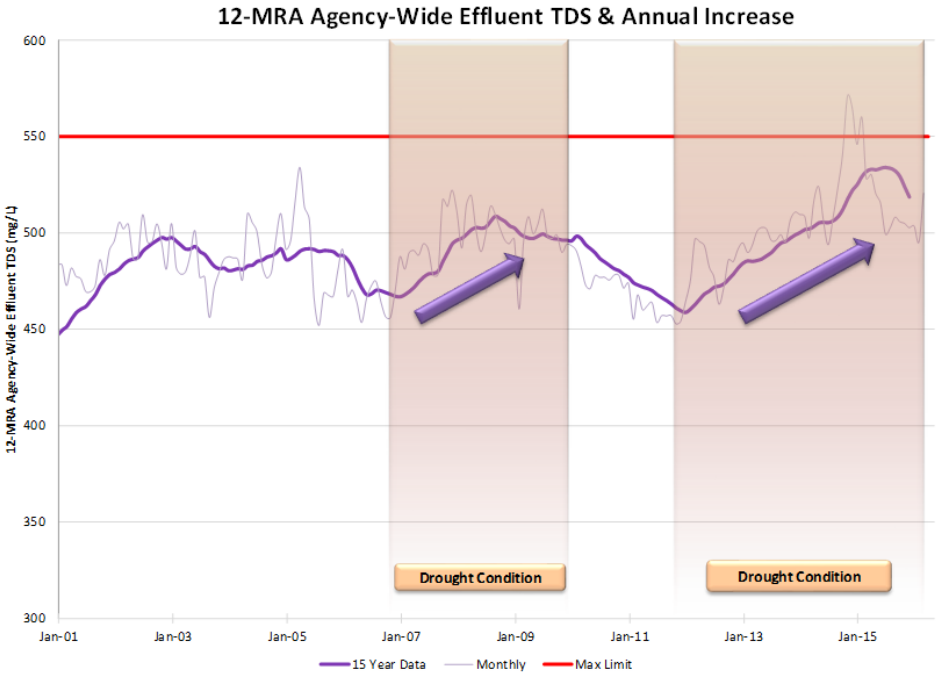


Exhibit 4: Drought & Recycled Water Effluent TDS Relationship

Subsequent to the 2016 Preliminary Evaluation, further analyses were completed in support of regional planning efforts. The primary objective for these analyses was to project when the recycled water TDS concentration would exceed the permit limit, as well as another RWQCB compliance-driven action limit (545 mg/L), which is in place to ensure TDS concentrations remain below the permit limit of 550 mg/L. It is important to note that the analyses did not include the effects of climate change, and it is likely that the time for recycled water to reach the permit limits is shorter than the projections described below. The analyses demonstrated increasing trends in TDS concentrations for the water supply and recycled water. Based on the analysis, exceedance of the RWQCB action limit of 545 mg/L was projected to occur in 2031. Exceedance of the permit limit of 550 mg/L was projected to occur as early as 2030, up to 2034.

Maintaining permit compliance is a critical priority for IEUA and Chino Basin stakeholders. There are strict consequences associated with non-compliance with the Basin Plan that could lead to recycled water and groundwater recharge program interruption and/or retroactive activities. If the NPDES permit limit is exceeded, IEUA will be in violation of its NPDES permit, and if a plan to address it is not submitted to the RWQCB in a timely manner, this could result in the halting of all use of recycled water to recharge the groundwater aquifer. Consequently, all effluent from IEUA's water recycling facilities will need to be discharged to the Santa Ana River. Discharge to the Santa Ana River above 550 mg/L will also be above the discharge limitation, which is also 550 mg/L. Additionally, according to the Basin Plan, if the maximum benefit commitments (including the 550 mg/L limit) are not met, "the Regional Board will require that Watermaster and IEUA mitigate the effects of discharges of recycled and imported water that took place under the maximum benefit objectives." This will require AWPFs to mitigate the effects of the recycled water and groundwater recharge programs that have operated above the more stringent antidegradation objectives since the 2004 Basin Plan amendment was adopted. The Basin Plan also states that "The Regional Board will also require mitigation of any adverse effects on water quality downstream of the Chino Basin that result from failure to implement the 'maximum benefit' commitments." Non-compliance could result in permit modification with more stringent recycled water and groundwater recharge limits, severely impacting both the operability of the programs as well as the costs.

In addition to the challenges associated with TDS, IEUA is also facing regulatory challenges with 1,2,3-Trichloropropane (1,2,3-TCP), perfluorooctanoic acid (PFOA), microplastics, and other contaminants of emerging concern (CEC). These contaminants are making their way into IEUA's recycling plants, which are not designed for their removal. In 2019, recycled water used for groundwater recharge exceeded the 1,2,3-TCP maximum contaminant level and PFOA Notification Level. It becomes evident, then, that even if advanced treatment is not needed for TDS compliance, it may be needed to address other regulatory challenges related to CECs within the region to continue to have access to existing supplies.

3.3.5 Recycled Water Program

IEUA has produced and distributed high quality recycled water since 1972 when the Agency expanded its services to include regional wastewater treatment. Currently, IEUA owns and operates four regional recycled water plants that produce disinfected and filtered tertiary treated recycled water in compliance with California's Title 22 regulations. As previously discussed, these four regional recycled water plants include RP-1, RP-4, RP-5, and the CCWRF. Recycled water from these plants is used within the region for direct use (irrigation, industrial, and construction purposes) and groundwater recharge.

Water recycling is a critical component of the water resources management strategy for IEUA and

the Chino Basin. The State of California has determined that the reuse of highly treated recycled water is the only new major source of water available to meet Southern California's growing water demand. IEUA currently receives over 50 million gallons per day of wastewater from its regional treatment plants. This water is treated to Title 22 regulations set forth by the State Division of Drinking Water and is then distributed throughout the service area. As noted above, IEUA delivers the recycled water to be used for direct reuse and for groundwater recharge.

Direct Reuse

Within the region, recycled water is reused for a variety of applications including landscape irrigation, agricultural irrigation, industrial process water and construction. Recycled water demands by use type for fiscal year (FY) 2019/2020 are provided in **Table 4**: Recycled Water Demand for Direct Use by Use Type for FY 2019/2020.

Table 4
RECYCLED WATER DEMAND FOR DIRECT USE BY USE TYPE FOR FY 2019/2020

Type of Use	Demand (acre-feet)	Percentage
Recharge	13,381	44%
Agriculture	5,757	19%
Landscape	9,716	32%
Industrial	1,004	3%
Construction	638	4%
Total	**30,495**	**100%**

Notes: From IEUA 2019/2020 Recycled Water Annual Report

IEUA is the wholesale recycled water provider to its member agencies, which in turn are retail agencies that directly serve their customers. IEUA member agencies which served recycled water in FY 2019/2020 include:

- City of Chino
- City of Chino Hills
- CVWD
- Fontana (through FWC)
- Montclair (through MVWD)
- City of Ontario
- City of Upland

MVWD and FWC are the water retailers in the Cities of Montclair and Fontana, respectively, and obtain recycled water from their overlying cities. San Bernardino County is currently a direct use customer of IEUA based on long standing historical contracts since 1972. **Table 5**: Recycled Water Demand for Direct Use by Agency for FY 2019/2020 shows the recycled water demand for direct use by agency.

Table 5
RECYCLED WATER DEMAND FOR DIRECT USE BY AGENCY FOR FY 19/20

Retail Agency	Direct Use (AF)	Recharge (AF)	Demand (AF)
City of Chino	4,795	0	4,765
City of Chino Hills	1,417	1,188	2,605
CVWD	1,038	4,458	5,496
Fontana/FWC	211	2,693	2,904
Montclair/MVWD	298	781	1,079
City of Ontario	7,817	3,017	10,864
City of Upland	703	1,243	1,946

Retail Agency	Direct Use (AF)	Recharge (AF)	Demand (AF)
IEUA	773	0	773
San Bernardino County	65	0	65
Total	**17,115**	**13,381**	**30,495**

Notes: From IEUA 2019-20 Recycled Water Annual Report

3.3.6 Groundwater Recharge

IEUA, the Watermaster, the Chino Basin Water Conservation District, and the San Bernardino County Flood Control District jointly sponsor the Chino Basin recycled water groundwater recharge program that is an integral part of the OBMP and the region's water supply portfolio. This program was put in place to enhance water supply reliability and to improve drinking water quality throughout the greater Chino Basin. Annually, IEUA recharges on average between 30,000 and 40,000 AF of imported water, stormwater, and recycled water. The recharge infrastructure consists of a network of pipelines that direct stormwater run-off, imported water from the SWP, and IEUA recycled water to 16 recharge sites most of which consist of multiple recharge basins. These recharge basins provide capacity to recharge up to approximately 77,500 AFY.[8]

The Chino Basin recycled water groundwater recharge program assists in mitigating future water shortages in California caused by future limitations for importing water supplies from the SWP and provides a subsurface reserve of groundwater for local use. This enhances the current reliability of local groundwater supplies for a rapidly growing population and is an integral part of local water supply planning. The groundwater recharge program is an important part of the overall Chino Groundwater Basin program and serves as a long-term solution to the water supply and water quality issues facing the greater Chino Basin.

In fiscal year 2019/2020, 13,381 acre-feet of recycled water was used for groundwater recharge. This accounts for 41 percent of the total recycled water demand within the region. Recycled water demand for groundwater recharge by agency is provided in **Table 6**: Recycled Water Demand for Groundwater Recharge by Agency for FY 2019/2020.

Table 6
RECYCLED WATER DEMAND FOR RECHARGE BY AGENCY FOR FY 19/20

Type of Use	Demand (acre-feet)
City of Chino	0
City of Chino Hills	1,188
CVWD	4,458
Fontana/FWC	2,693
Montclair/MVWD	781
City of Ontario	3,017
City of Upland	1,243
IEUA	0
San Bernardino County	0
Total	**13,381**

Notes: From IEUA 2019/2020 Recycled Water Annual Report

[8] *Annual Finding of Substantial Compliance with the Recharge Master Plan* for FY 2020-21, which can be found at page 69 of the November 2020 Watermaster Board Package here

3.4 PROJECT PURPOSE AND OBJECTIVES

CEQA Section 15124(b) states that an EIR Project Description should include "*A statement of the objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits."* Thus, it is the goal of the CBP to enhance both the SWP and the Central Valley Project for the betterment of operations, environment, resilience, and reliability. The objectives described below are intended to facilitate the provisions of CEQA Section 15124(b), as the CBP objectives are suited to the purpose of this project, as defined by the lead agency, IEUA, and enable a reasonable range of feasible alternatives.

The CBP will be developed to provide flexibility to regional and local water operations, particularly during future extended droughts expected as climate change continues to impact California. New injection and extraction facilities, conveyance facilities, and water system interconnections will allow more optimal management of local water supplies, including improved storage and recovery operations, as well as redundancies in water delivery infrastructure that will facilitate future rehabilitation and replacement needs. The CBP will also develop new Southern California advanced water treatment supplies to be stored in the Chino Groundwater Basin and exchanged in dry and critical years for Southern California-bound SWP supplies stored in Northern California. The stored Northern California water will subsequently be released as multi-day pulse flows to support anadromous fish populations in the Feather River and the Sacramento-San Joaquin Delta (Delta), providing a statewide public benefit. The term for this exchange will be fixed at 25 years for a total volume of 375,000 acre-feet, after which time the CBP will be devoted to meeting local water management needs while fulfilling commitments to improve water quality in the Chino Groundwater Basin and provide a source of emergency water supply. However, as previously stated under Subchapters 1.1, Project Background and 2.3, Scope and Content of this EIR, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year conjunctive use project and would be available to support the goals presented in the previous sentence, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

The CBP would strengthen partnerships among local agencies that participate in the project and offer an opportunity for local agencies to coalesce around the future of the Chino Basin. Partnerships between local agencies, the MWD, the California Department of Water Resources (DWR), the California Department of Fish and Wildlife (CDFW), and the U.S. Bureau of Reclamation (USBR) will also be essential to the success of the project and offer a framework for future improved collaboration. The program objectives are designed to guide the development and implementation of the CBP to reflect the collective interests of this partnership. These are to:

- Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin.
- Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin.
- Develop Infrastructure That Addresses Long Term Supply Vulnerabilities.
- Provide a Source of Water for Emergency Response.
- Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~.

3.5 PROJECT SUMMARY

3.5.1 Chino Basin Program Overview

The CBP was submitted for Proposition 1 – Water Storage Investment Program (WSIP) funding and was awarded $269M ~~$206.9M~~ in conditional funding as of August 2025 ~~in July 2018~~. Under the WSIP, the CBP is proposed to be a 25-year conjunctive use project that proposes to use advanced water purification to treat and store up to 15,000 AFY of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons.

The proposed CBP is uniquely designed to deliver public benefits including a highly reliable, dedicated environmental water supply to benefit Bay Delta instream flows, as well as enhance water supply reliability and improve water quality for water users in Southern California. Among the key attributes of the CBP is the production of a new source of highly reliable water supply for the environment. The challenges of allocating scarce water supplies among water users and the environment faced by State and federal agencies during California's recent historical drought clearly demonstrated the value of creating dependable new supplies for all California water users. Consistent with Governor Newsom's Water Resilience Portfolio Initiative, responsible public water agencies across California are adding resiliency to meet their future water needs by diversifying their water management portfolios through investment in a variety of water use efficiency and supplemental local supply programs and projects. The CBP offers an important opportunity to similarly diversify the tools available to California's environmental managers for sustaining our State's vital aquatic ecosystems.

By increasing additional available groundwater supplies in the adjudicated Chino Groundwater Basin through increased water recycling and storage, and then dedicating a like amount of water for environmental flow purposes, the CBP provides a compelling example of a conjunctive use storage project operating at both ends of the SWP. The reliability of the water designated for groundwater storage is based upon the development of new water supplies from treated wastewater secured from IEUA partner agencies. In the scope of this program, new water is secured, transported, treated, and then deposited in the Chino Groundwater Basin for ecological benefit in the Bay-Delta watershed while providing water supply reliability and improved water quality benefits to IEUA customers and partner agencies.

The CBP will provide for an exchange of new water supplies in the Chino Basin for SWP supplies in Lake Oroville in Northern California that would otherwise be delivered to Southern California. The additional Lake Oroville water would subsequently be released in the form of pulse flows in the Feather River to improve habitat conditions for native salmonids and achieve environmental benefits (**Exhibit 5**).

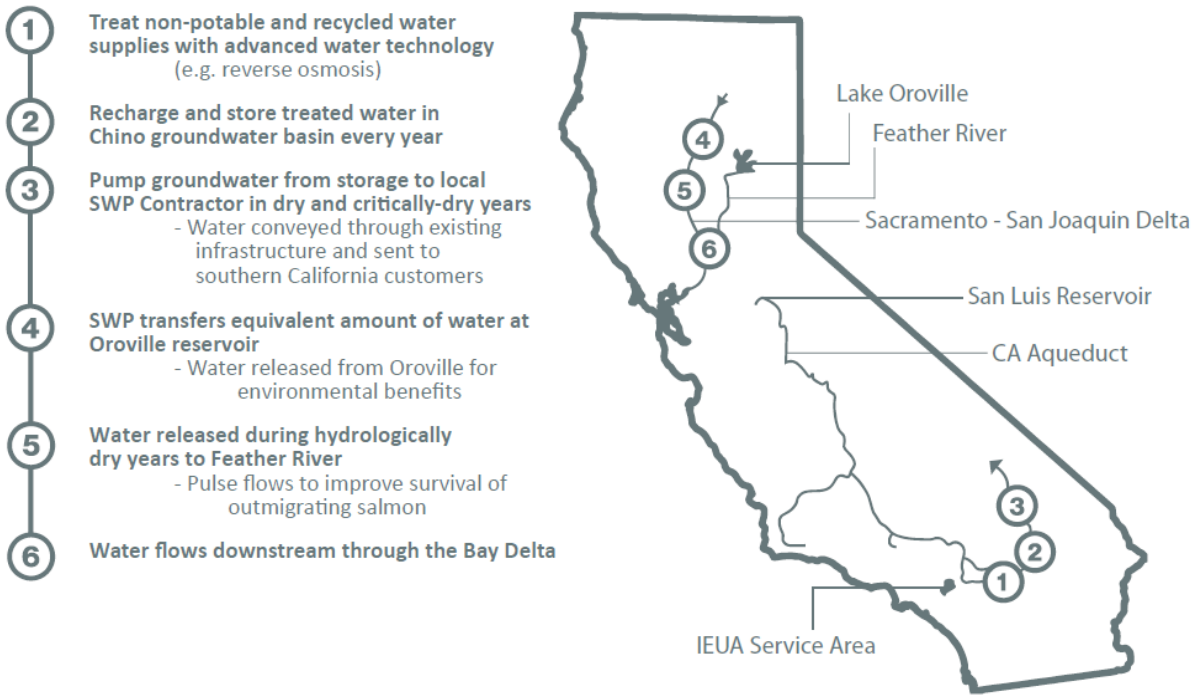


Exhibit 5: Overview of CBP Operations

The Feather River is the principal tributary of the Sacramento River, in the Sacramento Valley of Northern California. The river's main stem is about 73-miles long. Its length to its most distant headwater tributary is just over 210-miles. The lower Feather River begins in Lake Oroville, where its 4-mile-long tributary forks join together — the South Fork, Middle Fork, North Fork, and West Branch Feather Rivers. These and other tributaries drain part of the northern Sierra Nevada, and the extreme southern Cascades, as well as a small portion of the Sacramento Valley. The total drainage Basin is about 6,200-square-miles, with approximately 3,604-square-miles above Lake Oroville.

Since 1967, the Feather River's origin at the confluence of its four forks has been submerged under the waters of Lake Oroville, created by the construction of Oroville Dam in 1967. The construction of Oroville Dam created a fish passage barrier which stopped all anadromous fish, such as salmon, from migrating further upstream. At about 770 feet high, it is the tallest dam in the United States and wields nearly complete control over the flow of the Feather River by creating one of the largest reservoirs in California. The dam is the principal feature for the California SWP, storing water for more than 23 million people and 750,000 acres of farmland in Central and Southern California.

Directly downstream from Oroville Dam lies the Oroville-Thermalito Complex, which consists of two reservoirs, a Forebay and Afterbay, both used for hydroelectricity generation, although the water diverted from the Feather River for this purpose is returned to the river. Flow in the Feather River between the point of diversion and the Thermalito Outlet is commonly referred to as the Low Flow Channel. Flow in the Feather River below the Thermalito Afterbay is referred to as the High Flow Channel (**Exhibit 6**).

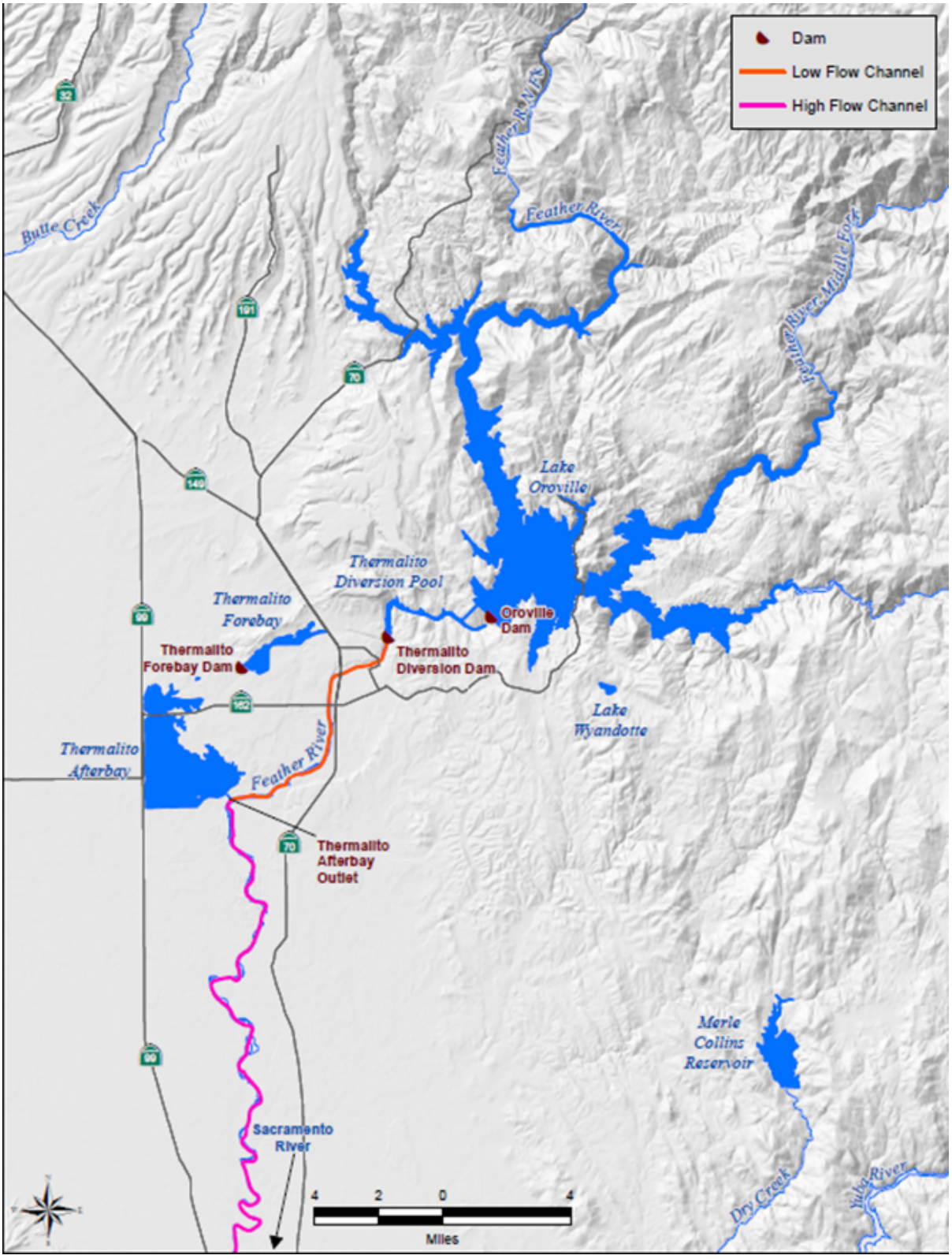


Exhibit 6: Overview of the Lower Feather River where CBP Pulse Flows would be Delivered

15,000 AFY of new water supply would be produced for a period of 25-years to provide for the State exchange, to be used in blocks of up to 50,000 AFY in dry and critical years when pulse flows in the Feather River would provide the most ecosystem benefit. The exchange would be administered through agreements with the California Department of Water Resources (DWR), the California Department of Fish and Wildlife, the Metropolitan Water District of Southern California (MWD), and other project partners, the Basin would be operated in a way which dedicates blocks of water of up to 50,000 AFY towards ecosystem benefits north of the Delta.

During the first 25 years of the Project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled) locally produced CBP water supplies will directly replace a portion of imported supplies when an SWP water transfer is implemented by MWD and DWR and a pulse flow occurs in northern California. After fulfillment of the Proposition 1 WSIP exchange commitment, the facilities developed under the CBP by IEUA would continue to be operational as part of the overall project life cycle, and during this period the new water supply will be available for local use annually contributing to IEUA's available supply. This analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operational beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

Additionally, new water stored in the Chino Basin will also enhance emergency response water supply availability for IEUA and other participating agencies during crises such as flood or seismic events that disrupt imported water infrastructure. The infrastructure included in the CBP is consistent with infrastructure identified to reduce recycled water salinity for regulatory compliance as well as water infrastructure that has been identified through IEUA's Integrated Water Resources Plan (IRP) effort.

The program would rely on water transfer agreements through MWD. For every acre-foot of water requested for north of the Delta ecosystem benefits, IEUA would pump locally stored groundwater and deliver it to MWD or use the water locally instead of taking raw imported water from MWD (referred to as in lieu). MWD would then leave behind an equivalent amount of water in Lake Oroville to be dedicated and released for the requested ecosystem benefit. It is also envisioned that the CBP would include both storage capacity and borrowing capacity in the Chino Basin as approved by the Chino Basin Watermaster (CBWM or Watermaster). The borrowing capacity would be used to help deliver multiple consecutive, dedicated blocks of water for ecosystem benefits. This water would be borrowed from previously stored groundwater, outside of this

program, and replaced over time. Through this approach, the CBP can be operated in a way to provide up to 50,000 AFY of water for up to 7.5 years of the 25-year program (375,000 AF total) as long as the groundwater extraction does not exceed the approved borrow amount. This would result in balancing the PUTs (the components to recharge purified water to the Chino Basin) and TAKEs (the components to extract groundwater and convey potable water supply) to the Chino Basin at the end of the 25-year program, i.e., 375,000 AF would be recharged over 25 years and the same amount would be extracted over 25 years (while the Proposition 1 WSIP water exchange commitment is fulfilled).

The CBP includes two main categories of facilities: PUT and TAKE components. The PUT and TAKE components are summarized in **Table 7**. The annual PUT (the components to recharge purified water to the Chino Basin) and periodic TAKE cycles (the components to extract groundwater and convey potable water supply) are shown graphically in **Exhibit 7**. Note that each CBP scenario consists of PUT and TAKE options that vary based on the CBP scenario under consideration.

Table 7
SUMMARY OF PUT AND TAKE COMPONENTS

PUT Components	TAKE Components
• Tertiary recycled water supply and conveyance • Advanced water purification facility (AWPF) • Purified water pumping and conveyance • Groundwater recharge (injection wells and/or recharge basins)	• Groundwater extraction and treatment • Potable water pumping and conveyance • Potable water usage (MWD pump back or in-lieu)
The CBP will comprise both PUT and TAKE components.	

Ultimately, the CBP brings together these components cost-effectively and greatly enhances flexibility to regional and local water operations, particularly during future extended droughts expected as climate change continues to impact California. The CBP's proposed AWPF, new injection and extraction facilities, conveyance facilities, and water system interconnections will allow more optimal management of local water supplies, including meeting water quality requirements for the continued use of recycled water, improved storage and recovery operations, as well as redundancies in water delivery infrastructure that will facilitate future rehabilitation and replacement of existing infrastructure. The CBP will utilize advanced treated water for groundwater recharge, helping to ensure water quality objectives are met and local groundwater supply is sustainable.

Furthermore, the data contained in this CBP RDPEIR is augmented by the analysis contained in the *Final Pulse Flows Component of the Water Storage Investment Program Groundwater Projects Supplemental Environmental Impact Report (2024 DWR Pulse Flow FSEIR; SCH No. 2022080216)* dated July 2024, prepared for the California Department of Water Resources (DWR) and prepared by ICF/ESA. This SEIR was circulated from February 16, 2024 to April 1, 2024, and the final document, including responses to comments, was completed in July 2024. The Pulse Flows Component is defined by the following DWR actions: (1) Release of the pulse flows from Lake Oroville into the Low Flow Channel of the Feather River, with the goal of improving habitat conditions for listed salmonids, as well as improving spawning and migration conditions for other listed and non-listed native fish species. (2) Implementation of the WSIP Operational Exchange Process that develops water used for pulse flow releases. (3) Diversion and conveyance of water

to Kern Fan and Willow Springs that would be stored, in part, for ecosystem benefit. Implementation of the Pulse Flows Component would not require construction of any new facilities in addition to those previously analyzed in the three WSIP Groundwater Projects' EIRs (including the 2022 CBP FPEIR and now this RDPEIR). Existing facilities would be used, with operations modified to support the pulse flow releases. The Pulse Flows Component study area analyzed in the FSEIR extends approximately 575 miles from Lake Oroville in Northern California to the WSIP Groundwater Projects in the San Joaquin Valley and Southern California. The 2024 DWR Pulse Flow FSEIR is presented as Subchapter 8.3 to this RDPEIR, and their information and analysis contained therein is hereby incorporated by reference as previously described in more detail under Subchapter 1.6, Impacts.

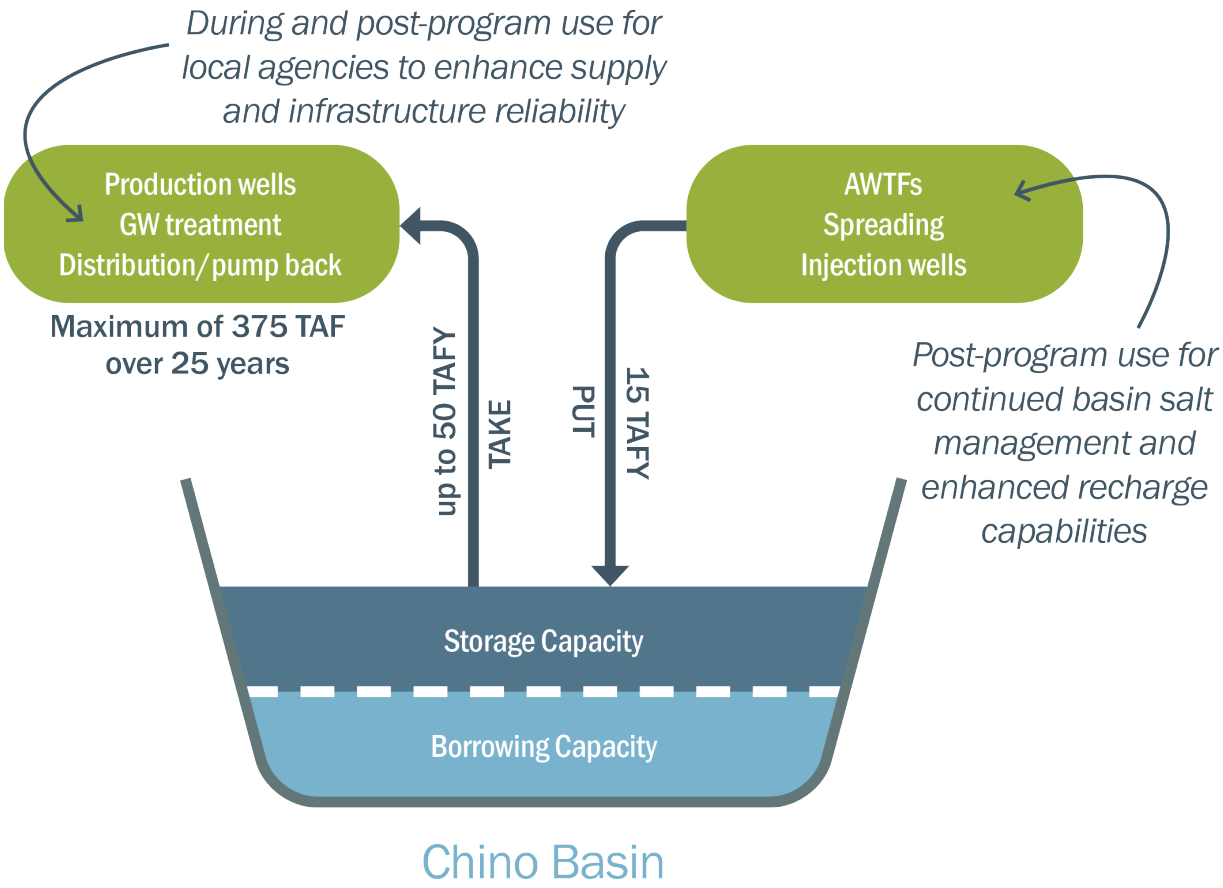


Exhibit 7: CBP PUT and TAKE Overview

3.5.2 Groundwater Storage Within the Chino Basin

The CBP will provide up to an increase in baseline storage capacity in the Chino Groundwater Basin to be used for deposit of up to 15,000 AF of advanced treated water in each year for 25-years (while the Proposition 1 WSIP water exchange commitment is fulfilled). As previously discussed, this water will be accessible for withdrawal at a maximum capacity of 50,000 AF per year, for up to three consecutive years, when an ecosystem need arises. Through this approach, and depending on existing groundwater conditions, the CBP will be able to provide advanced treated water through increased storage capacity in the Chino Groundwater Basin, which enhances operational flexibility.

~~As stated under Subsection 3.3.1, Chino Basin Groundwater,~~ The proposed CBP requires an increase in the Safe Storage Capacity of the Chino Basin in order to accommodate an addition of up to 150,000 AF of managed storage above the existing Safe Storage Capacity (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035). As such, the CBP would contemplate a tiered increase in Safe Storage Capacity that would accommodate CBP storage requirements as well as Watermaster stakeholder storage requirements as follows: the CBP proposes an increase in Safe Storage Capacity up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter (refer to footnote).[9] The storage increase would accommodate the CBP during its 25-year planning horizon (while the Proposition 1 WSIP water exchange commitment is fulfilled), and any future required increase in storage that may be necessary to accommodate the increased recharge and extraction capacities provided by CBP infrastructure would be addressed in future CEQA documentation. Overall, the CBP may: reduce dependence on imported water through development of infrastructure that would provide a new local source of water; improve water quality by reducing the expected TDS concentration of the AWPF effluent to 100 mg/L; and providing a new local water supply for the Basin as a result of the creation of the AWPF that would enable IEUA to continue to treat recycled water below the Regional Board's Basin Plan regulatory limits for continued Basin use. This proposed tiered increase would supersede the Safe Storage Capacity that was approved in March of 2021 by the IEUA Board and subsequently approved by the CBWM in May 2021. Furthermore, as storage space in the Basin is regulated by Watermaster, a Storage Agreement will be required in order for this proposed Safe Storage Capacity to be adopted.

3.5.3 Upper Santa Ana River Discharges

IEUA and Western Municipal Water District (WMWD) are responsible for an average annual flow of 42,000 AFY at Prado. However, when their cumulative credits exceed 30,000 AFY (which they currently do and will continue to do so for the foreseeable future), they are responsible for a minimum annual base flow of 34,000 AFY. Historically IEUA and WMWD have released a total of approximately 58,000 AFY to the Santa Ana River.

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[9] The CBP proposed Safe Storage Capacity was evaluated throughout the 2022 CBP FPEIR. The CBP contemplated a tiered increase in SSC in the Chino Basin of up to 720,000 AF from July 1, 2030 through June 30, 2042; to 580,000 AF from July 1, 2042 through June 30, 2048; and 500,000 AF thereafter. This proposed tiered increase in Chino Basin SSC would supersede the SSC approved by the Watermaster in 2021. If and when the CBP is approved, IEUA would approach the Watermaster to approve the SSC required to support the CBP based on the findings in this RDPEIR. Based on the findings in the 2022 CBP FPEIR, the Groundwater Storage Increase to meet CBP operational requirements would not result in any significant adverse impacts to the environment, and this finding was not challenged in the City of Ontario's legal challenge.

Regardless, in 2024 the Chino Basin Watermaster and IEUA published and processed the Optimum Basin Management Plan Update (OBMPU) Subsequent Environmental Impact Report (SEIR). The Final version of this SEIR was certified in 2024 and was not legally challenged. Relying on the 2023 Storage Framework Investigation (SFI), which provided a technical analysis of Storage and Recovery Programs considered by the CBW, the SEIR included the following: use of storage space by members up to 700,000 AF, and conjunctive-use by Storage and Recovery Programs from 700,000 AF up to 900,000 AF. This decision enabled expansion of the SSC up to 900,000 AFY going forward from 2024 and beyond. IEUA has retained the analysis of the 700,000 AFY Safe Storage Capacity in this RDPEIR, but adequate SSC, and more, to cover the CBP required storage capacity has already been authorized through the SSC increase approved by the Chino Basin Watermaster, relying on the OBMPU PEIR.

This footnote will be repeated under the discussion under Subchapter 3.12, Summary of Facility Construction and Operations, wherein this Project Description introduces the Project Categories that make up the components of the CBP as analyzed in this RDPEIR. No further footnotes describing the SSC context will be provided in this RDPEIR analysis.

As part of meeting the CBP water demands, IEUA critically examined the potential sources of recycled water that might be available in the Upper Santa Ana River Watershed to support the water demand requirements of the proposed CBP AWPF, which is identified as 17,000 acre-feet per year (AFY). Of the 17,000 AFY that would be processed by the AWPF, 15,000 AFY of advanced treated water will be recharged to the Chino Basin annually and an estimated 2,000 AFY will be transported as reject water (brine) that will need to be disposed of through the Non-Reclaimable Waste System (NRWS). To meet this CBP demand, IEUA proposes to acquire an estimated 3,500 acre-feet (AF) of reclaimed water from the Rialto Wastewater Treatment Plant (WWTP) and 2,400 AFY of reclaimed water from the Western Riverside County Regional Wastewater Authority (WRCRWA) annually over the life of the CBP. The remainder of the recycled water deliveries to the AWPF will come from IEUA recycled water sources. The transfer of surface water will reduce the current flows into the Santa Ana River and Prado Basin. These transfers are analyzed and included in the Upper Santa Ana River Habitat Conservation Plan and Upper Santa Ana River Habitat Conservation Plan Environmental Impact Report. Furthermore, West Yost prepared an Addendum to their Technical Memorandum for the CBP (provided as Appendix 4 to Volume 2 of the ~~is~~ 2022 CBP FPEIR, which is presented as Appendix 1 to Volume 2 of this RDPEIR), which indicates that IEUA would continue to meet their baseflow obligations to the Santa Ana River, and is projected to continue to exceed their baseflow obligations to the SAR even with the proposed diversions of recycled water from IEUA, WRCRWA, and Rialto in support of the CBP AWPF; however, the proposed CBP would probably result in a reduction in surplus flows to the SAR.

3.6 REGIONAL CONTEXT AND PLANNING EFFORTS THAT INFORM THE CBP

The CBP combines various projects that will allow the region to meet the needs identified in the regional planning efforts conducted by IEUA in conjunction with its member agencies. These regional planning efforts enable IEUA to better prepare for the region's future water needs. Each planning report is backed by technical studies and supporting documentation to ensure regional planning efforts are well informed. Through these planning documents IEUA has identified future needs that the agency must meet in order to continue its track record of providing reliable, clean, and sustainable water to the region.

While each planning report is unique, there are shared themes including:

- The need to diversify water supplies and reduce dependency on imported water
- The anticipated negative impacts of climate change on water reliability
- An increasing need for advanced water treatment
- Furthering the beneficial use of water to restore natural populations and habitats

These themes have been intentionally addressed by components of the CBP. The CBP provides an opportunity to implement projects that address critical needs on a more expedited schedule, providing benefits earlier not only for the local agencies, but for CBP partners across the State.

Provided in Appendix 1 (to the 2022 CBP FPEIR, which is presented as Appendix 1 to Volume 2 of this RDPEIR), Draft Chino Basin Program Assumptions Technical Memorandum No. 1, under Section 2: Related Studies and Activities, is the complete list of regional planning documents that support the implementation of the CBP. The reviewer interested in details regarding CBP background information can review these documents for additional information.

3.7 REGULATORY REQUIREMENTS

Scenarios developed for the CBP were screened for viability in the context of regulatory compliance. Key regulatory requirements are set forth by the California State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) and the Regional Water Quality Control Board (RWQCB), Santa Ana Region, which have the following responsibilities:

- SWRCB DDW
  - Administers California's Drinking Water and Recycled Water Programs;
  - Establishes criteria to protect public health regarding recycled water production and use;
  - Develops Water Recycling Criteria in the California Code of Regulations (CCR), Title 22, which includes regulations for non-potable and potable use projects; and,
  - Participates in public hearings and makes recommendations for recycled water permits issued by the RWQCBs.

- RWQCB, Santa Ana Region
  - Establishes and oversees surface water and groundwater quality objectives to protect designated beneficial uses of waters in the region;
  - Issues and enforces water recycling and waste discharge permits and requirements; and,
  - Incorporates Title 22 requirements and recommendations from the SWRCB DDW into permits for water recycling and groundwater recharge projects.

Data provided in Appendix 1 (TM1) details the specific regulatory requirements that will govern the various aspects of the CBP. Since the program will include both groundwater replenishment and potable water production, the applicable regulations include:

- IEUA's existing water recycling and recharge permits
- Groundwater replenishment regulations; and,
- Drinking water regulations

The CBP program scenarios were developed to comply with these broad regulatory requirements. Additionally, a description of future direct potable reuse (DPR) regulations is discussed in Subsection 3.4.

While the CBP does not specifically include DPR concepts at this time, the program could be expanded to include DPR in the future. The CBP concept is based on indirect potable reuse (IPR) that relies on the ability to use the Chino Basin as a water resource storage Basin. A DPR concept could expand upon the advanced water purification concepts developed for the CBP with additional treatment/buffers and mix the water with a raw imported water source prior to water treatment, such as the Rialto Pipeline or upstream of CVWD's Lloyd. W. Michael WTP.

The main difference between IPR projects and DPR projects is the presence of an environmental buffer. An IPR project features an aquifer or reservoir that provides measurable and significant public health benefits. Lacking such an environmental buffer, a DPR project can utilize enhanced reliability from mechanical systems and treatment plant performance to replace the environmental buffer benefits and maintain an equivalent level of public health protection.

3.8 CHINO BASIN PROGRAM SPECIFICS

3.8.1 The Chino Basin Program

In August 2017, IEUA submitted a California Proposition 1 Water Storage Investment Program (WSIP) application for the CBP. ~~In July 2018,~~ The California Water Commission (CWC) approved maximum conditional funding for the proposal in the amount of $269M ~~$206.9M~~ as of August 2025. In return for this funding, the CBP will provide water supplies for public benefits as defined by WSIP, including ecosystem improvement, water quality improvement, and emergency response benefits.

The CBP will consist of AWPF, injection wells, extraction wells, groundwater treatment facilities, and a pipeline distribution network connecting the facilities to local agencies and MWD for a water exchange with the SWP. The CBP would introduce extraction wells, groundwater treatment facilities, pipelines, and interconnections to the MWD system, Rialto Pipeline. In addition, the CBP includes a combination of unused IEUA recycled water and external supplies imported to the IEUA service area as 17,000 AFY of new supply. As a result of implementation of the CBP, 2,000 AFY of water will be lost through the AWPF process each year.

The infrastructure details were evaluated based on the objectives discussed above. The preferred infrastructure design that best met the objectives defines the CBP and are shown in **Exhibit 8**. This system would collectively treat and store up to 15,000 AFY of recycled water in the Chino Basin each year, creating a new local water supply. However, the CBP also provides for an exchange of new water supplies in the Chino Basin for SWP supplies in Lake Oroville in Northern California that would otherwise be delivered to Southern California. Beginning in 2017, IEUA consulted with The Nature Conservancy and other environmental interest groups to develop an innovative project that could advance the Agency's long-range water resource plans and provide significant public benefits to both the State of California and federal interests. The concept of creating a new water supply to use in a water exchange that would allow for a "block of water" to be dedicated to ecosystem improvements in the Feather River (a significant tributary within the Bay-Delta watershed of Northern California) in dry and critical water years was identified as a high priority with significant public benefits.

The lower Feather River provides habitat for a variety of native resident and anadromous fish including spring-run Chinook salmon (*Oncorhynchus tshawytscha*) which is listed as threatened under the California and federal Endangered Species Acts, and fall-run Chinook salmon that support recreational and commercial fisheries. Low instream flows, increased water temperatures, and decreased water quality during dry and critical water years poses a significant threat to the survival of juvenile salmonid species and increased straying of returning adults in California's Central Valley.

The exchange will encompass a capacity to use this new local water supply to support an exchange of 50,000 AFY "call" for water in dry and critical years, for up to three consecutive years, that would be delivered from Lake Oroville to be used to enhance instream flows in the Feather River, providing ecosystem benefits during an extended dry period. Releases of this magnitude equate to an increase of instream flows in the low flow channel of the Feather River by 2,500 cubic feet per second (cfs) per day (baseflow is approximately 800 cfs). These releases would be designed to improve the survival rate of migrating juvenile spring-run Chinook salmon. The proposed ecosystem benefit also pledges to work with resource agencies to alter the location of spring-run Chinook smolt releases to a point further upstream. This would increase natal imprinting which in turn decreases adult stray rates upon return.

While the releases will target spring-run Chinook salmon other federally listed species would also benefit. Specifically, pulse releases would provide migratory cues for steelhead (*O. mykiss*), increase forage opportunities for rearing steelhead and green sturgeon (*Acipenser medirostris*), increase access to floodplain habitat, and decrease predation by nonnative species. These benefits are specifically identified in federal planning documents as priority recovery actions to improve habitat and survival rates for these federally listed species.

This exchange element will be in operation during the first 25-years, administered through agreements with DWR, CDFW, MWD, and other project partners. The total delivery commitment is 375,000 AF at the end of the 25-year period (while the Proposition 1 WSIP water exchange commitment is fulfilled). Afterwards, this water will be available for local use, ~~therefore~~ and would be anticipated to reduc~~e~~ing dependence on imported water, improving water quality, and providing a new local water supply for the Basin. However, as previously stated under Subchapters 1.1, Project Background and 2.3, Scope and Content of this EIR, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year conjunctive use project and would be available to support the goals presented in the previous sentence, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

In addition to the unique ecosystem improvement benefits provided by this dedicated water supply, the production of high-quality water in the Chino Basin will also deliver public benefits in the form of enhanced water quality and in the form of local water supply benefits available annually to offset the cost of imported water from MWD or banked for later extraction during dry and critical years when MWD supplies are curtailed due to reduced SWP allocations after the State performance period of 25-years (while the Proposition 1 WSIP water exchange commitment is fulfilled). The CBP also is anticipated to provide~~s~~ local emergency supply benefits during the life of the project, including the first 25-years, for when planned or unplanned service disruptions occur, and could be deployed to provide~~s~~ potential land subsidence mitigation through operational efficiencies using recharged supplies to better manage groundwater pumping in areas sensitive to subsidence.

MWD is a vital partner in implementing the CBP. MWD is a SWP Water Supply Contract holder and would serve as a fundamental party in completing proposed water exchange between supplies stored locally in the Chino Groundwater Basin and SWP supplies stored in Lake Oroville. A principle for MWD participation is that no adverse impacts should occur to MWD, its member agencies, or other SWP contractors due to CBP operations. Because real time extraction capacity from the Chino Groundwater Basin will be limited in comparison to SWP delivery capability to MWD, some reoperation of the MWD distribution system will be necessary. Operations plans will be developed to minimize the potential for reoperations. These plans include the ability for IEUA and local partners to access stored water in the Chino Groundwater Basin in lieu of planned water deliveries from MWD. In addition, the CBP would have the ability to extract stored water, treat it to meet all water quality requirements (the means of treatment are discussed under Subsection 3.9.3, below) and pump it into MWD's water distribution system. This direct delivery will utilize new interconnection infrastructure. These new water conveyance and water system interconnections also provide an important alternative source of water supply to IEUA and its member agencies during any required shutdown of MWD's major pipelines delivering water to the region, such as the Rialto Pipeline, which is planned for rehabilitation as part of a larger rehabilitation plan of MWD's pipelines within their service area.

DWR's SWP infrastructure provides the basis for the Feather River Ecosystem Water Exchange proposed by the CBP. Water supplies for Feather River Pulse flows would be released by DWR, under terms of agreements with CDFW, MWD, and others from Lake Oroville. Similar to MWD's participation conditions, a principle for the CBP operations is that no adverse impacts should occur to the SWP or SWP Water Supply Contract holders. Operations plans will be developed to minimize the potential for SWP reoperations that result in adverse impacts to other SWP purposes, including water deliveries to SWP water supply contract holders. IEUA is working with DWR as they conduct SWP operations analyses to identify potential impacts and develop operational parameters to avoid them. Preliminary operations analysis indicates that reoperations required to achieve the exchange could be successfully completed under most hydrologically dry conditions. IEUA and DWR are developing metrics and conditions that will govern reoperations during an exchange and prevent potential water supply impacts to the SWP and its contractors. Should it be determined that pulse flow exchanges in certain critical year conditions are problematic for SWP and Oroville operations, CDFW has expressed willingness to consider avoiding exchanges under those unique conditions and instead carry out exchanges in years classified as dry or below normal years.

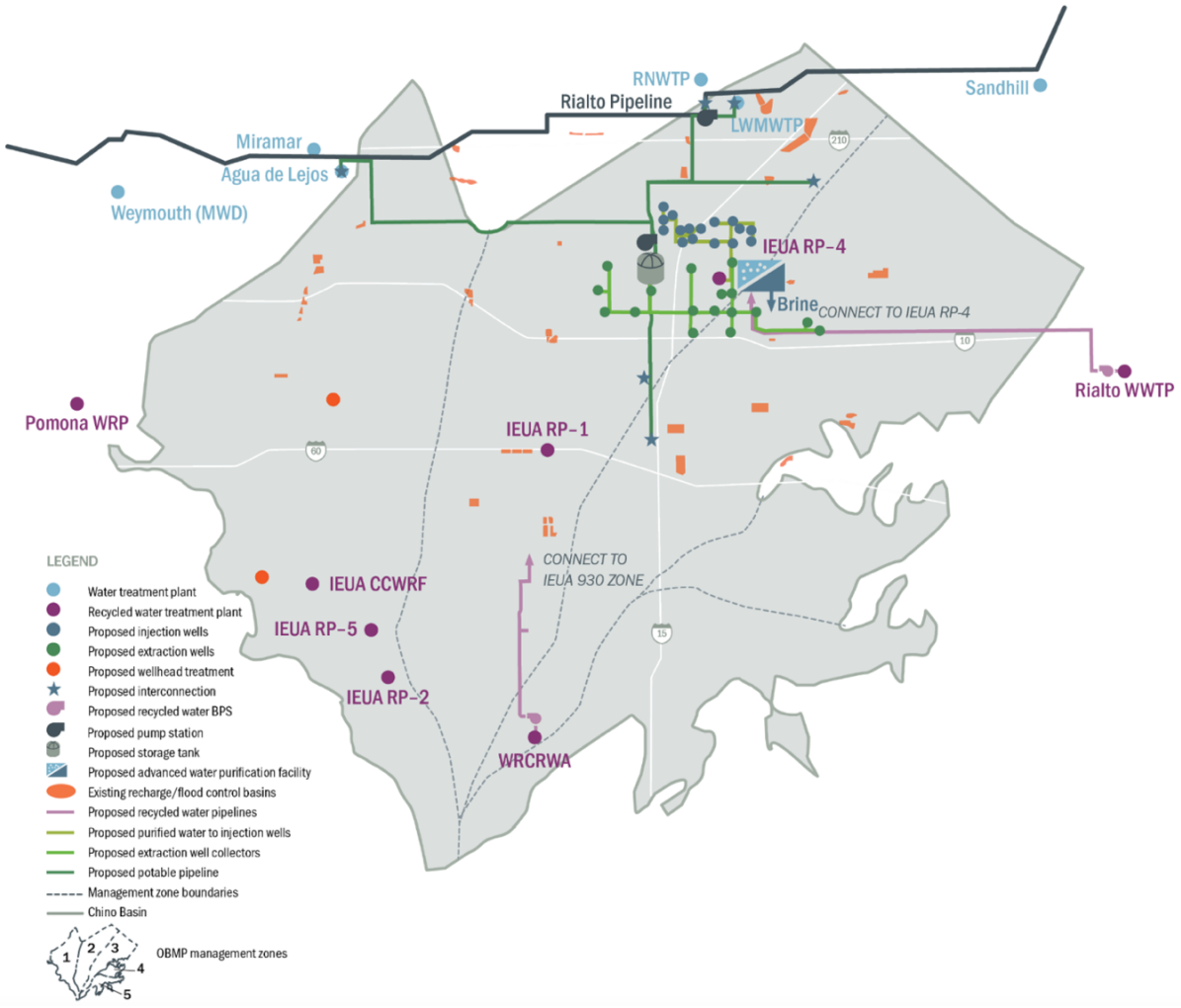


Exhibit 8: Conceptual CBP Infrastructure

Conclusion

The CBP includes water quality infrastructure, including advanced water treatment and groundwater injection facilities that would collectively treat and recharge/store up to 15,000 AFY of recycled water in the Chino Basin. The CBP would introduce water supply infrastructure, including extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system, as well as 17,000 AFY of recycled water, which includes unused recycled water and 6,000 AFY of external supplies.

The CBP would also include a regional pipeline connecting CBP potable water facilities to the region, as well as connections to the MWD with the ability to pump CBP potable supplies into MWD's water distribution system. As previously discussed, this connection would allow the CBP to make 50,000 AFY available to MWD in dry or critical year in exchange for the same amount of supply delivered by the SWP. In return, 50,000 AFY that would otherwise have been exported to MWD would be stored in Lake Oroville and used to enhance instream flows in the Feather River.

A summary of the infrastructure for the CBP is provided below in **Table 8**.

Table 8
SUMMARY OF CBP INFRASTRUCTURE

Project Category	Infrastructure
Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)	16 injection wells (maximum) 17 extraction wells (maximum) 4 monitoring wells (maximum) Use of existing wells including a mix of up to 4 of the following: • Use of existing Rialto Pipeline • Use of existing member agency wells • Use of existing Agua de Lejos WTP Clearwell • Use of existing Lloyd Michael WTP Clearwell
Project Category 2: Conveyance Facilities and Ancillary Facilities	Pipeline: The CBP would ultimately install a total of about 30 miles or 158,400 lineal feet (LF) of various types of pipeline. Potential alignments include a mix of the following: • TAKE 1: 9 miles of 12- to 36-inch collector pipelines • TAKE 1: 5 miles of 54-inch potable northern pipeline • TAKE 3: 9 miles of 12- to 42-inch collector pipelines • TAKE 3: 8 miles of 16- through 48-in potable northern pipeline • TAKE 3: 4 miles of 12- through 24-inch potable southern pipeline • TAKE 3: In lieu Brine Disposal IEBL 6,800 ft 8" pipeline, possible jack and bore across 300 ft under Hwy 71 and Chino Creek • TAKE 7: 7 miles of 36- to 72-inch e/w WFA pipeline • TAKE 7: 4.5 miles 24-inch e/w FWC pipeline • TAKE 7: 4.5 miles 54- to 72-inch & 36-inch CVWD/MWD pipeline • TAKE 7: 0.3 miles 54- to 72-inch MWD pipeline • TAKE 8: 6.3 miles of 48-inch CVWD pipeline • TAKE 8: 7 miles of 24-inch FWC-1 pipeline • TAKE 8: 0.7 miles of 24-inch FWC-2 pipeline • TAKE 8: 0.8 miles of 24-inch MWD pipeline • TAKE 8: 36-inch JCSD 2 miles • PUT 5: 7.1 miles of 8- to 30-inch pipeline for purified water conveyance • PUT 5: 1,400 ft (8' pipeline) NRWS brine conveyance; NRWS Capacity Units required 2,603 Reservoir: The CBP would install a circular, prestressed tank storage tank with a maximum capacity of 5 MG with possible and in-conduit hydropower facility.

Project Category	Infrastructure
	Pump Station: The CBP would install 4 pump stations serving various PUT and TAKE facilities. One pump station would serve PUT facilities, while up to three pump stations would support TAKE facilities. The breakdown of the types of pump stations include a mix of the following: • PUT 5: Pump station at RP-4 1,500 HP • TAKE 1: Pump Station with a max 9,300 HP, and a max of 31,100 gpm, 823 ft TDH • TAKE 3: Potable Water Pump Station #1: 7,000 HP, 23,300 gpm firm capacity, 823 ft TDH • TAKE 7: WFA Booster at 1,700 HP • TAKE 7: FWC Booster at 300 HP • TAKE 7: CVWD/MWD Booster at 4,800 HP • TAKE 8: Booster Station #1 at 5,300 HP • TAKE 8: MWD Booster at 650 HP Turnouts: The CBP would install a maximum of 6 turn-outs that would be between 12" and 72" in size to support TAKE facilities at various member agency locations throughout the Chino Basin
Project Category 3: Groundwater Storage Increase	The CBP would contemplate a tiered increase in Safe Storage Capacity that would accommodate CBP storage requirements as well as Watermaster stakeholder storage requirements as follows: the CBP proposes an increase in Safe Storage Capacity up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.
Project Category 4: Advanced Water Purification Facility and Other Water Treatment Facilities	AWPF: The CBP would install an AWPF at RP-4, which will ultimately have a capacity 15,000 AFY. The intake of recycled water at this facility will total 17,000 AFY, with a resulting 15,000 AFY of purified water derived from the AWPF processes. Wellhead Treatment: The CBP may install up to 3 wellhead treatment facilities at locations that have yet to be selected.

How the CBP Meets Objectives

The CBP also helps address local and state/federal objectives as follows:

- **Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin:** The project provides groundwater recharge facilities to recharge high quality recycled water, thus reducing TDS levels within the Chino Groundwater Basin.
- **Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin:** With the implementation of AWPF with an expected effluent concentration of 100 mg/L, the recycled water TDS will be significantly reduced.
- **Develop Infrastructure That Addresses Long Term Supply Vulnerabilities:** The CBP would improve the use of recycled water at a regional level through new regional pipelines enabling greater potential access to recycled water and enhances local groundwater supplies through the installation of additional extraction wells and through the installation of new wellhead treatment systems that would bring existing out-of-service wells online.
- **Provide a Source of Water for Emergency Response:** The project results in 15,000 AFY in local supplies which can be used to augment the water supply portfolio during unplanned or catastrophic events.
- **Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~:** The project develops a highly reliable new water supply ~~formally~~ dedicated to supporting regional water reliability while balancing environmental sustainability. ~~benefit that can be~~

~~deployed dynamically and managed flexibly to address varying and changing ecological needs.~~

3.9 CHINO BASIN PROGRAM PUT FACILITIES

The CBP includes two main categories of facilities: PUT, the components to recharge purified water to the Chino Basin, and TAKE, the components to extract groundwater and convey potable water supply.

The PUT components are as follows:

- **Tertiary recycled water supply** of 17,000 AFY to produce 15,000 AFY of purified water.
- **Tertiary recycled water conveyance** to supply additional tertiary recycled water to IEUA's recycled water distribution system and the AWPF(s).
- **Advanced water purification** to treat the tertiary recycled water and produce purified water suitable for groundwater recharge through subsurface application.
- **Purified water pumping and conveyance** to convey water from the AWPF(s) to the injection wells for groundwater recharge.
- **Groundwater recharge using injection wells**

To support the development of the PUT and TAKE options, and program scenarios, WEI completed initial groundwater modeling for the PUT and TAKE components as shown below in Subsection 3.9.1.

3.9.1 Initial Groundwater Modeling

During development of the PUT and TAKE options it was determined that modeling would be beneficial to help guide the development of the CBP scenarios, which each contain a set of PUT and TAKE options. Wildermuth Environmental, Inc. (WEI, now known as West Yost) completed six interim groundwater modeling scenarios for the PUT and TAKE options to determine if these operational concepts would be consistent with the Optimum Basin Management Plan, Peace Agreement requirements, and the 2020 Storage Management Plan. The modeling also evaluated potential impacts to pumping sustainability in the existing well fields due to the planned extraction wells and groundwater travel time requirements between recharge locations (i.e., injection wells) and extraction wells. This early modeling input allowed the team to refine the PUT and TAKE components to better align with Chino Basin's functional requirements.

The finalized modeling work, provided as Appendix 4 to Volume 2 of this RDPEIR, was utilized in the preparation of **Table 9**, below. This report was prepared by West Yost, and is titled "Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program" dated October 15, 2021.

The modeling runs evaluated the following PUT and TAKE components:

- Potential PUT locations, including initial and refined injection well locations in Chino Basin Groundwater Management Zone (MZ) 2.
- Potential TAKE locations in MZ-2 and MZ-3.
- Asymmetrical[10] PUT and TAKE with the majority of the groundwater recharge in MZ-2 and extraction in MZ-2 and MZ-3.

[10] Asymmetrical is when some or all the PUT operations do not occur in the same MZ(s) as the TAKE operations.

The following results were determined from the initial groundwater modeling:

- Confirmed that injection wells located in the northern portion of MZ-2 provides the capacity for the level of extraction contemplated in the CBP.
- The initial model runs indicated that hydraulic control was maintained throughout the entire program period under the assumed CBP operations.
- Impacts to net recharge[11] were minimal (see **Table 8**) under the assumed CBP operations. Scenarios with an early TAKE result in an increase of net recharge compared to the baseline condition.
- Any new risk of land subsidence due to the assumed CBP operations is projected to be minor and only occur in areas where new risks of land subsidence were already projected to occur under baseline conditions.
- The displacement of known groundwater contaminant plumes in the Chino Basin due to the assumed CBP operations is projected to be minor.
- The refined MZ-2 injection well locations (selected to reduce purified water conveyance infrastructure) and the assumed operations of the injection and extraction wells meets travel time requirements for the recharge of recycled water.
- Increased pumping sustainability challenges at existing wells are localized and temporary and can be mitigated.
- Impacts to the Basin due to asymmetrical PUT and TAKE for recharge in MZ-2 and extraction in MZ-2 and MZ-3 are projected to be minor.

Table 9 summarizes the initial groundwater modeling runs with the PUT and TAKE assumptions and the corresponding results.

Table 9
SUMMARY OF GROUNDWATER MODELING

Scenario Model Run	PUT Assumptions	TAKE Assumptions[1]	TAKE Option	Results
1/D1[4]	• 15,000 AFY via 12 injection wells in MZ-2[2]	• Standard Delivery[3] (50,000 AFY) • Extraction in MZ-2 • Call occurs in last 3 years of a 10-year cycle (e.g., Years 8-10)	1, 3, 7	• Achieved hydraulic control • Decrease in net recharge compared to baseline of about 400 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2
2/D2	• 15,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (50,000 AFY) • Extraction in MZ-2 • Call occurs in first 3 years of a 10-year cycle (e.g., Years 1-3)	1, 3, 7	• Achieved hydraulic control • Increase in net recharge compared to baseline of about 840 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2

[11] Net recharge is net inflow to the basin excluding the direct recharge of Supplemental Water.

Scenario Model Run	PUT Assumptions	TAKE Assumptions[1]	TAKE Option	Results
3/D3	• 15,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (40,000 AFY) • Extraction in MZ-2 • Call occurs in last 3 years of a 10-year cycle (e.g., Years 8-10) • Pumping of about 4,000 AFY in non-call years to increase total TAKE to equal the total PUT, less the average decrease in net recharge caused by the CBP scenario.	8	• Achieved hydraulic control • Decrease in net recharge compared to baseline (260 AFY) is accounted for by reduced TAKE • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2
4/D4	• 15,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (40,000 AFY) • Extraction in MZ-2 • Call occurs in first 3 years of a 10-year cycle (e.g., Years 1-3) • Pumping of about 4,400 AFY in non-call years to increase total TAKE to equal the total PUT.	8	• Achieved hydraulic control • Increase in net recharge compared to baseline of about 680 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2
5/D5	• 12,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (40,000 AFY) • Extraction in MZ-2 • Call occurs in last 3 years of a 10-year cycle (e.g., Years 8-10)	8	• Achieved hydraulic control • Decrease in net recharge compared to baseline of about 330 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2
6/D6	• 12,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (40,000 AFY) • Extraction in MZ-2 • Call occurs in first 3 years of a 10-year cycle (e.g., Years 1-3)	8	• Achieved hydraulic control • Increase in net recharge compared to baseline of about 680 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2
D7	• 15,000 AFY via 12 injection wells in MZ-2	• Standard Delivery (50,000 AFY) • Extraction in MZ-2 • Call occurs in last 3 years of a 10-year cycle (e.g., Years 1-3); first call is delayed 3 years to occur in the first 3 years of the second 10-year cycle	1, 3, 7	• Achieved hydraulic control • Decrease in net recharge compared to baseline of about 750 AFY • Localized and temporary pumping sustainability challenges in existing well fields in MZ-2

Notes: [1]No pre-delivery was assumed for all initial model runs since this is the most conservative extraction assumption. Pre-delivery would have less impacts on the Chino Basin.
[2]Several additional wells are planned to be constructed for the CBP to provide redundant capacity. These are assumed to be inactive in the model.
[3] Standard delivery (no pre-delivery): The TAKE facilities would be sized to deliver the specified AFY of groundwater from the Chino Basin to MWD regional facilities or directly to member agencies.
[4] Scenarios starting with "D" denote scenarios that simulate the effects of reduced wastewater discharge due to the planned CBP operations. Assumptions for these scenarios are described in more detail in Second Addendum to the Evaluation of the Chino Basin Program/ Water Storage Investment Program prepared by West Yost and provided as an Attachment to the Responses to Comments in the Final PEIR.

3.9.2 Tertiary Recycled Water Supply and Quality

To meet the CBP objectives, various recycled water supply sources were considered that would

allow IEUA to expand both direct use and groundwater recharge of tertiary recycled water as well as meet the future needs of CBP. The CBP will require 17,000 AFY of tertiary recycled water to produce 15,000 AFY of purified water.

The recycled water supply sources considered for the CBP include IEUA, the Rialto WWTP, and the Western Riverside County Regional Wastewater Authority (WRCRWA) treatment plant. The seasonal and diurnal availability of recycled water could impact the AWPF sizing and operations. An evaluation of seasonal availability was also conducted to confirm that the AWPF could be supplied with a constant supply of recycled water to most cost-effectively produce purified water. New recycled water supplies that can provide constant flow year-round, such as WRCRWA and the Rialto WWTP, have the biggest benefit to the CBP to supply the AWPF at a constant rate and eliminate the need for seasonal storage.

Diurnal recycled water supply fluctuations were assumed to be managed with existing and new equalization basins and recycled water storage tanks, which will be analyzed in more detail in future phases of the Program. The external recycled water supplies both have existing or planned equalization that will allow them to deliver a constant recycled water supply to IEUA's system Equalization basins to manage diurnal recycled water supply fluctuations within IEUA's system were assumed for the AWPF components.

An analysis of IEUA's recycled water system was also completed using IEUA's recycled water model to confirm that recycled water can be conveyed to the appropriate locations in the recycled water system to meet current and future direct use and tertiary GWR demands as wells as future CBP demands.

Overall Recycled Water Quality

The overall impact of recycled water quality on the AWPF design is discussed in this section.

At RP-4, it is assumed that the AWPF influent would similarly reflect the RP-4 values reported in **Table 10** with slightly lower chloride, sodium, pH, and NDMA levels for 60 percent of the influent flow on average. The remaining 40 percent of the RP-4 AWPF influent flow would reflect the water quality from IEUA's recycled water distribution system, comprised of a varying blend of recycled water from RP-1, WRCRWA, and/or the Rialto WWTP. **Table 10** summarizes the projected water quality for the proposed RP-4 AWPF assuming the following for each condition and this projected water quality was used to develop the CBP scenarios considering the AWPF at RP-4 AWPF.

- **Average:** 60 percent RP-4 and 40 percent RP-1.
- **Minimum:** Minimum of RP-4, RP-1, WRCRWA, and the Rialto WWTP.
- **Maximum:** Maximum of RP-4, RP-1, WRCRWA, and the Rialto WWTP.

Table 10
PROJECTED AWPF INFLUENT WATER QUALITY

Constituent [1]	Average	Min	Max
Calcium (mg/L Ca^{2+})	41	25	68
Magnesium (mg/L Mg^{2+})	9.4	7.0	11
Sodium (mg/L Na^{+})	96	75	140
Potassium (mg/L K^{+})	15	14	18
Barium (mg/L Ba^{2+})	0.012	0.008	0.053
Copper (mg/L Cu^{+2})	0.004	0.0004	0.079

Constituent (1)	Average	Min	Max
Iron (mg/L Fe^{2+})	0.068	0.000	0.112
Manganese (mg/L Mn^{2+})	0.018	0.002	0.037
Ammonium (mg/L NH_{4+} as N)	<0.1	<0.1	14.0
Aluminum (mg/L Al^{3+})	0.077	0.024	1.2
Bicarbonate (mg/L HCO_{3-})	166	100	230
Sulfate (mg/L SO_4^{2-})	52	39	264
Chloride (mg/L Cl^-)	112	58	190
Fluoride (mg/L F^-)	0.22	0.10	0.54(2)
Nitrate (mg/L NO_{3-} as N)	5.1	2.7	12
Phosphate (mg/L PO_4^{3-})	2.6	0.1	12
Silica (mg/L SiO_2)	22	4.0	31
pH	7.06	5.9	8.5
Alkalinity (mg/L as $CaCO_3$)	136	82	178
Hardness (mg/L as $CaCO_3$)	142	91	230
Boron (mg/L)	0.24	0.18	0.63
TOC (mg/L)	4.9	3.4	48
TDS (mg/L)	475	199	660*
1,4-Dioxane (µg/L)	1.0	ND	1.1
NDMA (ng/L)	4.4	<1.4	7.0
NMOR (ng/L)	66	6.9	350
Temperature(°C)	25	16(3)	36

Notes: This data assumes an Average of 60 percent RP-4 and 40 percent RP-1; a Minimum of RP-4, RP-1, WRCRWA, and the Rialto WWTP; and, a Maximum of RP-4, RP-1, WRCRWA, and the Rialto WWTP.
(2) Removed 68 mg/L outlier from WRCRWA data set.
(3) Removed 6.7°C outlier from WRCRWA data set.

Recycled Water Hydraulic Modeling

The recycled water model was used to support the development of CBP scenarios to (1) complete a recycled water distribution analysis to confirm that IEUA's existing recycled water system has sufficient capacity to convey water and maintain adequate pressures once the external supplies and the AWPF are incorporated into the system and (2) estimate tertiary recycled water pumping requirements whether the AWPF is located at RP-1 or RP-4.

The elements of the recycled water system included in the hydraulic model and recent system improvements are listed below:

- Pipelines: The recycled water pipelines are included in the hydraulic model, and include the pipeline length, diameter, roughness coefficient, and a check valve if the pipe does not allow reverse flow. The Baseline Pipeline and the Napa Lateral pipelines were constructed after the 2016 model calibration and are included in the model.
- Junction: The junctions in the recycled water model are necessary to connect joining pipelines at intersections. The elevation is defined at the junctions and necessary for the model to calculate system pressures. The system demands and demand patterns are also applied to the junctions.
- Tanks: The recycled water system includes 22.5 MG of available storage within six storage tanks. These tanks provide operational storage during times of peak demands. The

modeled tanks include properties such as elevation, minimum and maximum water level, and diameter.

- Pumps: The pumps at each pump station are included in the model and run based on their pump curve and operational controls. The RP-1 1158 Pump Station was recently upgraded to include higher capacity pumps and was also updated in the model.
- Reservoirs: Fixed head reservoirs[12] are used to model the water recycling plants.
- Valves: The model includes both pressure reducing valves (PRV) and flow control valves (FCV). The PRVs are representative of actual PRVs in the recycled water system that allow higher pressure zones to supply lower pressure zones. The PRVs includes the valve diameter, pressure setting, and operational controls as applicable. The FCVs in the model are located on the discharge side of IEUA's water recycling plants to control the recycled water supply. Diurnal production curves developed from the SCADA data during the 2016 calibration are applied to each plant to mimic the actual production at each plant throughout the day.

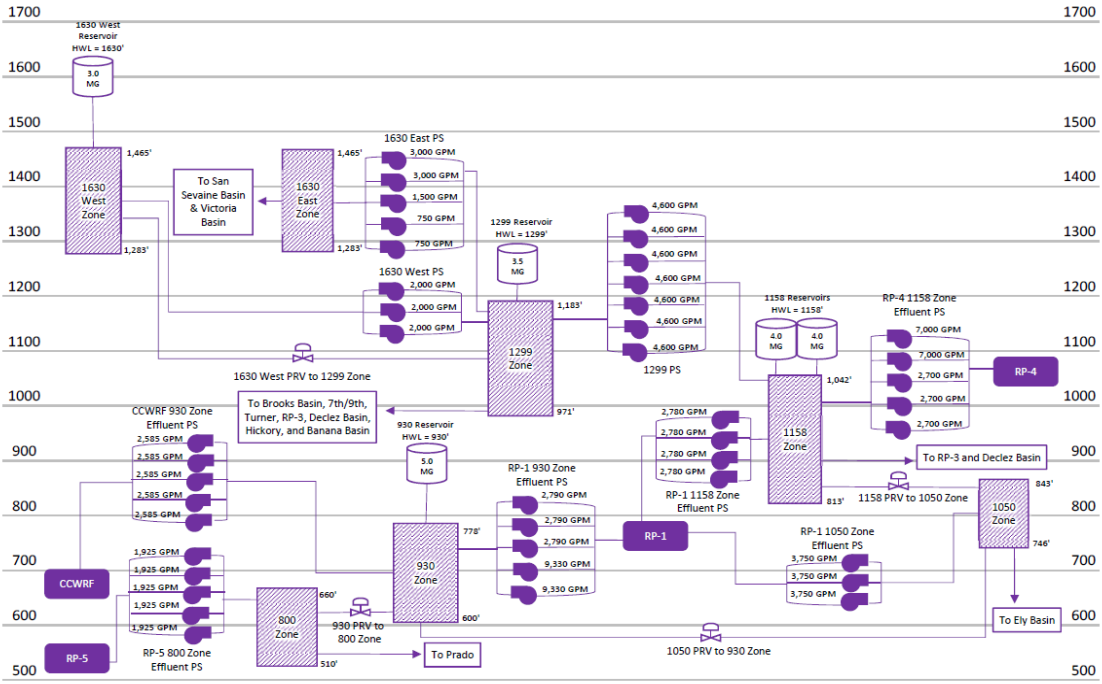


Exhibit 9: Recycled Water System Hydraulic Profile

3.9.3 Advanced Water Purification

The PUT options include advanced water purification to meet long-term salinity requirements in the Chino Basin. In addition, subsurface application through injection wells is assumed for groundwater replenishment, which also requires purified water. This section discusses the AWPF assumptions for the PUT options.

Potential AWPF Locations

The potential AWPF locations impact treatment process selection and infrastructure requirements for tertiary recycled water, purified water, and brine conveyance. The closer that the AWPFs can

[12] The reservoir is operated by a specified head elevation. This elevation is maintained in the model.

be sited to source water supply (tertiary recycled water), the groundwater recharge locations, and brine disposal will result in lower capital and operating costs. To avoid additional costs and schedule delays associated with siting and purchasing land for an AWPF, only IEUA-owned or stakeholder-owned properties were considered.

Of IEUA's existing four regional water recycling facilities (RP-1, RP-4, RP-5, and CCWRF), RP-1 and RP-4 were identified as the two most-feasible locations for the future AWPF. However, ultimately, the Technical Memorandum No. 2 (TM2), Chino Basin Put, Take, and Program Alternatives Evaluation (Appendix 2) indicates that RP-4 has been selected as the preferred location for the AWPF over RP-1 due to its proximity to recharge basins, its greater capacity to pump to recharge basins, future injection wells, space availability, ability to integrate with future direct potable reuse opportunities and proximity of surface water treatment plants, its consistency with the SFI recharge prioritization, and overall operational flexibility. An AWPF at RP-4 will meet regulatory and permit requirements. Additionally, RP-4 is located near extensions of the Non-Reclaimable Wastewater System (NRWS) for brine disposal.

Purified Water Goals

Purified water must meet the treatment goals set forth by the CCR Title 22 Division 4, Chapter 3, Article 5.2 for IPR and groundwater replenishment through subsurface application. In addition, product water must meet the Basin Plan groundwater objectives for minerals and drinking water MCLs and Recycled Water Policy requirements regarding the SNMP, maximum benefit, and monitoring constituents of contaminants of emerging concern in the Upper Santa Ana River Basin (hydraulic sub area 801.21). **Table 11** summarizes the treated water goals based on this regulatory framework.

Table 11
PURIFIED WATER GOALS FOR IPR GROUNDWATER REPLENISHMENT VIA SUBSURFACE INJECTION IN THE UPPER SANTA ANA RIVER BASIN

Parameter	Criteria	Regulation
Enteric Virus	>12 log reduction	CCR
Giardia cysts	>10 log reduction	CCR
Cryptosporidium oocysts	>10 log reduction	CCR
TOC	≤ 0.25 mg/l in 95% of weekly samples within first 20 weeks ≤ 0.5 mg/L 20-week running average and average of last 4 weekly samples	CCR
Total Nitrogen	≤ 10 mg/L average of twice weekly samples	CCR
Nitrate (as N)[1]	≤ 4.2 mg/L 5-year running average	Basin Plan
1,4-dioxane	>0.5 log reduction by AOP	CCR
Inorganic Chemicals in Table 64431-A, except for nitrogen compounds	≤ MCLs in quarterly samples	CCR
Radionuclide Chemicals in Tables 64442 and 64443	≤ MCLs in quarterly samples	CCR
Organic Chemicals in 64444-A	≤ MCLs in quarterly samples	CCR
Disinfection Byproducts in Table 64533-A	≤ MCLs in quarterly samples	CCR
Lead and Copper	90th percentiles ≤ Action Levels	CCR
Secondary Drinking Water Contaminants in Tables 64449-A and 64449-B	≤ sMCLs in annual samples	CCR
Priority Toxic Pollutants in 40 CFR Section 131.38	≤ DDW-specified priority toxic pollutants and NLs[(2)] in quarterly samples	CCR

Parameter	Criteria	Regulation
DDW-Specified Chemicals based on Engineering Report, Affected Groundwater Basin(s), and Wastewater Source Control	As specified by DDW in quarterly samples	CCR
NDMA	≤ 10 ng/L	CCR
TDS[1]	≤ 680mg/L	Basin Plan
Chloride	≤ 500 mg/L	Basin Plan
Sulfate	≤ 500 mg/L	Basin Plan
Boron	≤ 0.75 mg/L	Basin Plan
Sodium	≤ 180 mg/L for municipality use	Basin Plan
Sodium Absorption Ratio	≤ 9 for agricultural use	Basin Plan

Notes: [1] Criteria applies the Basin Plan's "Maximum Benefit" objectives but if the Regional Board determines it is lowering the water quality and not a maximum benefit to the Basin, the "Antidegradation" objectives will apply with Nitrate (as N) and TDS needing to meet 2.9 mg/L and 250 mg/L, respectively, for a 5-year running average (RWQCB – SA, 2019).
[2] Notable among which is the NDMA goal of 10 ng/L or less. (Listed as a separate row in this table for emphasis)
[3] A draft of the Lead and Copper Rule Long-Term Revisions was published in November 2019 and a final rule is expected to be released in fall 2020. Compliance is likely to begin around 2023.

Process Rationale

IEUA is planning to upgrade the secondary treatment systems at both RP-1 and RP-4 plants with membrane bioreactor (MBR) systems, although the RP-1 upgrade is planned in the near term (online by 2030) and RP-4 is in the long term (approximately 2040). It is assumed that if the AWPF is implemented at RP-4 the treatment train would be *Membrane Filtration (MF)- Reverse Osmosis (RO)- Ultraviolet (UV) Advanced Oxidation Process (AOP) (MF-RO-AOP)*. IEUA could potentially convert an AWPF at RP-4 to MBR-RO-AOP when the MBR is implemented at RP-4. As IEUA has selected RP-4 as the preferred AWPF location, the *Membrane Bioreactor (MBR)-Reverse Osmosis (RO)- Ultraviolet (UV) Advanced Oxidation Process (AOP) (MBR-RO-AOP)* treatment train at RP-1 will not be discussed further in this Project Description.

This process train—MF-RO-AOP—is described in subsequent sections.

RP-4 Membrane Filtration (MF)- Reverse Osmosis (RO)- Ultraviolet (UV) Advanced Oxidation Process (AOP) (MF-RO-AOP)

All existing potable reuse facilities in California utilize MF as pretreatment for RO. MF removes suspended solids, reduces turbidity, and achieves credit for up to 4-log reduction of protozoa through daily integrity testing. If the AWPF is constructed at RP-4, then the treatment train would be MF-RO-AOP since the future conversion at RP-4 to MBR is planned for the long term.

Additionally, the MBR-RO-AOP process at RP-1 would remove pathogens including Virus, *Giardia* cysts, Virus, and *Cryptosporidium* oocysts to at or below the minimum regulatory requirements. If desired, IEUA could claim additional virus credit through final chlorine disinfection though this level of treatment is not required at this time (refer to Appendix 1 to the 2022 CBP FPEIR [TM1, Subsection 4.2.3] for the specific pathogen log removal credits).

AWPF Capacity and Redundancy Assumptions

The most economical approach to size an AWPF is to provide a near constant flow of approximately 17,000 AFY to produce the purified water goal of 15,000 AFY. **Exhibit 10** shows the required flow rates and assumed recoveries MF-RO-AOP at RP-4. MF backwash waste would return to the upstream wastewater treatment plant in order to minimize losses through the system. During the water purification process, of the stream of recycled water that the AWPF would

receive, a small percentage is lost to the water purification process. While available proprietary and non-proprietary high recovery RO treatment technologies could conceivably achieve 93% recovery, pilot testing achievable recovery on the anticipated water quality and corresponding impacts to concentrate disposal would be required before constructing a full-scale system.

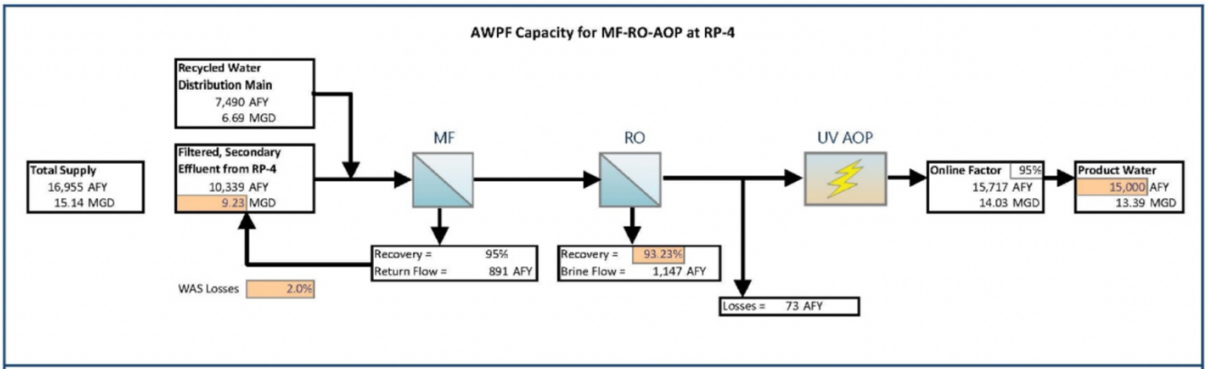


Exhibit 10: AWPF Capacities for MF-RO-AOP at RP-4

Redundancy requirements are established by the function of the facility and criticality of continuous full capacity operations. In order to maintain the high online factor required to reliably produce 15,000 AFY with limited supply, the design includes fully redundant trains for all processes. **Table 12** summarizes the redundancy planned for the AWPF along with the anticipated offline time.

Table 12
REDUNDANCY REQUIREMENTS

Process	Duty + Standby	Online Factor	Required Downtime
MF System			
MF Feed Tanks	1 + 0	98.6%	5 days per year to drain, clean, and inspect
MF Feed Pumps	3 + 1	100%	21 days per 5 years per pump
MF Strainers	3 + 1	100%	14 days per year per strainer
MF Trains	7 + 2	100%	12 days per year per train for CIP; 7 days per year per train for maintenance; 100 minutes per day for MC/backwash/PDT
MF Backwash Pumps	1 + 1	100%	21 days per 5 years per pump
MF Backwash Blowers	1 + 1	100%	2 days per year per blower
RO System			
RO Feed Tank	1 + 0	98.6%	5 days per year to drain, clean, and inspect
RO Feed Pumps	4 + 1	100%	21 days per 5 years per pump
Cartridge Filters	4 + 1	100%	1 day per 3 months per cartridge filter
RO Trains	4 + 1	100%	1 day per train per year for CIP; 28 days per 5 years per train for maintenance
RO Interstage Booster Pumps	4 + 1	100%	21 days per 5 years per pump
RO Flush Tank	1 + 0	98.6%	5 days per year to drain, clean, and inspect
RO Flush Pumps	1 + 1	100%	21 days per 5 years per pump
UV-AOP System			

Process	Duty + Standby	Online Factor	Required Downtime
UV Reactors	1 + 1	100%	14 days per year per reactor for bulb, sleeve, and ballast replacement
Factor to Account for Time to Switch Over to Duty Train in the Event of Failure		99.5%	20 failures per year; 2 hours to recover from each
Anticipated Online Time		**95.4%**	

The proposed AWPF located at RP-4 would utilize an MF-RO-AOP treatment process. The sizing assumptions for the 15,000 AFY AWPF at RP-4 are summarized in **Table 13**, below.

Table 13
SIZING ASSUMPTIONS FOR 15,000 AFY AWPF AT RP-4

Process or Facility	Description	Units	Value[1]
Equalization	Equalization Tank	MG	1.2[2]
MF System	MF system production capacity	MGD	15.1
	MF feed pumps	No.	3 + 1
	Capacity, per pump	gpm	4,700
	MF strainers	No.	3 + 1
	Capacity, per strainer	gpm	4,700
	MF trains	No.	7 + 2
	Filtrate flow, per train	gpm	1,500
	MF backwash pumps	No.	1 + 1
	Capacity, per pump	gpm	2,010
RO System	RO system production capacity	MGD	14.1
	RO feed tank	gal	105,000
	RO feed pumps	No.	4 + 1
	Capacity, per pump	gpm	2,640
	Cartridge filters	No.	4 + 1
	Capacity, per cartridge filter	gpm	2,640
	RO trains	No.	4 + 1
	Permeate, per train	gpm	2,450
	RO interstage booster pumps	No.	1 Per Train
	Capacity, per pump	gpm	650
	RO flush tank	gal	18,900
	RO flush pumps	No.	1 + 1
	Capacity, per pump	gpm	900
UV-AOP System	UV-AOP system production capacity	MGD	14.1
	UV reactors	No.	2 + 1
	Flow, per reactor	gpm	4,900
Chemical Facilities	Sulfuric acid tank	No.	2
	Tank volume	gal	11,900
	Sodium hypochlorite tank	No.	2
	Tank volume	gal	13,100
	Caustic soda totes	No.	2

Process or Facility	Description	Units	Value[1]
	Tote volume	gal	300
	Ammonium sulfate tank	No.	1
	Tank volume	gal	13,500
	Antiscalant tank	No.	1
	Tank volume	gal	6,100
	Hydrogen peroxide tank	No.	1
	Tank volume	gal	7,300
	Sodium bisulfite tote	No.	2
	Tote volume	gal	300
Post Treatment	Lime system	No.	2 + 0
	Decarbonator system	No.	2 + 0
CIP Systems	MF CIP system tanks	No.	2
	RO CIP system tanks	No.	2
	RO CIP cartridge filter	No.	1

Notes: [1]Equipment quantities are shown in the format of duty + standby, i.e., MF feed pumps are 3 + 1, or 3 duty + 1 standby.
[2]Size is limited by available space near existing chlorine contact basins. The size and location of the equalization tank will be evaluated in more detail during future phases of the project.

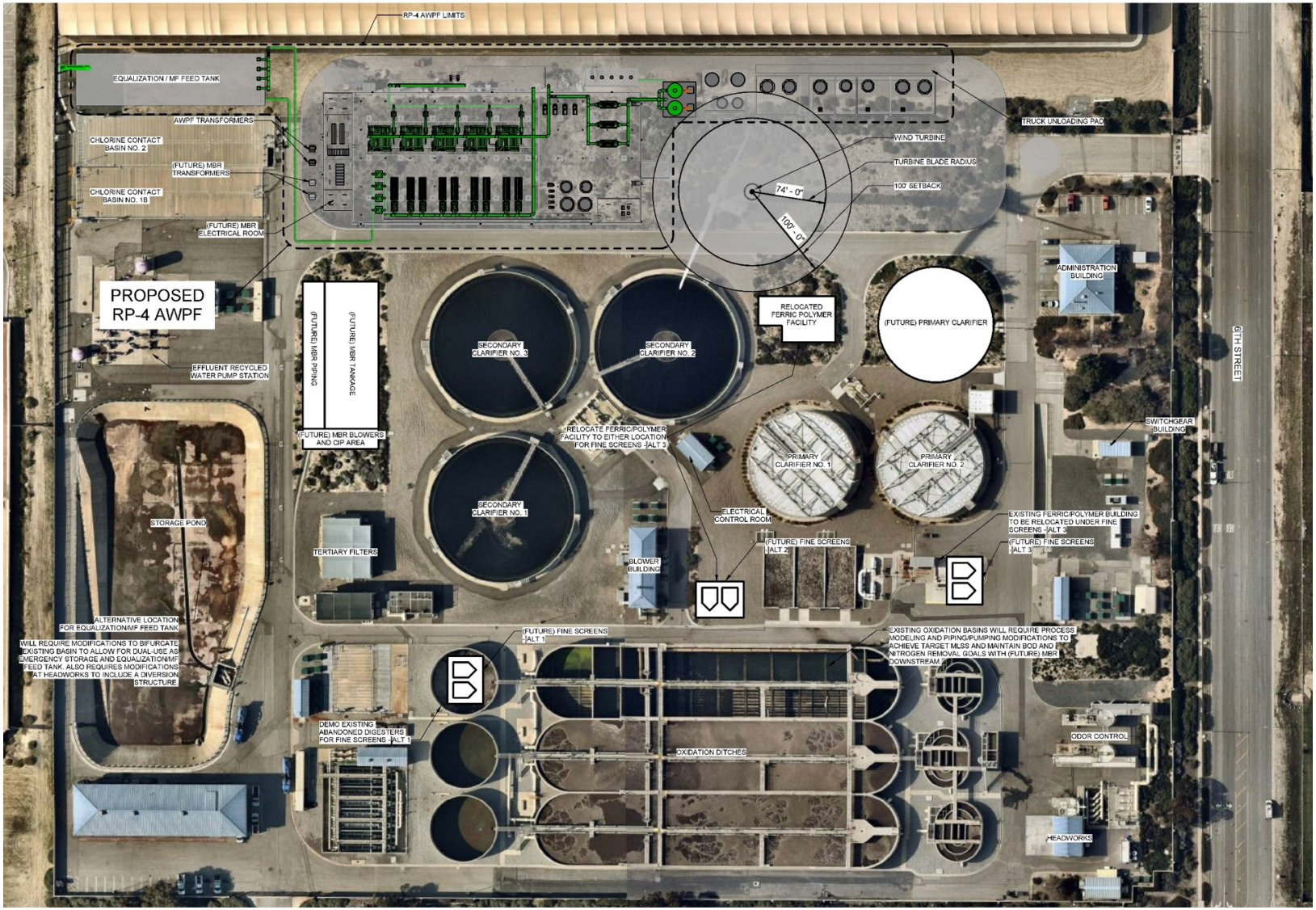


Exhibit 11: RP-4 Site Layout

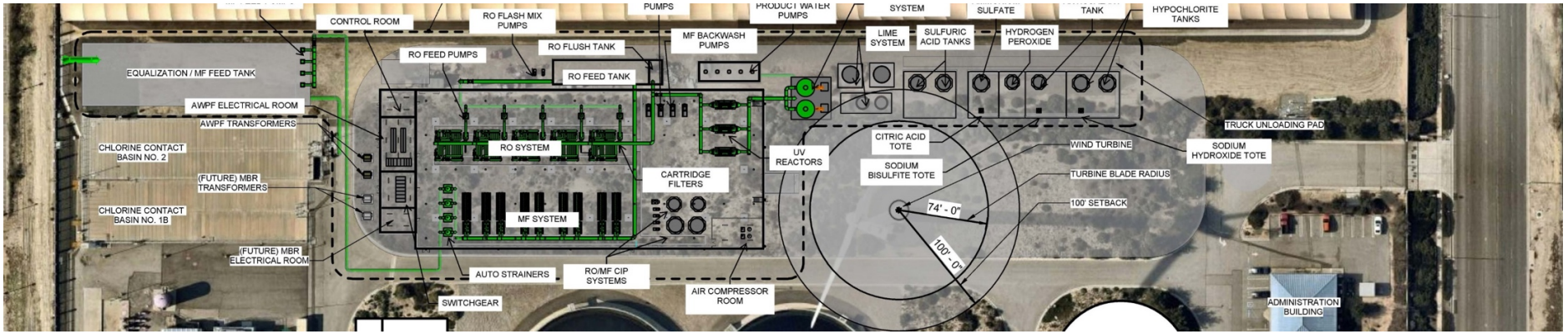


Exhibit 12: RP-4 AWPF Site Layout

Brine Disposal

As stated above, during the water treatment process, of the stream of recycled water that the AWPF would receive, a small percentage is lost to the water purification process. This small percentage that is lost to the water purification process is called brine. The AWPF requires brine disposal for the brine stream generated by RO treatment. Refer to Technical Memorandum 3 (TM3), provided as Appendix 3 to the 2022 CBP FPEIR, which presents a summary of NRWS infrastructure, available capacity in each system, requirements for new connections and tie-ins, a summary of system costs for connection capacity and operations, and future considerations for brine conveyance and scaling mitigation. New connections to the NRWS consider the existing hydraulics, requirements for physical connection, and operations and maintenance.

IEUA operates the Non-Reclaimable Wastewater System (NRWS), which is infrastructure for disposal of high-salinity wastewater (brine) and other non-reclaimable high-strength wastewater. The NRWS is comprised of three pipelines shown on **Figure 3**: the NRWS pipeline, the Etiwanda Wastewater Line (EWL), and the Inland Empire Brine Line (IEBL). The NRWS is split into two service areas within IEUA's jurisdiction. The North NRWS is comprised of the NRWS pipeline and EWL, while the South NRWS is comprised of the IEBL. The NRWS pipeline and the EWL ultimately convey flow to the Los Angeles County Sanitation Districts (LACSD) through the Joint Outfall System (JOS). The IEBL directly conveys flow to the Orange County Sanitation District (OCSD) by gravity. The NRWS is shown graphically in **Exhibits 13 and 14**.

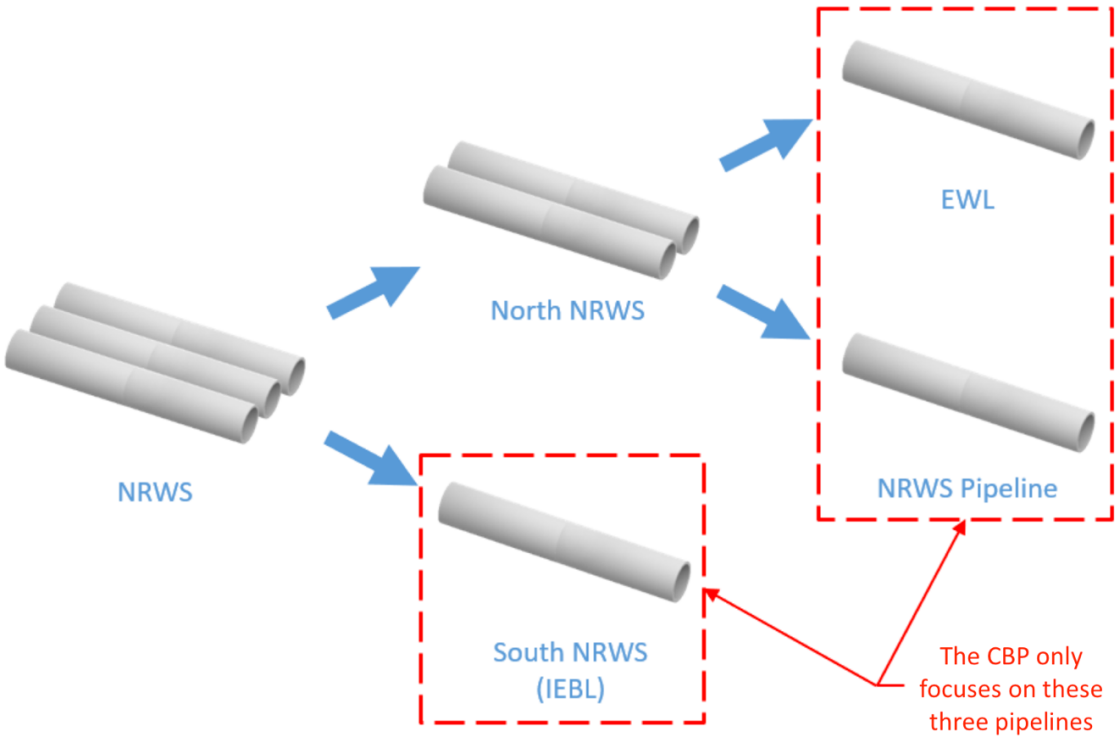


Exhibit 13: NRWS Nomenclature

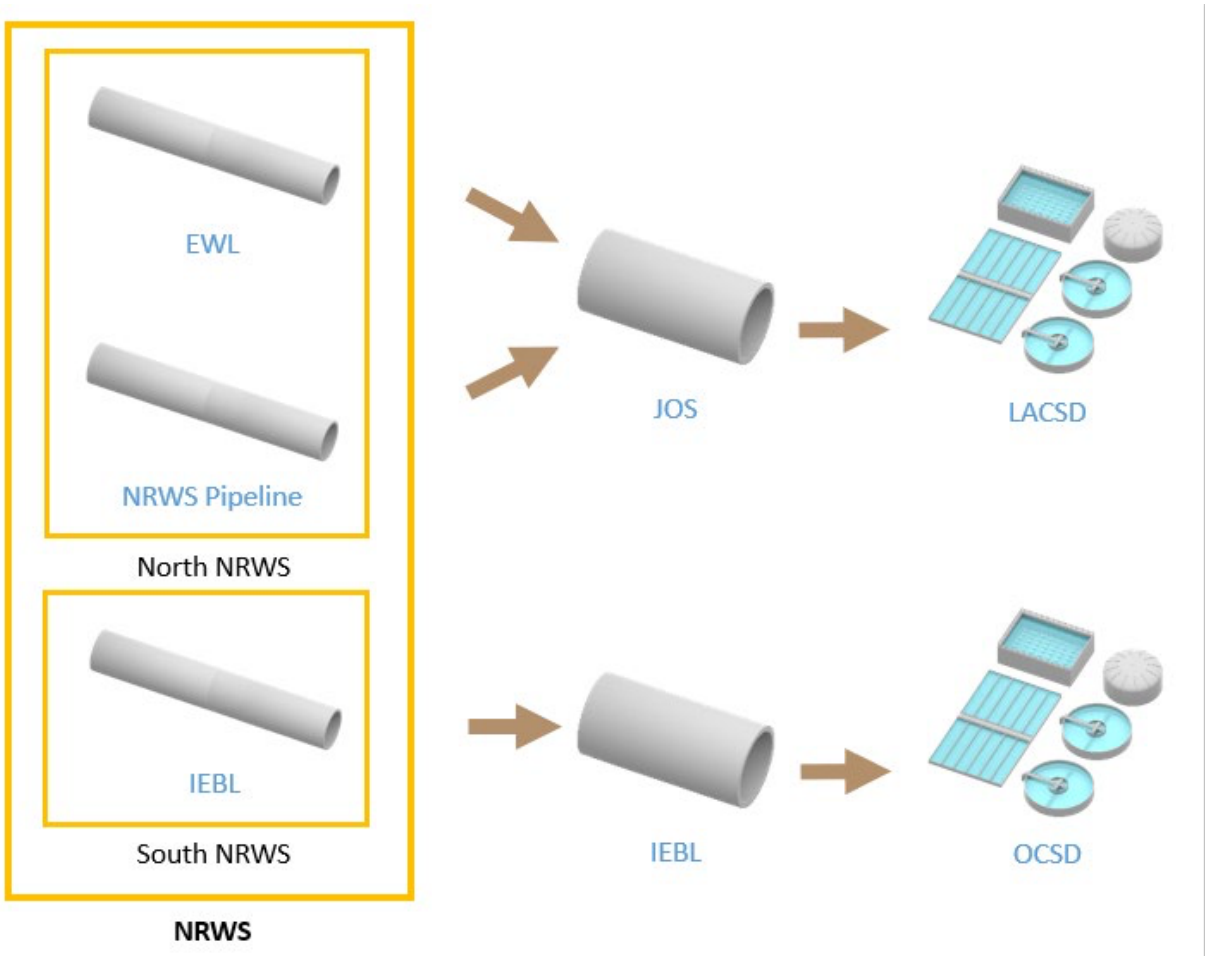


Exhibit 14: Overall System Schematic

New Connections to the NRWS

To discharge to the NRWS, the user must obtain a Wastewater Discharge Permit and purchase capacity units (CU) for the respective pipeline. The typical terms for the permit are five years for the NRWS pipeline and EWL and two years for the IEBL. Permit application and renewal fees vary by industry and are listed in the Resolutions for each pipeline. **Exhibit 15** summarizes the steps to obtain a permit.



Exhibit 15: Typical Process for Wastewater Discharge Permit

Plans detailing the facility layout, points of connection to the NRWS, and monitoring station must be submitted with the Wastewater Discharge Permit Application. The materials that must be submitted with the Wastewater Discharge Permit Application can be located at IEUA's website.[13]

3.9.4 Groundwater Recharge

The PUT options include recharging purified water to the Chino Basin to achieve two goals: capitalizing on storage within the Basin as well as reducing the overall salinity of the Basin. The groundwater recharge component includes both where to recharge the water and how to recharge the water.

This section discusses the groundwater recharge assumptions for the PUT options, which are presented in the following sections:

- Recharge locations in the Chino Basin, which need to consider the characteristics of the Chino Basin, groundwater quality, and recovery of the stored water.
- Recharge method, including injection wells and recharge basins
- Monitoring wells

Recharge Locations

The northern portion of MZ-2 was identified as the primary recharge location for purified water as part of the Storage Framework Investigation (WEI, October 2018). The northern portion of MZ-2 is generally outside of known areas of contamination and does not have known subsidence constraints or significant pumping depressions. The Storage Framework Investigation also included managed storage and recovery programs within operational bands 2, 3, and 4. For these storage and recovery programs, ASR wells, which can be used for both injection and extraction, were assumed in the northern MZ-2 area in two east-west alignments in Rancho Cucamonga. ASR wells were not considered in the CBP as current regulations do not allow ASR wells to inject and extract purified recycled water, although this may be considered in the future with evolving regulations.

For the PUT options, two sets of potential injection well locations in MZ-2 were identified, which are as follows:

Initially, potential injection well locations were identified in MZ-2 in Rancho Cucamonga in similar locations as assumed for the Storage Framework Investigation. One east-west alignment was assumed on the Pacific Electric Inland Empire Trail and one along Foothill Boulevard.

In order to reduce the infrastructure required to convey the purified water from the AWPF to the injection wells, a second set of injection well locations have been identified in MZ-2. These were located further south than the initial set (closer to both RP-1 and RP-4) to reduce the overall purified water pipeline lengths. The east-west alignments of injection wells were assumed along Foothill Boulevard and Arrow Route in Rancho Cucamonga.

Preliminary groundwater modeling was completed for both sets of preliminary injection well locations and results indicate that both options align with the OBMP objectives and the SFI. The second set of injection wells (located on Foothill Boulevard and Arrow Route) are assumed for the PUT options to reduce the overall infrastructure costs. This scenario would reduce the infrastructure required to convey the purified water from the AWPF to the injection wells. These

[13] https://www.ieua.org/everything-water/pretreatment-source-control/wastewater-discharge-permits/

were located further south and closer to both RP-1 and RP-4 to reduce the overall purified water pipeline lengths. The east-west alignments of injection wells were assumed along Foothill Boulevard and Arrow Route in Rancho Cucamonga. Injection wells in MZ-1 and MZ-3 were also investigated as part of the project:

Recharge Method

Existing recharge basins are used to recharge a combination of stormwater, tertiary recycled water, and imported water into the Basin. These recharge basins are highly utilized, especially seasonally during storm events, and do not have sufficient year-round capacity for the additional purified water (15,000 AFY) to be recharged as part of the CBP. The PUT options were developed assuming injection wells would be used to recharge purified water.

Injection Wells

Injection wells will be used to recharge purified water to the Chino Basin drinking water aquifers. Injection wells allow for consistent recharge of specific aquifers and are not subject to stormwater capacity restraints like recharge basins. Each injection well will be constructed to the State of California regulations. Each well site will include a concrete pad, superstructure, necessary safety features, signage, and flowmeters. Each injection well is estimated to require a site space of 100 feet by 100 feet (0.23 acres) that will accommodate the initial well construction, the wellhead equipment, and future well maintenance and redevelopment. It is assumed that land would need to be purchased for each injection well. An example injection well site is shown in Photo 1, below.



Photo 1: Example Injection Well Site

The capacity of each injection well is assumed to be 50 percent of the average pumping rate of nearby production wells. Based on the data included in the Storage Framework Investigation (WEI, October 2018) and the characterization of each management zone, the estimated injection wells capacities for MZ-2 are 830 gpm and 3.77-acre feet per day (AFD).

Preliminary groundwater modeling was completed for preliminary injection well locations and results indicate that the proposed PUT options align with the OBMP objectives and the Storage Framework Investigation. The second set of injection wells (located on Foothill Boulevard and Arrow Route) are used for the PUT options as the superior option to reduce the overall infrastructure costs.

Table 14 summarizes the MZ-2 injection wells assumed for the PUT options. The number of injection wells was determined using the maximum capacity per well, defined above.

Table 14
MZ-2 INJECTION WELLS

Recharge Goal (AFY)	Maximum Capacity per Injection Well (gpm)	Conceptual Design	
		Number of Injection Wells	Capacity per Injection Well (gpm)
15,000	830	Duty = 12, Standby = 4 Total = 16	775

Injection well capacities are dependent on the well maintenance and other operational assumptions. Standard injection well operational procedures include assuming wells do not sit idle for longer than one week, are exercised near design flow rates, are backflushed for approximately one hour a week, and are rehabbed every three to five years. Redundant injection wells are recommended to allow for backflushing and well rehabilitation while meeting the continuous recharge rate of 15,000 AFY. Test injection wells are likely to be required to collect site specific information to guide injection well design.

The recommended redundancy for injection wells is one standby well for every three active wells. For example, if all 15,000 AFY (41.1 acre-feet per day (AFD)) is proposed to be recharged in MZ-2, then 12 operating wells and four standby wells (16 wells total) are recommended based on the estimated MZ-2 injection well capacity projected above, and the recommended redundancy requirements. One example operating scenario would be to group the wells into four sets of four wells each where at any one time three wells would be active and one standby. The active wells would be cycled on a weekly basis to make sure that each well is not inactive for more than a week.

Monitoring Wells

Per the Title 22 regulations for groundwater replenishment using recycled water, monitoring wells are required to monitor water quality in the groundwater Basin. The regulations require that at least two monitoring wells be constructed downgradient of the replenishment location. One must be located at least two weeks but no more than six months downgradient travel time through the aquifer and at least 30 days upgradient from the nearest drinking water well, and the second well must be located between the replenishment location and the nearest downgradient drinking water well. A total of 4 monitoring wells were included in each PUT option to comply with these requirements.

3.9.5 PUT Facilities Summary

PUT Option 5 (PUT-5) assumes that the AWPF is located at RP-4, where 15,000 AFY of purified recycled water is produced and recharged into MZ-2. The elements of PUT Option 5 are as follows:

- Recharge location
  - MZ-2: All purified water would be recharged via injection wells in MZ-2, which is consistent with the Storage Framework Investigation.
- AWPF
  - The AWPF (MF-ROP-AOP) would be located at RP-4. The preliminary RP-4 AWPF layout is shown in **Exhibit 12**.
- Conveyance
  - Purified water would be pumped from the AWPF to the injection well sites in MZ-2.
  - Brine from the AWPF would be pumped in to the NRWS pipeline and conveyed to LACSD for disposal.

PUT Option 5 is summarized in **Table 15** and shown in **Figure 4**.

Table 15
PUT FACILITIES

Parameter	Description
Recharge Locations	MZ-2
AWPF	
Location	RP-4
Process	MF/RO/UV-AOP
Capacity (AFY)	15,000
Purified water conveyance	
Pipelines[1]	7.1 miles (8-inch to 30-inch)
Pump station[2]	
Location	RP-4
Size	1,500 HP
Number of injection wells	16 (12 duty, 4 standby)
Brine conveyance[3]	
Disposal system	NRWS
Pipeline	1,400 ft (8-inch)

Notes: [1]Pipelines are discussed under Subsection 3.11, 3.10.5, and 3.10.6
[2]Pump Stations are discussed under Subsection 3.10.5 Delivery to Hydraulic Elevations Above the Blending Reservoir
[3]Brine Conveyance is discussed under Subsection 3.11.4 and 3.9.3, above.

3.10 CHINO BASIN PROGRAM TAKE FACILITIES

The CBP includes two main categories of facilities: PUT, the components to recharge purified water to the Chino Basin, and TAKE, the components to extract groundwater and convey potable water supply. The TAKE components are as follows, with the corresponding section noted:

- Groundwater extraction and treatment
- Potable water pumping and conveyance

- Potable water usage
  - MWD pump back
  - In lieu usage

To support the development of the PUT and TAKE options, and program scenarios, WEI completed initial groundwater modeling for the PUT and TAKE components. The initial groundwater modeling results are discussed in Subsection 3.9.1. The following table summarizes the TAKE Options that will be considered as part of the overall CBP Project.

Table 16
TAKE OPTIONS SUMMARY

TAKE Options	Description			Call Year Deliveries			Total Delivery over 25 Years		
	Pump Back and/or In-Lieu	Standard Delivery		Pump Back (AFY)	In-Lieu (AFY)	Total (AFY)		Call Year Deliveries (AF)	Total (AF)
TAKE-1	100% Pump Back	Standard		50,000	-	50,000		375,000	375,000
TAKE-3	Partial Pump Back and Partial In-Lieu	Standard		25,500	24,500	50,000		375,000	375,000
TAKE-7		Standard		28,000	22,000	50,000		375,000	375,000
TAKE--8	Partial Pump and In-Lieu	Standard		10,000	30,000	40,000		300,000	300,000

3.10.1 Groundwater Extraction and Storage

The goal of the TAKE components is to deliver the 375,000 AF of potable water from the Chino Basin over the 25-year project life cycle of the CBP (while the Proposition 1 WSIP water exchange commitment is fulfilled). The 375,000 AF would replace water supply that would otherwise be imported from the Sacramento-San Joaquin Delta (Delta), which will be done either by delivering extracted groundwater to MWD's regional facilities for eventual distribution to member agencies (MWD pump back), or by delivering groundwater directly to member agencies for their use in-lieu of receiving imported water deliveries from MWD, which is referred to as In-Lieu CBP.

The 375,000 AF would be used during dry years (call years) when less water is imported from the Delta. Two groundwater extraction scenarios were assumed for the TAKE options:

- Standard delivery (no pre-delivery): Assuming a maximum pumping rate of 50,000 AFY, 7.5 call years would occur over the 25-year 25-year project life cycle of the CBP (while the Proposition 1 WSIP water exchange commitment is fulfilled) ~~project~~. The TAKE facilities would be sized to deliver 50,000 AFY of groundwater from the Chino Basin to MWD regional facilities or directly to member agencies.

An option to directly delivering extracted CBP groundwater to member agencies for in-lieu use is to provide new local wells or wellhead treatment to existing wells, which is referred to as In-Lieu Local. Examples for this type of in-lieu use include adding groundwater treatment to wells that are currently offline due to groundwater contamination. For these example In-Lieu Local projects, up

to 3,000 AFY is assumed to be treated at member agency wells, for a total of 6,000 AFY if two such projects are implemented. This sum of water would already be within member agency service areas and is assumed to not require any additional infrastructure other than wellhead treatment. This would reduce the total amount of water required to be extracted from the proposed extraction wellfield and conveyed through TAKE facilities by up to 6,000 AFY.

Extraction Wells

Multiple extraction wells are required to meet baseline (50,000 AFY) project option. Up to 17 extraction wells would be required depending upon the option selected.

Site Selection

The location of potential extraction well sites was determined through the identification of land within the Chino Basin with the following attributes:

- Undeveloped parcels.
- Parcels located at the intersection of streets. These sites would provide for easy access to the site during construction, maintenance, and rehabilitation activities.
- Located within the groundwater MZ desired for extraction well options (predominantly MZ-2 as evaluated in the SFI)

It was assumed that the minimum extraction well size would need to be a minimum of 100 feet by 100 feet (0.23 acres) to allow for construction, periodic well rehabilitation, and the drilling of a new well, should the original well fail and need to be replaced. Photo 2 is a photo of a well site measuring 100 feet by 100 feet during well rehabilitation. As shown, well rehabilitation (and drilling) activities required adequate space for pump column laydown, well rig placement, spoils placement, and decant tanks for well development.



Photo 2: Well Rehabilitation Activities

Production Capacity
The estimated flowrates of proposed wells in the area are between 1,500 gpm and 2,000 gpm, based on production data from other nearby wells. It is assumed that one redundant well would be constructed for each option such that the firm production capacity with the largest well offline would still produce the amount of CBP water required for the option. A sampling port would be installed at all wellheads to facilitate routine water quality sampling. Each well would be able to deliver water to an HGL of 1,180 feet (ft), which is the operational water elevation of the proposed blending and storage reservoir. Chlorine would be injected at each wellhead to prevent biological growth in well collector pipelines.

Well Collector Pipelines
A network of pipelines would be installed to connect each well to the blending and storage reservoir. The collector pipeline diameters would range from 12- to 54-inch, and are sized to keep pipeline velocity below 5 feet per second (fps). Collector pipes are considered separately from the regional potable pipelines because they would convey raw groundwater to a reservoir for blending. After blending in the reservoir and addition of chlorine, the water would be considered potable. It is assumed that additional groundwater treatment would not be necessary as water quality in the proposed wellfield location meets drinking water standards. If additional treatment becomes necessary in the future, either a wellhead or centralized treatment facility can be integrated and located at either an individual well site or adjacent to the blending and storage reservoir.

Redundancy Requirements
It is assumed that one redundant well would be required for each option to accommodate capacity loss from hydrogeologic conditions, poor water quality, or maintenance shutdowns. In the event multiple wells are offline or have reduced production capacity at a given time, the online wells can be pumped at a higher rate until the wells are back online. The extraction wells design should include variable frequency drives (VFD) and the ultimate design point should be at maximum drawdown and lowest anticipated static groundwater level so that additional production is possible.

Blending and Storage Reservoir
A circular, prestressed tank storage reservoir is recommended near the extraction wellfield to collect groundwater from all proposed wells prior to MWD pump back and/or in-lieu usage by agencies. The storage reservoir will have two purposes:

1. If an extraction well begins to pump contaminated groundwater, the reservoir will provide an opportunity for blending, which can avoid taking the well offline or the need for treatment.
2. The storage reservoir will serve as a forebay for the pump station that will be needed to boost water to elevations well above the extraction well field, and to break head for water to be delivered to lower elevations. This will also provide a constant head for the wells to pump against, rather than having the variability of discharge pressure that may come from having the wells pump directly into a high-pressure transmission line.

The reservoir would provide short-term storage and blending. Because the reservoir will primarily be used for blending and not storage, it is assumed that the reservoir volume would be determined based on retention time, and not hours of stored water available to meet demands. For blending purposes, it is assumed the retention time would need to be three hours. The reservoir outlet(s) will serve as the sampling point for water quality analyses for potable water.

Groundwater treatment for centralized extraction wells is not anticipated due to the groundwater extraction locations being focused in the better water quality areas of MZ-2, blending in the storage reservoir, and water quality in MWD's Rialto Pipeline. In the event that treatment is needed in the future, the land acquired for the reservoir should to be large enough to accommodate a future treatment system.

3.10.2 Groundwater Treatment

Groundwater treatment for the centralized extraction wells is not anticipated but could be needed for In-Lieu Local projects where wellhead treatment is added to existing wells that are out of service due to groundwater contamination. Potential groundwater treatment technologies that could be used for wellhead treatment for potential In-Lieu Local projects include reverse osmosis, advanced oxidation, ion exchange, granular activated carbon (GAC), and biological treatment.

Based on the potential groundwater contaminants that may be found in the Chino Basin, a wide variety of treatment processes must be evaluated; these processes all have various degrees of efficacy depending on the mix of contaminants present. Groundwater treatment technologies may include more conventional best available technologies (BAT) or biological treatment, the latter being an emerging treatment technology in the water sector. **Exhibit 16** shows the range of conventional treatment technologies that are available for various groundwater contaminants.

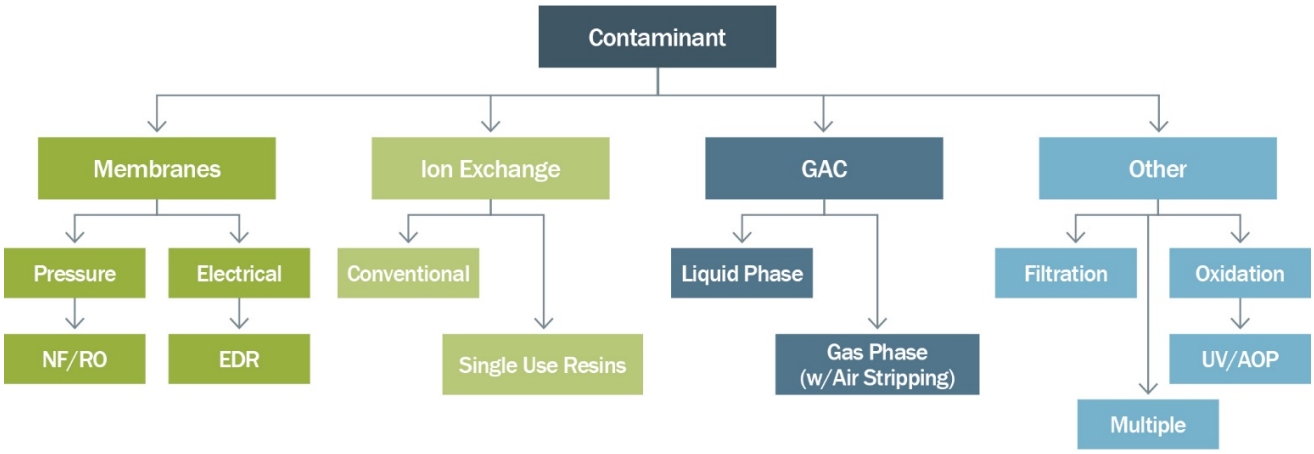


Exhibit 16: The Universe of Conventional Groundwater Contaminant Treatment Options

Membrane processes, especially RO, will remove many contaminants but are limited to higher molecular weight compounds and generally ineffective for the removal of compounds like NDMA and 1,4-dioxane.

Ion exchange, while typically utilized by engineers for the removal of nitrate, perchlorate, hexavalent chromium, and some TDS, will be ineffective at volatile organic carbon (VOC) removal.

GAC is often the treatment option of choice for VOCs but can become a costly option for some poorly absorbed compounds such as 1,2,3-TCP and trichloroethylene (TCE) and will require frequent change outs to meet effluent water quality objectives.

Finally, advanced oxidation processes, such as UV-AOP, are well suited for some difficult to treat compounds like 1,4-dioxane and NDMA but cannot treat compounds such as 1,2,3-TCP and carbon tetrachloride (CTC) without using extremely high UV doses, which will result in significant power consumption.

PFAS, a large class of emerging contaminants including PFOS and PFOA, has been detected in drinking water supplies across the United States and now have notification levels and response levels established in California. GAC or IX are the two main treatment technologies used for PFAS; RO is also effective for PFAS removal, but more expensive to construct and operate.

Table 17 summarizes the efficacy of various treatment processes for different, and common, groundwater contaminants.

Table 17
CANDIDATE TECHNOLOGIES TO REMOVE POSSIBLE CONSTITUENTS OF CONCERN

Constituent	Treatment Technologies							Most Common Processes for this Constituent
	GAC	Air Stripping (A/S) + Vapor Phase GAC	IX	RO	AOPs	Biological (Fixed Bed/ Fluidized Bed)	MBR	
Organic Constituents								
TCE	✓	✓		✓	✓	✓	✓	A/S & GAC
Perchloroethylene (PCE)	✓	✓		✓	✓	✓	✓	A/S & GAC
MTBE	✓				✓	✓	✓	GAC
1,4-dioxane					✓	✓	✓	AOP
NDMA					✓	✓	✓	UV
1,2,3-TCP	✓				✓	✓		GAC
PFAS	✓		✓	✓				GAC/IX
Inorganic Constituents								
Nitrate			✓	✓		✓	✓	IX
Hexavalent Chromium			✓	✓		✓	✓	IX
Perchlorate			✓	✓		✓	✓	IX
Iron								Oxidation & Filtration
Manganese								Oxidation & Filtration

3.10.3 MWD Pump Back

MWD operates three raw water transmission pipelines near the project area shown in **Figure 5** that could all be suitable for MWD Pump Back: Rialto Pipeline, Upper Feeder Pipeline, and Etiwanda Pipeline.

Under normal operation, the Rialto Pipeline delivers raw water from the Devil Canyon Afterbay (which receives water from the East Branch of the State Water Project) westerly to turnouts at the FWC Sandhill WTP, CVWD Lloyd W. Michael WTP, CVWD Royer Nesbit WTP (currently offline), WFA Agua de Lejos WTP, and Three Valleys Municipal Water District (TVMWD) Miramar WTP. The Rialto Pipeline also delivers raw water to various spreading basins for groundwater recharge in the Cucamonga Basin and northern areas of the Chino Basin. After turnouts to those agencies, the Rialto Pipeline delivers raw water west to the MWD F.E. Weymouth WTP (Weymouth), for ultimate delivery to Los Angeles and Orange Counties.

The Rialto Pipeline is the only appropriate pipeline to pump CBP potable water into in order to keep reclaimed water within the Chino Basin. Since the Rialto Pipeline is a raw water pipeline, the potable water generated by CBP would be considered raw water once pumped into the Rialto Pipeline. There are no MWD treated water pipelines near the proposed extraction wellfield.

TAKE options that include MWD Pump Back will require a pump station to lift extracted groundwater from the elevation of the reservoir at the extraction wellfield (between 1,000 ft and 1,200 ft above mean sea level (AMSL) to the static HGL of the Rialto Pipeline of 1,936 ft AMSL. While the hydraulic grade line (HGL) of the Rialto Pipeline decreases from 1,936 ft AMSL as it flows west due to head-loss, the pump back facilities should be capable of pumping to the Devil Canyon Afterbay static head of 1,936 ft AMSL to maintain operational flexibility. MWD Pump Back will also require a large-diameter pipeline from the extraction wellfield to the Rialto Pipeline, and a new or retrofitted turnout into the Rialto Pipeline

Water Quality Considerations

The extracted groundwater being delivered to the Rialto Pipeline must be of quality not to significantly diminish the quality of existing raw water in the Rialto Pipeline and, per MWD requirements, must meet primary and secondary MCLs. Water quality data from existing production wells near the proposed extraction wellfield in northern MZ-2 were collected to estimate the water quality of extracted CBP groundwater. Likewise, water quality data from the Devil Canyon Afterbay were provided by MWD to represent Rialto Pipeline water quality.

The blended Rialto Pipeline/CBP water quality was calculated using a mass balance based on the maximum annual CBP delivery of 50,000 AFY and typical Rialto Pipeline flow of 614 MGD. The estimated water quality for CBP water, the Rialto Pipeline water quality, and the blended CBP and Rialto Pipeline water quality is presented in **Table 18**.

Table 18
BLENDED WATER QUALITY

Constituent	CBP Blended Extraction Wells[1]	Rialto Pipeline[2]	CBP/Rialto Pipeline Blend[3]	Primary *(Secondary)* MCL
TDS (mg/L)	235.6	254.0	252.8	*(500.0)*
Nitrate-N (mg/L)	3.3	0.4	0.6	10.0
Hardness (mg/L)	146.7	94.0	97.6	-
EC (µS/cm)	3844.4	457.0	452.1	*(900.0)*
pH	7.8	8.1[4]	8.1	-
Calcium (mg/L)	45.1	20.0	21.8	-
Magnesium (mg/L)	7.7	11.0	10.8	-
Sodium (mg/L)	19.6	52.0	49.8	-
Potassium (mg/L)	1.8	N/A	N/A	-

Constituent	CBP Blended Extraction Wells[1]	Rialto Pipeline[2]	CBP/Rialto Pipeline Blend[3]	Primary *(Secondary)* MCL
Bicarbonate (mg/L)	178.7	72.0	79.2	-
Chloride (mg/L)	9.4	72.0	67.8	*(250.0)*
Sulfate (mg/L)	15.1	33.0	31.8	*(250.0)*
Perchlorate (µg/L)	2.4	05	0.2	*6.0*
Hexavalent Chromium (µg/L)	3.4	05	0.2	*10.06*

Notes: [1]Based on 5-10 years water quality data of nearby production wells.
[2]Rialto Pipeline water quality assumed to be equivalent to Devil Canyon Afterbay water quality as provided in MWD Bulletin 132-13 from April 2015, Table 4-1.
[3]Calculated by mass balance of typical Rialto Pipeline flowrate (614 MGD) and maximum proposed CBP flowrate (50,000 AFY, 44.64 MGD). CBP water would account for approximately 6.8% of the combined flow.
[4]CVWD LWMWTP Master Plan, October 2010
[5]No data, which suggests that these constituents were not sampled because not typically present in surface water. For this analysis, they were assumed to be zero.
[6]The hexavalent chromium MCL was rescinded but is anticipated to be re-proposed at this same level in the future. Total chromium has an MCL of 60 µg/L.

Table 18 above shows that the projected, blended water quality for the CBP extraction wells is of high quality and, in many cases, the extraction well water quality exceeds that in Rialto Pipeline. The lack of perchlorate and hexavalent chromium data for the Rialto Pipeline suggests that these constituents were not sampled. These constituents are not typically present in surface water and for this analysis it is assumed that they have low or zero concentration in the Rialto Pipeline. The projected levels for the CBP water alone are below the MCL for perchlorate and the assumed future MCL for hexavalent chromium. Considering the significant dilution that will occur in the Rialto Pipeline once the CBP water is pumped in, treatment is not anticipated to be required.

The CBP water would be sampled and monitored at or near the turnout into the Rialto Pipeline. It is anticipated that MWD will provide a list of constituents to be monitored at regular intervals to verify the quality of water being delivered. Constituents to be monitored may include TDS, nitrate, hardness, chloride, sulfate, perchlorate, hexavalent chromium, 1,2,3-TCP, and other contaminants that may present treatment challenges or that have primary and secondary MCLs for drinking water. The frequency of the sampling is unknown at this time.

PFAS

PFAS sampling was completed in 2019 and 2020 and results are forthcoming. The following describe sampling that has been undertaken to date:

- The only sampling completed on Chino Basin groundwater to date was through Unregulated Contaminant Monitoring Rule (UCMR 3), which was for 30 active wells.
- All UCMR3 data showed that all samples were non-detect. However, UCMR3 data was analyzed using older analytical methods with a higher detection limit than the current NLs. Therefore, it is inconclusive as to whether the CBP groundwater will require treatment for PFOA and PFOS.
- The CBWM monitors some wells in Chino Basin and have added PFOA and PFOS sampling to their constituents. The first samples were collected in 2019.
- A couple of drinking water agencies in the Chino Basin area were served sampling orders from DDW and had to start quarterly sampling in June. These agencies are waiting to see data has been uploaded to DDW's online database.
- The CDA started sampling at desalter wells, but data is not yet available.

Operational Considerations
It is assumed that the MWD Pump Back would operate at a constant rate over the entire calendar year and would not vary to meet seasonal demands. The system is anticipated to deliver water at 50,000 AFY (~31,100 GPM) constantly during call years and would not operate during non-call years.

The high-hydraulic grade line (HGL) in the Rialto Pipeline changes as flow varies seasonally so MWD would likely maintain operational control over the pump back conveyance system for more streamlined operation of the pump station with MWD's control system. The interconnection between the MWD Pump Back and the Rialto Pipeline will also include a backflow prevention mechanism to prevent raw water in the Rialto Pipeline from contaminating the potable water in the CBP conveyance system since the MWD Pump Back will not be hydraulically isolated from the In-Lieu CBP system delivering potable water to member agencies.

Water may be delivered back to the Rialto Pipeline either by retrofit of an existing turnout off the Rialto Pipeline, or by a newly constructed tap into the Rialto Pipeline. There is currently one turnout off the Rialto Pipeline that is unused, CB-7, which has an 18-inch diameter and a capacity of approximately 6,944 GPM. Where a maximum pump back flowrate of 10,000 AFY or less to MWD will, pumping back through CB-7 is feasible, or a new connection to the Rialto Pipeline could be installed. All options that require more than 10,000 AFY of pump back to MWD will require construction of a new turnout. A new turnout would likely be placed between connections CB-16 (Lloyd W. Michael WTP) and PM-21 (Miramar WTP) to reduce the length of pipe required between the Rialto Pipeline and the extraction wellfield and/or other potable water distribution facilities.

3.10.4 In-Lieu CBP and In-Lieu Local

CBP water could also be delivered directly to local agencies and used in-lieu of imported water. Member agencies would receive a direct delivery of CBP water for use instead of imported water that originates from the Rialto Pipeline.

- In-Lieu CBP would be water from the extraction wellfield delivered to agencies through a new conveyance system, and
- In-Lieu Local would be water from wellhead treatment on existing wells or new wells delivered using only existing conveyance infrastructure.

TAKE options that include In-Lieu CBP would have a regional conveyance system including pipelines, pump stations, and turnouts and would be owned and operated by IEUA to deliver extracted CBP groundwater from the extraction wellfield to turnouts into the member agencies' distribution systems. Each member agency receiving CBP water will have a direct turnout into their local distribution system, and options requiring member agencies to use existing interconnections to deliver CBP water to other member agencies will be avoided. An effort will be made to design the regional conveyance system to deliver CBP water directly to member agencies in the pressure zone that they currently receive imported water in order to avoid requiring operational changes from shifting water sources. Member agencies may also request their CBP turnout to be in pressure zones in their system with higher demands if it will give them operational flexibility, water supply reliability, and/or relieve some capacity-constrained portions of their system.

Minimum Plant Flows
The amount of CBP water member agencies can receive in-lieu of Rialto Pipeline raw water is

limited by the minimum flowrate required to keep each WTP operating reliably. Because In-Lieu Use involves member agencies taking CBP water directly rather than Rialto Pipeline raw water through their respective WTP, only so much can in-lieu water can be received before demand on the WTPs falls below their minimum acceptable flowrate.

Water Quality Considerations

Extracted groundwater for in-lieu use would need to be of potable quality as it will be delivered directly to member agencies' distribution systems. **Table 16**, above, provides the anticipated quality of extracted groundwater based on samples from existing nearby potable wells in the previous 5 to 10 years. The CBP water is expected to meet primary and secondary MCLs and is assumed to not require treatment prior to delivery into each member agency's system. However, each well will include chlorine for disinfection, and the proposed reservoir at the extraction wellfield will also include chlorine to maintain chlorine residual in the tank and chlorine residual in the regional distribution pipelines.

The WFA Agua de Lejos WTP uses chloramines for disinfection at its WTP, leaving residual chloramine in the WFA distribution system and in its members' systems as well. There may be adverse water quality affects from mixing water with residual chlorine and residual chloramine, such as disinfection byproduct production. If concerns arise from mixing the two types of disinfected water, the disinfection strategy at turnouts from chlorinated regional CBP facilities to local agency systems using chloramine will require evaluation to determine the optimum blending strategy.

Water quality will be monitored in the potable water reservoir near the extraction wellfield. Water will also be sampled at various locations throughout the regional distribution system to ensure that water being delivered to member agencies meets drinking water quality requirements. It is anticipated that agreements will be made between member agencies and IEUA that provides a set of water quality requirements, or that the CBP water deliveries will only be required to meet the primary and secondary MCLs for drinking water.

Operational Considerations

The regional CBP delivery system for In-Lieu CBP, including wells, reservoirs, pump stations, pipes, and turnouts, would be owned and operated by IEUA. The system would primarily operate as a constant flow system, simultaneously pumping, conveying, and delivering groundwater to member agencies at the designated flowrate for either a call year or non-call year. The system would not have the ability to increase production to accommodate increased summertime demands, except in non-call years for options that include pre-delivery, as the average flow rate for the non-call year would be less than the maximum capacity of the conveyance system.

If a well began producing water with a high level of a contaminant that could not be blended out by the rest of the production wells, a redundant well would be operated to make up the water deficit. If a redundant well is unavailable or already producing water, the production of the other well could be increased slightly to make up the deficit of the offline well.

TAKE options that include In-Lieu CBP, i.e., direct deliveries of extracted groundwater in-lieu of imported water to member agencies, will include dedicated pipelines, pump stations, and turnouts owned and operated by IEUA. Turnouts will be metered to track deliveries of CBP water made to member agencies to accurately determine how much water member agencies are using in-lieu of imported water. Like In-Lieu CBP, water deliveries from In-Lieu Local projects would need to be metered to track deliveries of CBP water made to member agencies for accurate accounting.

In-Lieu Local

The In-Lieu Local delivery mechanism involves using either new or existing wells and piping to locally produce groundwater stored by CBP. If existing wells were used for In-Lieu Local, then it was assumed that only existing wells that are currently offline would be considered to exclusively to produce CBP water when they are brought back into service.

In-Lieu Local projects have been incorporated into the CBP, though the specific member agencies that might participate in these projects are unknown. Additionally, the specific locations of the wells within member agency service areas are unknown.

IEUA member agencies have many existing wells that are currently offline that previously extracted potable water from the Chino Basin. The wells are generally not in operation due to the concentrations of constituents such as 1,2,3-TCP, nitrate, PFAS, etc., the concentrations of which exceed the MCL. As such, the CBP assumes that a wellhead treatment facility would be required to reduce the concentration of constituents that degrade water quality to below the MCL for each constituent, and resume operation of the existing wells for potable water usage.

The wellhead treatment system that would be installed to connect the existing wells to the wellhead treatment would utilize a treatment system appropriate to treat the constituents of concern affecting the specific well or group of wells.

This project assumes that up to 9 wells, and up to 3 wellhead treatment systems (averaging 3 wells per treatment systems) could be installed to support the CBP. These wellhead treatment systems are assumed to be capable of treating up to 3,000 AFY per wellhead treatment system or up to 6,000 AFY. The table below outlines the In-Lieu Local assumptions.

Table 19
POTENTIAL IN-LIEU LOCAL
WELL USE AND WELLHEAD TREATMENT FACILITY

Parameter	Description
Wellhead Treatment Facility	
Location	Member Agency, Existing offline Well
Treatment Capacity (Product Water)	Up to 3,000 AFY per wellhead treatment system, maximum of 6,000 AFY assumed to be treated in total
Number of Extraction Wells (existing)	9 total
Brine Conveyance	
Disposal System	Assumed utilization of the IEBL
Disposal Capacity	4,900 gpd per wellhead treatment system
Pipeline Length	Up to 6,800 LF (8-inch)

In-Lieu CBP

Both In-Lieu CBP and MWD pump back involve the direct delivery of CBP water to a member agency or to MWD, respectively, from a dedicated regional potable CBP pipeline. Therefore, they are essentially the same regarding operations and construction of new facilities, the only difference being the location where the CBP water is being delivered. Both delivery mechanisms have three components:

- Groundwater Extraction and Blending, which includes extraction wells, well collector pipelines, and a blending and storage reservoir.

- Delivery to Hydraulic Elevations Above the Blending Reservoir, which includes pump stations, high-hydraulic grade line (HGL) potable water pipelines, and turnouts and in-conduit hydropower facilities (refer to Subsection 3.10.5).
- Delivery to Hydraulic Elevations Below the Blending Reservoir, which includes low-HGL potable water pipelines and turnouts and in-conduit hydropower facilities (refer to Subsection 3.10.6).

3.10.5 Delivery to Hydraulic Elevations Above the Blending Reservoir

Delivery to hydraulic elevations above the blending reservoir includes one or more pump stations, potable water pipelines, and turnouts and hydropower facilities to agencies with HGLs higher than the storage reservoir. The HGL of the Rialto Pipeline, as well as some member agencies pressure zones, is higher than the proposed storage and blending reservoir. To deliver In-Lieu CBP water or MWD pump back water to those pressure zones, a pump station and pressurized pipeline network is required above the reservoir. Coincidentally, the project area is on a south facing slope from the San Gabriel Mountain Range to the north, and all of the delivery locations that are higher in elevation than the proposed reservoir are north of the reservoir as well. The inverse is true that all delivery locations south of the proposed reservoir are lower in elevation than the reservoir.

Agencies that may receive water from the Component B facilities include the following with the HGL of the facility indicated:

- Metropolitan Water District (MWD): Rialto Pipeline – 1,936 ft
- Cucamonga Valley Water District (CVWD): Zone III – 1,658 ft
- Fontana Water Company (FWC): Highland Zone – 1,504 ft
- Water Facilities Authority (WFA): Agua de Lejos WTP Clearwell – 1,632 ft

Pump Stations

TAKE options include the construction of Potable Water Pump Station #1, which is to be located adjacent to the proposed reservoir and would use the reservoir as a forebay to provide suction head. Typically, Pump Station #1 would lift water up to the highest HGL of all of the Component B turnouts (Rialto Pipeline, HGL 1,936 ft). Because all other Component B turnouts are lower than the Rialto Pipeline, this would result in over-pressurizing some water which would require Pressure Reducing Valve (PRV) stations or in-conduit hydropower facilities to reduce the head.

In some options, it is more cost effective to construct a second pump station (Potable Water Pump Station #2) to lift MWD's share of water to the HGL of the Rialto Pipeline (1,936 ft), rather than requiring Pump Station #1 to lift all water in Component B up to 1,936 ft. This was typically done when the allocation of water to MWD was low enough to make the cost of constructing Pump Station #2 lower than the cost of losing energy from over-pressurizing water to every other member agency turnout in Component B. In options with Pump Station #2, Pump Station #1 lifts water to the HGL of the second highest turnout in Component B (CVWD Zone III – 1,658 ft), and Pump Station #2 takes only MWD's share of water and lifts it from 1,658 ft to the Rialto Pipeline HGL. The decision to construct a second pump station would be re-evaluated using a hydraulic model in the preliminary design phase once the preferred TAKE option has been selected.

High HGL Potable Water Pipelines

A potable pipeline network is proposed north of the blending and storage reservoir to deliver water to the agencies and pressure zones listed above under 3.10.5. The primary feature is the northern pipeline, which would comprise pipelines with diameters ranging from 30 and 54 inches and would align from the reservoir north along Milliken Avenue, east along Baseline Road, and north along

Day Creek Boulevard to the general area of the CWWD Lloyd W. Michael WTP. The Lloyd W. Michael WTP is owned and operated by CVWD and is the location of some of CVWD's Zone III tanks. This northern pipeline would supply CVWD Zone III and the MWD Rialto Pipeline.

For options that include delivery to FWC's Highland Zone, a 24-inch pipeline would branch off from the northern pipeline at the intersection of Day Creek Boulevard and Baseline Road and would align East in Baseline Road until reaching FWC's system.

For options that include delivery to WFA, a proposed 36 to 72-inch east-west pipeline would branch off from the northern pipeline at the intersection of Foothill Boulevard and Milliken Avenue. The east-west pipeline would align in Foothill Boulevard until turning North at Mountain Avenue in Upland, then turning west again at 18th Street toward the Agua de Lejos WTP. The east-west pipeline would terminate at its connections to Agua de Lejos. Maps of all potable pipeline alignments are provided with the TAKE options below under 3.10.7, TAKE Facilities Summary.

Turnouts and In-Conduit Hydropower Facilities

MWD would receive delivery of CBP water into the Rialto Pipeline near the Lloyd W. Michael WTP in Rancho Cucamonga (off the northern pipeline). A new turnout would need to be constructed from the regional CBP pipeline into the Rialto Pipeline. The turnout would include a sampling port for monitoring CBP water quality flowing into the Rialto Pipeline, and a backflow prevention device to prevent water from the Rialto Pipeline from entering the CBP pipeline. Because the CBP regional pipeline network is potable and Rialto Pipeline is raw, the Division of Drinking Water would be involved in the permitting of the interconnection between the Rialto Pipeline and the CBP pipeline. Very strict redundancy and safety requirements to ensure the potable pipelines are not contaminated with raw Rialto Pipeline water would be required.

CVWD Zone III would receive delivery of CBP water at the storage tanks on the Lloyd W. Michael WTP site from the northern pipeline. The HGL of the northern pipeline would be 1,936 ft (Rialto Pipeline) in some options, and therefore the turnout to CVWD Zone III may include a PRV station of in-conduit hydropower facility to recapture energy. The CVWD Zone III turnout would include a sampling port to monitor water quality entering CVWD's system.

FWC Highland Zone would receive delivery of CBP water into a transmission main in Baseline Avenue (Baseline becomes "Avenue" East of the Fontana/Rancho Cucamonga city line). The HGL of the Highland Zone is 1,504 ft, and the FWC Highland turnout would always require a PRV station or in-conduit hydropower facility to reduce pressure to the Highland Zone HGL. The FWC Highland turnout would include a sampling port to monitor water quality entering FWC's system.

WFA owns and operates the Agua de Lejos WTP in Upland. The Agua de Lejos WTP has a clear well with a surface elevation of 1,632 ft more than 450,000 people in the west-end of San Bernardino County, and is governed by its member agencies: the City of Chino, the City of Chino Hills, MVWD, the City of Ontario, and the City of Upland. The Agua de Lejos clear well is the ideal location to deliver CBP water because it provides the CBP water in the same location as imported water currently enters their systems. The new system would connect to the Agua de Lejos Clearwell from the proposed east-west pipeline, including a sampling port to monitor water quality entering their systems.

3.10.6 Delivery to Hydraulic Elevations Below the Blending Reservoir

Delivery to hydraulic elevations below the blending reservoir includes the potable water pipelines

and turnouts and hydropower facilities to agencies with HGLs lower than the storage reservoir. As such, the CBP proposes a north-south pipeline that would go from the northern portion of IEUA's service area to the southern portion of IEUA's service area. Due to elevation changes, some delivery locations are at HGLs below the proposed reservoir and can receive water via gravity.

Low-HGL Potable Water Pipelines

The southern pipeline would deliver CBP water from the proposed reservoir to IEUA member agencies. The pipeline is anticipated to vary in size between 24 and 36-inches based on the delivery amount to those agencies proposed in each option. The southern pipeline is alignment location has not yet been determined.

Turnouts and In-Conduit Hydropower Facilities

The southern pipeline may require one or more turnouts to reach member agencies. Because of the anticipated high difference in HGL from the proposed reservoir (1,180 ft) to the certain areas within IEUA's service area, it is assumed that an in-conduit hydropower facility may be at one or more turnouts. However, at other locations there is not enough of a difference in head to justify an in-conduit hydropower facility at possible turnout locations.

Sampling ports would be included at all turnouts to monitor water quality entering member agencies' systems.

3.10.7 TAKE Facilities Summary

TAKE-1: 100% pump back with standard delivery

TAKE Option 1 (TAKE-1) includes delivery of 50,000 AFY of CBP water to the Rialto Pipeline during call years, with standard delivery (i.e., no pre-delivery of CBP water during non-call years) and no delivery of CBP water to member agencies for in-lieu. **Table 20** provides the breakdown of CBP water deliveries to MWD and the member agencies during call and non-call years in TAKE-1.

Table 20
TAKE OPTION 1 DELIVERIES TO EACH AGENCY (AFY)

Agency	Call Year	Non-Call Year
Metropolitan Water District	50,000	-
IEUA Member Agencies	-	-
TOTAL	**50,000**	-

Note: [1]Water supplied from the WFA Agua de Lejos WTP.

TAKE Option 1 includes the following facilities, shown on **Figure 6**:

- Component A – Groundwater Extraction and Blending
  - 17 extraction wells
  - 9 miles of 12- to 36-inch collector pipelines
  - 5 MG Storage Tank #1
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Potable Water Pump Station #1: 9,300 HP, 31,100 gpm firm capacity, 823 ft total dynamic head (TDH)
  - 5 miles of 54-inch potable northern pipeline

  - Proposed 54-inch turnout to the Rialto Pipeline
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir
  - None
- Component D – Delivery to member agencies via In-Lieu Local (Example Projects)
  - None
- Existing Facilities
  - Rialto Pipeline (HGL 1,936 ft)

TAKE Option 1 would be operated to deliver 50,000 AFY to the Rialto Pipeline during call years. Although the facilities would not be operated for Program purposes during non-call years, the infrastructure would be available for local and/or regional uses. The operation of the TAKE-1 components during call years is described below.

- Component A – Groundwater Extraction and Blending
  - The extraction wells, collector pipes, and Storage Tank #1 would extract and blend 50,000 AFY (about 31,100 gpm) of groundwater during call years.
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Storage Tank #1 would serve as a forebay for Potable Water Pump Station #1. During call years, Pump Station #1 would deliver 50,000 AFY of water to the Rialto Pipeline through a proposed 54-inch northern pipeline and a proposed 54-inch turnout into the Rialto Pipeline.

TAKE-3: Partial pump back and partial in-lieu with standard delivery

TAKE Option 3 (TAKE-3) involves the delivery of 50,000 AFY combined during call years to the Rialto Pipeline, five member agencies, and Jurupa Community Services District. Since this option is based on standard delivery, no water would be delivered during non-call years. **Table 21** provides the deliveries to each Agency in TAKE-3.

Table 21
TAKE OPTION 3 DELIVERIES TO EACH AGENCY (AFY)

Agency	Call Year	Non-Call Year
Metropolitan Water District	25,500	-
IEUA Member Agencies	24,500	-
TOTAL	**50,000**	**-**

Note: [1]Water supplied from the WFA Agua de Lejos WTP.

TAKE Option 3 includes construction or use of the following facilities, shown on **Figure 7**:

- Component A – Groundwater Extraction and Blending
  - 15 extraction wells
  - 9 miles of 12- to 42-inch collector pipelines
  - Storage Tank #1: 5 MG and in-conduit hydropower facility
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Potable Water Pump Station #1: 7,000 HP, 23,300 gpm firm capacity, 823 ft TDH
  - 8 miles of 16- through 48-in potable northern pipeline (includes branches to Fontana Water Company (FWC) and Cucamonga Valley Water District (CVWD)
  - Proposed 16-inch turnout to FWC Highland Zone (and optional hydropower facility)
  - Proposed 24-inch turnout to CVWD Zone III (and optional hydropower facility)
  - Proposed 36-inch turnout to the Rialto Pipeline
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir

  - 4 miles of 12- through 24-inch potable southern pipeline
  - Proposed 12-inch turnout to unknown member agency
- Component D – Delivery to member agencies via In-Lieu Local (Example Projects)
  - Up to 6,000 AFY wellhead treatment by 3 wellhead treatment systems treating water pumped from up to existing member agency 9 wells.
- Existing Facilities:
  - Rialto Pipeline (HGL 1,936 ft)
  - Member agency wells

TAKE Option 3 would be operated to deliver 50,000 AFY to the Rialto Pipeline, member agencies, and JCSD during call years only. Although the facilities would not be operated for Program purposes during non-call years, the infrastructure would be available for local and/or regional uses. The operation of the TAKE-3 components would be as follows:

- Component A – Groundwater Extraction and Blending
  - The extraction wells, collector pipes, and Storage Tank #1 would extract and blend 44,000 AFY (about 27,300 gpm) of groundwater during call years.
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Storage Tank #1 would serve as a forebay for Potable Water Pump Station #1. During call years, Pump Station #1 would deliver 37,500 AFY combined of water to the Rialto Pipeline, CVWD Zone III, and FWC Highland Zone through the proposed 7.1-mile northern pipeline network and turnouts to all three agencies.
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir
  - Potable Water Pump Station #1 is designed to lift water to an HGL of 1,936 ft to be able to deliver to the Rialto Pipeline. CVWD and FWC, who would both receive water from Pump Station #1, are at HGLs much lower than 1,936 ft. To recapture some of the lost energy from over-pumping, in-conduit hydropower facilities are proposed at both the CVWD and FWC turnouts. Preliminary calculations showed that the energy loss from over-pumping and recovering energy from hydropower facilities is less costly than the expense of constructing two additional pump stations designed to deliver water exactly to the HGLs of CVWD and FWC (1,658 ft and 1,504 ft, respectively).
  - Water would flow by gravity from north to south in a pipeline with a size between X" and X"; The volume of water that would flow by gravity under this option is anticipated to be 6,500 AFY of water. Water would flow by gravity from Storage Tank #1 South to turnouts to member agencies along a proposed 24-inch southern pipeline. Coming from an HGL of 1,180 in Storage Tank #1, an in-conduit hydropower facility may be appropriate at some turnout locations, but not at others.
- Component D – Delivery to member agencies via In-Lieu Local (Example Projects)
  - The remaining 6,000 AFY would be delivered to member agencies via In-Lieu Local and groundwater treatment. TAKE Option 3 proposes up to three new groundwater treatment facilities for member agencies that would enable reactivation of local wells currently offline due to water quality. These facilities would produce up to 3,000 AFY of potable supply which they would use in-lieu of MWD Rialto Pipeline Water. Existing infrastructure would be utilized to convey treated groundwater throughout their distribution systems to their customers. The Program would help fund these facilities in exchange for in-lieu participation.

TAKE-7: Partial pump back and partial in-lieu

TAKE Option 7 (TAKE-7) involves the delivery of 50,000 AFY combined during call years to the Rialto Pipeline, WFA, CVWD, and FWC. **Table 22** provides the deliveries to each agency for

TAKE-7.

Table 22
TAKE OPTION 7 DELIVERIES TO EACH AGENCY (AFY)

Agency	Call Year	Non-Call Year
Metropolitan Water District	28,0000	
IEUA Member Agencies	22,000	-
TOTAL	**50,000**	

Notes: [1]Water supplied from the WFA Agua de Lejos WTP.

TAKE Option 7 includes construction or use of the following facilities, shown on **Figure 8**:

- Component A – Groundwater Extraction and Blending
  - 9 extraction wells
  - 6 miles of 12- to 36-inch collector pipelines
  - 5 MG Storage Tank #1
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - 8 miles of 12- to 36-inch northern pipeline
  - Proposed 12-inch turnout to FWC Highland Zone
  - Proposed 12-inch turnout to CVWD Zone III
  - Proposed 54- to 72-inch turnout to the Rialto Pipeline
  - 9 miles of 36- to 72-inch east-west pipeline
  - Proposed 36-inch turnout to Agua de Lejos clear well (WFA)
  - WFA Booster Pump Station at 1,700 HP
  - FWC Booster Pump Station at 300 HP
  - CVWD/MWD Booster Pump Station at 4,800 HP
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir
  - None
- Component D – Delivery to member agencies via In-Lieu Local (Example Projects)
  - None
- Existing Facilities
  - Rialto Pipeline (HGL 1,936 ft)
  - Member agency wells
  - Agua de Lejos WTP Clearwell (HGL 1,632 ft)
  - Lloyd Michaels WTP Clearwell (HGL 1,658 ft)
  - FWC Highland Zone (HGL 1,504 ft).

All facilities in TAKE Option 7 would be operated to deliver 50,000 AFY to the Rialto Pipeline and member agencies, during call years. The following discusses call year operation.

- Component A – Groundwater Extraction and Blending
  - The extraction wells, collector pipes, and Storage Tank #1 would extract and blend 50,000 AFY (about 31,000 gpm) of groundwater.
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Storage Tank #1 would serve as a forebay for Potable Water Pump Station #1, #2 and #3. Pump Station #1 would deliver 36,000 AFY combined of water to the Rialto Pipeline and to CVWD Zone III (HGL 1,658 ft). Pump Station #2 would deliver 4,000 AFY of water to FWC Highland Zone (HGL 1,504). Pump Station #3 would deliver 10,000 AFY of water to WFA Agua de Lejos clear well (HGL 1,632 ft)

through the east-west pipelines network, and four turnouts.

TAKE-8: Partial pump back and partial in-lieu

TAKE Option 8 (TAKE-8) involves the delivery of 40,000 AFY of CBP water to all MWD, CVWD and FWC during call years. **Table 23** provides the deliveries to each agency for TAKE-8.

Table 23
TAKE OPTION 8 DELIVERIES TO EACH AGENCY (TAFY)

Agency	Call Year	Non-Call Year
Metropolitan Water District	10,000	-
CVWD and FWC	30,000	
TOTAL	**40,000**	

Note: [1]Water supplied from the WFA Agua de Lejos WTP.

TAKE Option 8 includes construction or use of the following facilities, shown on **Figure 9**:

- Component A – Groundwater Extraction and Blending
  - 17 extraction wells
  - 6 miles of 12- to 36-inch collector pipelines
  - 5 MG Storage Tank #1
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Potable Water Pump Station #1: 5,300 HP, 11,300 gpm firm capacity, 558 ft TDH
  - MWD Booster Pump Station: 650 HP
  - 6.3 miles of 48-inch northern pipeline
  - Proposed 24-inch turnout to FWC Highland Zone
  - Proposed 48-inch turnout to CVWD Zone III
  - Proposed 24-inch turnout to Rialto Pipeline
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir
  - 2 miles of 36-inch potable southern pipeline
  - 0.7 miles of 24-inch potable pipeline to FWC Jupiter Zone F17 Tank (HGL 1,103 ft)
- Component D – Delivery to member agencies via In-Lieu Local (Example Projects)
  - None
- Existing Facilities
  - Member agency wells

All facilities in TAKE Option 8 would be operated to deliver 40,000 AFY to the Rialto Pipeline, CVWD, and FWC during call years. The facilities would operate as a complete in-lieu to deliver 30,000 AFY to CVWD and FWC. The following discusses call year operation. The operation of the TAKE-8 components would be as follows:

- Component A – Groundwater Extraction and Blending
  - The extraction wells, collector pipes, and Storage Tank #1 would extract and blend 50,000 AFY (about 31,000 gpm) of groundwater.
- Component B – Delivery to Hydraulic Elevations Above the Blending Reservoir
  - Storage Tank #1 would serve as a forebay for Potable Water Pump Station #1. Pump Station #1 would deliver 40,000 AFY combined of water to Rialto Pipeline, CVWD Zone III, FWC Highland Zone, through a proposed network of 24- to 48-inch pipelines.
- Component C – Delivery to Hydraulic Elevations Below the Blending Reservoir

- Water would flow by gravity from north to south in a pipeline with a size between 24- and 36-inch; The volume of water that would flow by gravity under this option is anticipated to be 5,000 AFY of water would flow by gravity from Storage Tank #1 South to turnout to FWC's Jupiter Zone F17 tank member agencies along a proposed 24-inch southern pipeline. Coming from an HGL of 1,100 in Storage Tank #1, an in-conduit hydropower facility may be appropriate at some turnout locations, but not at others.

3.11 CHINO BASIN PROGRAM CONVEYANCE FACILITIES

This section presents the conveyance approach and assumptions for both the PUT and TAKE options. This section includes:

- General criteria and alignment assumptions
- Recycled water conveyances
- Purified water conveyance
- Brine conveyance
- Potable water conveyance

Note that some conveyance facilities are discussed under the Subsections 3.9, Chino Basin Program PUT Facilities and 3.10 Chino Basin Program TAKE Facilities; however, these facilities are summarized below for continuity under conveyance facilities.

3.11.1 General Criteria and Alignment Assumptions

In general, all proposed conveyance pipelines will be aligned through the public Right-of-Way (ROW) and properties owned or to-be acquired by IEUA to reduce the number of easements required for construction and maintenance. Parallel alignments through ROWs governed by the California Department of Transportation (Caltrans) will also be avoided (though not excluded from consideration) to reduce permitting efforts. Constructing in areas requiring additional permitting will be considered to avoid known utility conflicts and/or narrow segments of road, or to shorten the length of the overall alignment.

Many existing utilities could conflict with proposed conveyance pipelines, potentially leading to increases in construction time and cost. It is assumed that each stretch of public ROW will include at least one local water main and services, one local sewer main and laterals, local communication and electricity facilities in a duct bank, and one local gas distribution main and services. In addition, regional facilities have been mapped in to **Figure 10** identify larger utility conflicts, including the following:

- Large water transmission mains operated by MWD, San Gabriel Valley Municipal Water District, and CDA
- IEUA sewer trunk lines and force mains
- IEUA recycled water pipelines fuel transmission lines
- Groundwater recharge basins
- Natural gas transmission and distribution pipelines
- Regional brine transmission lines
- Regional storm drainage facilities
- Properties owned by the Southern California Edison Company (Edison)

While avoiding all utility conflicts is not feasible, all conveyance pipelines will be aligned to avoid

known parallel utility conflicts with as many existing regional utility facilities as possible. Pipelines may be aligned through utility conflicts if alternatives to avoid utilities require excessive increases in pipe length, excessive segments that require horizontal directional drilling to construct, or acquisition of easements that are considered more costly and challenging than avoiding the utility. Lots owned by Edison that cannot be purchased outright by IEUA are also not being considered due to Edison's "No Permanent Facility" clause in its Transmission Line Right of Way Constraints and Guidelines.

3.11.2 Tertiary Recycled Water Conveyance

IEUA owns and operates a recycled water distribution system with five pressure zones to serve recycled water customers and deliver recycled water to recharge basins for groundwater replenishment. The proposed AWPFs are to be placed along existing recycled water mains; therefore, no additional recycled water facilities will be required to move recycled water from IEUA's existing system to the AWPFs. However, due to the demand of the AWPFs on the existing recycled water system, IEUA will be receiving additional supply from Rialto WWTP and WRCRWA. Both new recycled water supply sources will require a pump station and pipeline to connect into the existing recycled water system. The assumptions and criteria for these recycled water pipelines and pump stations are listed below and in **Table 24**, below.

- Total dynamic head (TDH) required of pump stations to pump water into the existing recycled water system was calculated by the existing hydraulic model
  - The existing model uses the Hazen Williams equation used to determine friction head loss within pipelines
- Trenchless technologies will be required at freeway, flood channel, and railroad crossings
  - Jack and bore for lengths less than 500 feet
  - Horizontal directional drilling for lengths exceeding 500 feet

Table 24
TERTIARY RECYCLED WATER PUMP STATION AND PIPELINE DESIGN CRITERIA AND PLANNING ASSUMPTIONS

Parameter	Criteria	Units	Demand Condition
Maximum System Velocity	5	fps	Constant Flow
Pipe Material, Diameter ≥ 16 in	Steel	-	-
Pipe Material, Diameter < 16 in	Unspecified	-	-
Hazen Williams Coefficient	120	-	-
Minor Losses (% of friction losses) (bends, valves, etc.)	5	%	-
Low water level plant and booster pump stations	20 ft below grade	-	-
Motor Efficiency	75	%	-
Pump Efficiency	93	%	-
Total Pump Station Efficiency	70	%	-

Purified Recycled Water Pipeline Alignment Assumptions

Connection from the Rialto WWTP

The connection from the Rialto WWTP is assumed to connect to IEUA's recycled water system near RP-4 within the 1158 pressure zone (HGL 1158 ft, typically). In scenarios with the AWPF

located at RP-4, the pipeline connection from the Rialto WWTP will directly feed the AWPF. In order to make the connection near RP-4, the supply pipeline is required to cross the Union Pacific Railroad and Interstate 10. It is assumed that the pipeline will require jack-and-bore to cross both the railway and the freeway.

Connection from Western Riverside County Regional Wastewater Authority (WRCRWA)
The connection from WRCRWA to the IEUA recycled water system is assumed to connect within the 930-pressure zone near the 930/800 pressure reducing valve. This connection will allow the supplemental supply from WRCRWA to offset demands in the southern pressure zones where the highest agricultural demands exist and make available IEUA supply normally used to meet these demands to feed the AWPF. Due to limitation in how water can move between pressure zones, a connection to the 800-pressure zone would not allow for a maximum benefit of the new supply source. A connection within the 1158 pressure zone would allow the new supply to directly feed the AWPF if located near RP-1, but will also require about two additional miles of pipeline than a connection to the 930-pressure zone, making this connection cost prohibitive.

3.11.3 Recycled Water Conveyance

The purified water distribution system consists of pump stations and pipelines. The treatment plant pump stations deliver water to injection wells and lower elevation recharge basins. Additional booster pump stations are required to deliver purified water to higher elevations and more distant recharge basins.

Pipelines
Purified water would be routed from the AWPF's located at RP-4 to injection wells located within the Chino Basin. Pipeline design criteria established for the purified water system in addition to the overall pipeline design criteria (**Table 24**) are shown in **Table 25**.

- Hazen Williams equation used to determine friction head loss within pipelines
- Trenchless technologies will be required at freeway, flood channel, and railroad crossings
  - Jack and bore for lengths less than 500 feet
  - Horizontal directional drilling for lengths exceeding 500 feet
- Pressure reducing valves will be included at each injection well to decrease head to the required residual pressure to feed the wells.

Table 25
PURIFIED RECYCLED WATER PIPELINE DESIGN CRITERIA AND PLANNING ASSUMPTIONS

Parameter	Criteria	Units	Demand Condition
Hazen Williams Coefficient	120	-	-
Maximum System Velocity	5	fps	Constant Flow
Pipe Material	Steel	-	-
Minor Losses (bends, valves, etc.)	5	%	-
Residual Head required at Injection Wells	10	psi	-
Low water level plant and booster pump stations	20 ft below grade	-	-
Motor Efficiency	75	%	
Pump Efficiency	93	%	
Total Pump Station Efficiency	70	%	-

Pump Stations

The proposed conveyance routings will require pump stations to deliver water to the injection wells in the event that an option including the recharge basins is selected. Only one pump station would be required to pump water from the AWPF to the conveyance pipeline to the injection wells. Design criteria for these pump stations is included in **Table 25**.

If a PUT option is developed that includes using recharge basins for groundwater replenishment of purified water, an additional pump station would be required to convey purified water to the northern recharge basins including Lower Day, Etiwanda Debris, and San Sevaine. The purified water conveyance system could be extended from the injection wells to Victoria, Hickory, and Banana recharge basins without an additional pump station (i.e., the purified water pump station could pump to the injection wells and these three recharge basins).

3.11.4 Brine Conveyance

RO concentrate created at IEUA's RP-4 AWPF and brine concentrate from the example In-Lieu Local project for the City of Chino Hills wellhead treatment facility will be disposed of into the existing NRWS via the nearest existing manhole. The following assumptions were made to complete this phase of design:

- Hazen Williams equation used to determine friction head loss within pipelines
- RO concentrate will have sufficient pressure to deliver water from treatment plant to brine line discharge
- Jack and bore required at freeway crossings

Table 26
BRINE PIPELINE DESIGN CRITERIA AND PLANNING ASSUMPTIONS

Parameter	Criteria	Units	Demand Condition
Hazen Williams Coefficient	120	-	-
Maximum System Velocity	5	fps	Constant Flow
Pipe Material	High Density Poly Ethylene (HDPE)	-	-
Minor Losses (bends, valves, etc.)	5	%	-

Pipelines

The RP-1 brine pipeline connection will connect into the NRWS pipeline via a pipeline parallel to the recycled water conveyance line also exiting the plant. The HDPE brine line will require one jack-and-bore trenchless crossing under the 60 freeway.

The RP-4 brine pipeline will connect into the NRWS pipeline via a pipeline on the southeastern side of the existing facility. No trenchless crossings are required for this pipeline.
The brine pipeline for the example In-Lieu Local project included for the City of Chino Hills wellhead treatment facility would connect into the IEBL via a pipeline on the southern side of the facility. The HDPE brine line would require one jack and bore trenchless crossing under the 71 Highway and Chino Creek.

Table 27
RP-4 BRINE PIPELINE DESIGN CRITERIA AND PLANNING ASSUMPTIONS

Parameter	Diameter (in)	Approximate Length (ft)	Maximum Elevation (ft)
RP-4 Brine Line	8	1,400	1,084

AWPF at RP-4

For a product water capacity of 15 TAFY, approximately 1.03 MGD of brine concentrate will require disposal. The elements of the proposed connection are as follows:

- Connection
  - Brine concentrate will be conveyed through a 1,400-foot 8-inch HDPE brine line using residual pressure from the RO system. The residual pressure is projected to be a maximum of 80 psi and would be reduced using a control valve. It is assumed that the brine concentrate would be discharged from an RO concentrate air gap.
  - The new brine line would exit the southeast side of the AWPF and connect to existing manhole EINL- 008 on the NRWS pipeline, located on Etiwanda Avenue between Wells Street and 6th Street.
  - No trenchless crossings would be required for this brine line.
- Capacity
  - At the proposed connection, the existing NRWS pipeline is a 15-inch vitrified clay pipe (VCP) with a capacity of 7.1 cfs (4.6 MGD).
  - The current flow at this location is 20,000 gallons per day (gpd) and the purchased capacity is 21,600 gpd.
  - It has been verified that the existing NRWS infrastructure would be able to accommodate the brine stream at the point of connection and downstream.
  - 2,603 NRWS CUs would need to be purchased
- Hydraulics
  - At the proposed connection, flow would transition from pressurized to gravity.

The brine disposal for the AWPF at RP-4 is summarized in **Table 28** and shown in **Figure 11**.

Table 28
RP-4 AWPF BRINE FACILITIES

Parameter	Description
Brine Stream Characteristics	
Flow	1,027,300 gpd
Chemical Oxygen Demand (COD)[3]	262 ppd[1], dry
Total Suspended Solids (TSS)[3]	1 ppd, dry
Connection	
Disposal System	NRWS Pipeline
Pipeline	1,400 ft (8-inch)
No. of Crossings	None
NRWS CUs Required	2,603
Capacity	
NRWS Pipeline Capacity	4.6 MGD (15-inch)
Current Flow	20,000 gpd

Parameter	Description
Purchased Capacity	21,600 gpd
Hydraulics	
Design Velocity	5 fps[2]

Notes: [1]ppd = pounds per day
[2]fps: feet per second
[3]Values are estimates

New IEBL Connection

The CBP may include groundwater wellhead treatment facilities that could generate brine. Two example In-Lieu Local projects were included in the TAKE options for the City of Chino Hills and the City of Chino. The City of Chino Hills wellhead treatment facility would require a new connection to the IEBL. **Table 29** provides a summary of the proposed example In-Lieu Local project for the City of Chino Hills and the corresponding product water capacity for each TAKE option.

Table 29
CBP TAKE OPTION WELLHEAD TREATMENT FACILITY CAPACITY

TAKE 1	TAKE 3	TAKE 7	TAKE 8
-	6,000 AFY	-	-

CBP TAKE Option 3, assume that one of the wellhead treatment facilities is located at the City of Chino Hills Booster 9. For a product water capacity of 3,000 AFY, approximately 4,900 gpd of brine concentrate will require disposal. The size and alignment for the proposed brine line is the same for TAKE Option 3. The elements of the proposed connection are as follows:

- Connection
  - Brine concentrate would be conveyed through a 6,800-foot 8-inch HDPE brine line.
  - The new brine line would exit the south side of the facility and connect to existing manhole SST-018 on the IEBL, located at the intersection of Eucalyptus Avenue and Monte Vista Avenue.
  - To cross the 71 Highway and Chino Creek, approximately 300 feet of the brine line would need to be installed using jack and bore.
- Capacity
  - At the proposed connection, the existing IEBL pipeline is a 12-inch VCP with a capacity of 3.5 CFS (2.3 mgd).
  - The current flow at this location is 22,000 gpd and the purchased capacity is 43,000 gpd.
  - It has been verified that the existing IEBL infrastructure would be able to accommodate the brine stream at the point of connection and downstream.
  - One Agency Capacity Unit (CU) would need to be purchased for TAKE Options 3, 4c, and 6b.
- Hydraulics
  - Constant flow through the brine line is not feasible since a very small pipe diameter is needed to meet the velocity design criteria. To promote full pipe flow, a pressure sustaining valve is recommended at the connection to the IEBL.
  - At the proposed connection, flow will transition from pressurized to gravity.

The brine disposal for the City of Chino Hills wellhead example In-Lieu Local project is summarized in **Table 30** and shown in **Figure 12**.

Table 30
EXAMPLE IN-LIEU LOCAL PROJECT (CITY OF CHINO HILLS WELLHEAD TREATMENT FACILITY) BRINE DISPOSAL

Parameter	Description
Brine Stream Characteristics	
Flow	4,900 gpd
COD[1]	10 ppd, dry
TSS[1]	1 ppd, dry
Connection	
Disposal System	IEBL
Pipeline	6,800 ft (8-inch)
No. of Crossings	1 (Jack and bore 300 ft beneath Highway 71 and Chino Creek)
NRWS CUs Required	1
Capacity	
NRWS Pipeline Capacity	1.9 MGD
Current Flow	22,000 gpd
Purchased Capacity	43,000 gpd
Hydraulics	
Design Velocity	5 fps

Notes: [1]Values are estimated

Scaling Prevention and Mitigation Strategies

Scaling occurs when minerals precipitate out of a liquid stream and form deposits on surfaces within treatment processes or downstream distribution systems. Calcium carbonate and sulfate scales are the most common types of scale resulting from RO and IX systems. If not properly managed, scale can reduce capacity, cause water quality fluctuations, diminish treatment results, or lead to failure of piping and equipment. For applications susceptible to scaling, a water quality analysis should be performed, and an action plan implemented to minimize the effects of scaling on the system.

The scaling process starts with nucleation, which is the early stages of crystal formation. Subsequent crystal formation will quicken once nucleation has started. Nucleation can only occur in saturated or supersaturated solutions. There are two types of nucleation:

- Homogenous nucleation
  - Crystal growth within a solution. Clusters of ions, known as seed crystals, can form and grow until they are large enough to precipitate out of the solution, forming scale deposits.
  - More likely to occur as the degree of supersaturation increases.
  - Typically prevented by adding scale inhibitors (inhibits nucleation), distorting agents (alters and weakens crystal structure), and dispersants (cause crystals to repel each other).
- Heterogenous nucleation

- Crystal growth on an existing surface. The interaction between the solution and the existing surface will form seed crystals and lead to scale deposits.
- More likely to occur at irregularities on the existing surface such as pipe joints, defects, valves, and meters.
- Typically prevented by altering the physical properties of the piping or equipment. Minimizing homogenous nucleation will also reduce heterogenous nucleation by maintaining a smoother pipe free of scale deposits.

RO systems typically inject scale inhibitors upstream of the treatment process to facilitate a higher recovery rate; thus, it is expected that the brine concentrate from the proposed AWPF(s) would be supersaturated. Brine concentrate from the IX system at the City of Chino Hills wellhead treatment facility is expected to be saturated since scale inhibitors are typically not injected upstream of the treatment process.

Table 31
FACTORS AFFECTING SCALING POTENTIAL

Parameter	Description	Mitigation Strategy
Treatment Recovery Rate	For RO systems, higher recovery rates will lead to brine with higher salt concentrations since less water is wasted.	Confirm that anti-scalant residuals are present in RO system brines.
Degree of Saturation	Higher degrees of saturation will increase the rate of homogenous and heterogenous nucleation.	Inject scale inhibitors or dispersants to prevent crystal growth, or inject distorting agents so that scale is easier to clean.
pH	The solubility of carbonate increases with acidity.	Lower the pH to reduce the scaling potential in the brine line (through chemical injection)
Alkalinity	Results from the presence of hydroxides, carbonates, and bicarbonates.	Reduce the alkalinity to directly reduce the scaling potential (acid addition).
Physical Properties of Interacting Surfaces	Roughness, shape, and material of the piping or equipment can catalyze heterogenous nucleation	Select materials resistant to scale, minimize irregularities, and frequently perform maintenance.
Flow Regime	Free water surfaces will lead to scaling at the interacting surface. Free water surfaces will also experience evaporation, causing the salt concentration to increase.	Brine conveyance pipelines should be designed to promote full pipe flow.

Conclusion

Heterogenous nucleation is more likely to occur than homogenous nucleation in brine conveyance pipelines. The most economical strategies for preventing scale are physical properties and flow regime. The following should be considered:

- HDPE is recommended because the pipe interior is smooth.
- The fusion-weld beads resulting from HDPE installation should be removed from the interior using a mandrel.
- The pipeline design should promote full-pipe flow. Air release valves are likely needed and should be easily accessible and resistant to scale. To promote full-pipe flow, a pressure sustaining valve could be used at the connection to the North NRWS or IEBL.
- The velocity should not exceed 5 fps because turbulent flow will induce scaling.

Chemical treatment and pH adjustment should also be considered. Since RO systems utilize scale inhibitor upstream of the process, it is a feasible option to inject additional scale inhibitor into the brine concentrate leaving the system. Since IX systems do not utilize scale inhibitors, it would be more economical to inject sulfuric acid into the brine concentrate to dissolve calcium carbonate by suppressing the pH. A water quality analysis for the brine concentrate is recommended to determine the optimal strategy to prevent scaling.

It is recommended that the brine lines are inspected regularly as a preventive measure. If scale formation is detected, then cleaning through chemical treatment (acid) should be undertaken before scaling becomes extensive. Long radius bends should be installed to facilitate pipe pigging in the future, if required. Additionally, installing parallel brine lines at each facility is recommended to allow for continuous operation during maintenance. The second brine line would be drained and flushed when not in use.

3.11.5 Potable Water Conveyance

The potable water conveyance system will consist of extraction wells, a reservoir, pump stations, pipelines, and turnouts to member agencies and/or MWD. In general, the extraction wellfield will deliver potable water to a reservoir which will be used for blending and to break head between high and low HGL zones where potable water will be delivered. The reservoir will have two outlets – one directly into a proposed transmission main to deliver water to lower HGL member agencies, and one into the suction side of a proposed potable booster pump station to deliver water to higher HGL member agencies and/or into the Rialto Pipeline.

Pipelines and Pump Stations

For TAKE options that include both MWD Pump Back and In-Lieu CBP, regional potable water facilities will be joined and used for both purposes to reduce costs. For instance, if water is to be pumped back to MWD at CB-7 and also delivered to CVWD at the Lloyd W. Michael WTP (about a half mile away from CB-7), a single pump station and pipeline with capacity for both deliveries would be installed to convey water from the extraction wellfield to the general area near CB-7 and Lloyd W. Michael WTP at which point the pipeline would diverge to two smaller diameter pipelines to deliver water to each turnout.

The assumptions and criteria for the potable water pipelines and pump stations are listed below and in **Table 32**.

- Hazen Williams equation used to determine friction head loss within pipelines
- Pump suction side HGL set to 10 ft above ground elevation for pump stations with an open-atmosphere forebay
- Trenchless technologies will be required at freeway, flood channel, and railroad crossings
    - Jack and bore for lengths less than 500 feet
    - Horizontal directional drilling for lengths exceeding 500 feet
- For pre-delivery TAKE options, pump stations and pipelines are sized based on their call year design flowrate.

Table 32
POTABLE WATER PIPELINE AND PUMP STATION DESIGN CRITERIA AND PLANNING ASSUMPTIONS

Parameter	Criteria	Units	Demand Condition
Maximum System Velocity	5	fps	Constant Flow

Parameter	Criteria	Units	Demand Condition
Pipe Material, Diameter ≥ 16 in	Steel	-	-
Pipe Material, Diameter < 16 in	Unspecified	-	-
Hazen Williams Coefficient	120		-
Minor Losses (% of friction losses) (bends, valves, etc.)	5	%	-
Motor Efficiency	75	%	
Pump Efficiency	93	%	
Total Pump Station Efficiency	70	%	-

In-Conduit Hydropower Facilities

In-conduit hydropower facilities may be considered in locations of the potable water distribution system where the system pressure needs to be reduced and energy can be produced. Due to the various pressure zones that the regional potable system will be pumping into, it is likely that in some cases a single pump station may deliver water to multiple local pressure zones with different HGLs, and in-conduit hydropower facilities may be appropriate to recapture some of the energy used to lift the water to the higher HGL. This would only be appropriate where the energy loss from pumping water to an HGL and then attempting to recover it with a hydropower facility would be less costly than to build a second pump station and pipeline to deliver water to the lower HGL without any unnecessary additional lift.

Locations ideal for in-conduit hydropower generations should have an available pressure between 25 and 260 psi. The power output at the facility will depend on the available head and flow rate. Three types of in-line hydropower facilities were identified for the CBP:

1. Pump Turbines. A pump turbine is a centrifugal pump running in reverse and is a typically used in small output applications less than 300 kW. Economically, these start to make sense with a minimum power output of 50 kW. They work best with stable and relatively constant flow rates.
2. In-line Francis Turbines. Francis type turbines are the most widely used in-line hydraulic turbines. In-line Francis Turbines can be dropped into an existing PRV location. Unlike pump turbines, Francis Turbines can operate over a wide flow range. These typically have an efficiency of 70-75%. Economically, installation of a Francis Turbine makes sense in locations that can generate 150 kW or greater.
3. Custom Francis Turbines. A custom Francis Turbine has a higher efficiency, typically 80-85%, and are generally installed in locations that can produce much high power 500 kW or greater. These can also cover a wide range in flow.

Under the Federal Power Act, non-federal hydropower resources are regulated under the Federal Energy Regulatory Commission (FERC). FERC issues three types of authorizations: conduit exemptions, 10-megawatt exemptions, and licenses. FERC approval is required to construct and operate small/low-impact hydropower projects while assuring adequate protection of environmental resources. The FERC Small/Low Impact Hydropower Projects program is intended for small projects that would results in minor environmental effects, such as projects that involve little change to water flow and use and are unlikely to affect threatened and endangered species. The CBP would likely be classified as a small/low-impact hydropower project or would qualify for a conduit exemption as all proposed hydropower generation would be from in-conduit turbines.

Blending and Storage Reservoir

A single reservoir is proposed near the extraction wellfield to allow for blending of groundwater and serve as a forebay for the pump station. The proposed reservoir near the extraction wellfield should provide a retention time of approximately three hours from the extraction wellfield for adequate blending. The reservoir was sized at 5 MG for TAKE options.

The location for a potential reservoir site was determined through identifying land in the Chino Basin near the extraction wellfield suitable for reservoir construction. A GIS shapefile of parcels in San Bernardino County provided by the Assessor's Office was used to identify potential reservoir sites with the following attributes for use in developing the TAKE options:

- Undeveloped parcels.
- Parcels located at the intersection of streets. These sites would provide for easy access to the site during construction, maintenance, and rehabilitation activities.
- Parcels greater than one acre for a 2.5-MG reservoir and greater than 1.75 acres for 5-MG reservoir.
- Parcels not planned for development (such as the former Empire Lakes Golf Course site).
- Parcels with a vacant land use designation.

3.12 SUMMARY OF FACILITY CONSTRUCTION AND OPERATIONS

The CBP would, as stated under Subsection 3.4, Program Objectives, be developed to provide flexibility to regional and local water operations, particularly during future extended droughts expected as climate change continues to impact California. The Program would enhance both the SWP and the Central Valley Project for the betterment of operations, environment, resilience, and reliability. This section of the Project Description is intended to outline operational and construction scenarios for the specific types of facilities and/or improvements that could result from the implementation of the CMP.

The implementation of the facilities proposed as part of the CBP consists of construction and operation of the various facilities that will be summarized below. These potential facilities are separated into four project categories: (1) Project Category 1: Well Development (Injection wells, extraction wells, etc.); (2) Project Category 2: Conveyance Facilities and Ancillary Facilities; (3) Project Category 3: Groundwater Storage Increase; and, (4) Project Category 4: Advanced Water Purification Facility and Other Water Treatment Facilities. Below are general descriptions of the facilities and operations proposed as part of the CBP. The Project Categories below each reflect a combination of the TAKE Options, as IEUA is considering four TAKE Options—TAKE 1, TAKE 3, TAKE 7, and TAKE 8—in combination with PUT Option 5. Each Project Category has been formed utilizing the greatest number, intensity, lengths, and capacities for each type of facility proposed under the TAKE options. For example, the pipeline lengths and sizes considered under Project Category 2 represent the option(s) that would require the greatest pipeline length to achieve that "Component" of the CBP.

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

The CBP would ultimately install several wells and utilize one or up to four existing wells in order to facilitate project operation as follows:

- 16 injection wells (12 duty, 4 standby)
- The CBP would install a maximum of 17 extraction wells.
- 4 monitoring wells
- Use of existing wells including the following:
    - Use of existing Rialto Pipeline

- Use of up to 9 existing member agency wells
- Use of existing Agua de Lejos WTP Clearwell (HGL 1,632 ft)
- Use of existing Lloyd Michael WTP Clearwell

Project Category 2: Conveyance Facilities and Ancillary Facilities

The CBP would ultimately install a total of about 30 miles or 158,400 lineal feet (LF) of various types of pipelines. Potential alignments include a mix of the following:

- TAKE 1: 9 miles of 12- to 36-inch collector pipelines
- TAKE 1: 5 miles of 54-inch potable northern pipeline
- TAKE 3: 9 miles of 12- to 42-inch collector pipelines
- TAKE 3: 8 miles of 16- through 48-in potable northern pipeline
- TAKE 3: 4 miles of 12- through 24-inch potable southern pipeline
- TAKE 3: In lieu Brine Disposal IEBL 6,800 ft 8" pipeline, possible jack and bore across 300 ft under Hwy 71 and Chino Creek
- TAKE 7: 7 miles of 36- to 72-inch e/w WFA pipeline
- TAKE 7: 4.5 miles 24-inch e/w FWC pipeline
- TAKE 7: 4.5 miles 54- to 72-inch & 36-inch CVWD/MWD pipeline
- TAKE 7: 0.3 miles 54- to 72-inch MWD pipeline
- TAKE 8: 6.3 miles of 48-inch CVWD pipeline
- TAKE 8: 7 miles of 24-inch FWC-1 pipeline
- TAKE 8: 0.7 miles of 24-inch FWC-2 pipeline
- TAKE 8: 0.8 miles of 24-inch MWD pipeline
- TAKE 8: 36-inch JCSD 2 miles
- PUT 5: 7.1 miles of 8- to 30-inch pipeline for purified water conveyance
- PUT 5: 1,400 ft (8' pipeline) NRWS brine conveyance; NRWS Capacity Units required 2,603

The CBP would install a circular, prestressed tank storage reservoir with a maximum capacity of 5 MG with possible and in-conduit hydropower facility.

The CBP would install up to 4 pump stations serving various PUT and TAKE facilities. One pump station would serve PUT facilities, while up to three pump stations would support TAKE facilities. The breakdown of the types of pump stations include a mix of the following:

- PUT 5: Pump station at RP-4 1,500 HP
- TAKE 1: Pump Station with a max 9,300 HP, and a max of 31,100 gpm, 823 ft TDH
- TAKE 3: Potable Water Pump Station #1: 7,000 HP, 23,300 gpm firm capacity, 823 ft TDH
- TAKE 7: WFA Booster at 1,700 HP
- TAKE 7: FWC Booster at 300 HP
- TAKE 7: CVWD/MWD Booster at 4,800 HP
- TAKE 8: Booster Station #1 at 5,300 HP
- TAKE 8: MWD Booster at 650 HP

The CBP would install a maximum of 6 that would be between 12" and 72" in size turnouts in support of TAKE facilities within IEUA's service area. Possible turn out locations may or may not include the following:

- to FWC Highland Zone (and optional hydropower facility)
- to CVWD Zone III (and optional hydropower facility)
- to the Rialto Pipeline
- to Agua de Lejos clear well (Upland and MVWD)

- to TVMWD Miramar WTP clear well (HGL 1,630ft)

Project Category 3: Groundwater Storage Increase[14]

As discussed under Subsection 3.3.1, Chino Basin Groundwater, the proposed CBP requires an increase the Safe Storage Capacity of the Chino Basin in order to accommodate the additional managed storage to accommodate the CBP above the existing Safe Storage Capacity (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035). As such, As such, the CBP would contemplate a tiered increase in Safe Storage Capacity that would accommodate CBP storage requirements as well as Watermaster stakeholder storage requirements as follows: the CBP proposes an increase in Safe Storage Capacity up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter. The storage increase would accommodate the CBP during its 25-year planning horizon (while the Proposition 1 WSIP water exchange commitment is fulfilled), and any future required increase in storage that may be necessary to accommodate the increased recharge and extraction capacities provided by CBP infrastructure would be addressed in future CEQA documentation. This proposed tiered increase would supersede the Safe Storage Capacity that was approved in March of 2021 by the IEUA Board and subsequently approved by the CBWM in May 2021.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity 15,000 AFY. Additionally, the CBP may install up to 3 wellhead treatment facilities at a location that has yet to be selected up to 3,000 AFY each, with no more than 6,000 AFY treated in total through biological or other wellhead treatment mechanisms (treatment mechanisms are discussed in further detail TM1, which is provided as Appendix 1 to the 2022 CBP FPEIR).

Operational Scenarios

Operational Scenarios are provided above under Subsections 3.9 Chino Basin Program Put Facilities, 3.10 Chino Basin Program Take Facilities, and 3.11 Chino Basin Program Conveyance Facilities. Operational scenarios are repeated and condensed under this section.

[14] Refer to the footnote presented under Subsection 3.5.2 as it relates to Groundwater Storage. The CBP proposed Safe Storage Capacity was evaluated throughout the 2022 CBP FPEIR. The CBP contemplated a tiered increase in SSC in the Chino Basin of up to 720,000 AF from July 1, 2030 through June 30, 2042; to 580,000 AF from July 1, 2042 through June 30, 2048; and 500,000 AF thereafter. This proposed tiered increase in Chino Basin SSC would supersede the SSC approved by the Watermaster in 2021. If and when the CBP is approved, IEUA would approach the Watermaster to approve the SSC required to support the CBP based on the findings in this RDPEIR. Based on the findings in the 2022 CBP FPEIR, the Groundwater Storage Increase to meet CBP operational requirements would not result in any significant adverse impacts to the environment, and this finding was not challenged in the City of Ontario's legal challenge.

Regardless, in 2024 the Chino Basin Watermaster and IEUA published and processed the Optimum Basin Management Plan Update (OBMPU) Subsequent Environmental Impact Report (SEIR). The Final version of this SEIR was certified in 2024 and was not legally challenged. Relying on the 2023 Storage Framework Investigation (SFI), which provided a technical analysis of Storage and Recovery Programs considered by the CBW, the SEIR included the following: use of storage space by members up to 700,000 AF, and conjunctive-use by Storage and Recovery Programs from 700,000 AF up to 900,000 AF. This decision enabled expansion of the SSC up to 900,000 AFY going forward from 2024 and beyond. IEUA has retained the analysis of the 700,000 AFY Safe Storage Capacity in this RDPEIR, but adequate SSC, and more, to cover the CBP required storage capacity has already been authorized through the SSC increase approved by the Chino Basin Watermaster, relying on the OBMPU PEIR.

No further footnotes describing the SSC context will be provided in this RDPEIR analysis.

Possible operational scenarios are provided as part of the discussion of each type of facility. The future modes of operation (activities) are provided to enable evaluation of the direct and indirect environmental impacts that could result from CBP implementation.

Construction Scenarios
Secondarily, as part of this summary of all facilities, estimated construction scenarios are provided as part of the discussion of each type of facility. The purpose of the following general construction scenarios is to assist the reviewer to understand how the proposed facilities will be installed, the amount of time required for their construction, and potential direct and indirect environmental impacts. This information also provides essential data for making the program air quality impact forecasts using the most current CalEEMod emission forecast model.

For some of the facilities anticipated by the CBP, the types, configuration and exact location of future specific projects that may be constructed in support of the CBP have not been determined. However, there are several specific projects and scenarios that have been identified at a sufficient level of detail that a location has been pinpointed in which a specific project will be developed. Ultimately, it is possible to foresee most of the infrastructure that is likely to be constructed and to project the reasonably foreseeable direct and indirect impacts that would result from construction and operation of the infrastructure. Impacts associated with specific future projects could be evaluated in second-tier CEQA evaluations to determine if the actual impacts fall within the impacts forecast by this analysis, or require subsequent CEQA evaluations and determinations. These evaluations would be conducted under CEQA Section 21166 and Sections 15162 and 15168 of the State's CEQA Guidelines.

Alternative Energy Sources
Current renewable on-site generation at RP-4/IERCF (these two facilities share the same Southern California Edison's meter) is about 20%. In addition to the 1 MW wind turbine and 1.5 MW battery at RP-4, additionally, there is a potential for use of a 2.5 MW solar at the IERCF. As the proposed project has not undergone site specific design, at this time, alternative energy options would be explored when design has been further specified. Additionally, the proposed project, while energy intensive, would constitute a reduction in energy required to transfer water from MWD in the Sacramento Delta to IEUA's service area through creating an expanded source of water within the Chino Basin.

3.12.1 Project Category 1: Well Development and Monitoring Devices

Operational Scenario: Wells
The CBP anticipates the installation of up to 37 new wells, (16 injection wells (12 duty, 4 standby), 17 extraction wells, 4 monitoring wells). The Injection wells will recharge up to 15,000 AFY per year, while the new extraction wells will pump up to 50,000 AFY of water from the Basin in call years, or 10,000 AFY in non-call years (only 7.5 call years are anticipated over a 25-year period). After the 25-year period in which the CBP would be active, IEUA member agencies could utilize the water purified at the AWPF in the amount of 15,000 AFY.

The 16 injection wells would have a maximum operational capacity of 830 gpm each.

The 17 extraction wells would have a maximum operational capacity of 2,000 gpm each.

The 4 monitoring wells will be visited by a field technician on a monthly to quarterly frequency. There is negligible energy consumption in obtaining groundwater levels from a monitoring well.

The 9 existing extraction wells would be assumed to operate in a similar manner, on average, to the new proposed extraction wells discussed above.

Construction Scenario: Wells

Installation of the 37 new wells could occur over a period of 3 years, with 12 wells being installed each year to coincide with the opening year (2028) of the AWPF. Thus, for analysis purposes it is assumed that a maximum of 12 wells per year may be developed. The depth of a new wells could range between 500 and 1,500 feet. The average area of disturbance of a well site is anticipated to be half an acre or less. Development of up to 12 new wells during a given year will require the delivery and set up of the drilling rig at each site. It is anticipated these wells will be drilled at different times and the drilling equipment will be transported to and from the sites on separate occasions. For the purposes of this evaluation, it is forecast that delivery of the drilling equipment 12 times in a year will result in 12 50-mile round-trips for the drill rigs.

Injection well development has essentially the same construction impacts as production well development. The primary physical difference between injection and production wells is that different valve options are installed according to the type of well.

It is anticipated that about five persons will be on a given well site at any one time to support drilling a well: three drillers, the hydrologist inspector, and a foreman. Daily trips to complete the well will average about 15 roundtrips per day, which at various points of construction will include: two roundtrips for drill rigs; between 6 and 12 roundtrips for cement trucks; about 5 trips to deliver pipe; and about 10 trips per day for employees.

For analysis purposes it is assumed that each well would be drilled using the direct rotary or fluid reverse circulation rotary drilling methods. The average area of disturbance of each well site is estimated to be one-half an acre or less. Access to the drilling site for the drilling rig and support vehicles would be from adjacent roadways. Typically, well drilling requires only minimal earth movement and/or grading.

The drilling and development of each well will require drilling to—in most cases—between 250 and 1,500 feet below ground surface (bgs). The proposed schedule for constructing each well would be as follows: drilling, construction, and testing of each well would require approximately six weeks to complete (about 45 days, of which 15 to 20 days would include 24-hour, 7-day a week drill activity). For planning purposes, a construction and testing schedule duration of 60 days per well is assumed to account for unforeseen circumstances (e.g., extreme weather, equipment breakdowns, etc.) that could affect the drilling and testing schedule. The well casings are expected to be welded and it will be assumed that well development and installation will require a two week use of a diesel generator.

The borehole for the well would be drilled using at least two separate drilling passes. The first pass, or pilot borehole, would be drilled using a 17.5-inch diameter bit to an estimated maximum depth below the ground surface, which would correspond to the top of the consolidated bedrock in the area, or a depth selected by the project hydrologist/hydrogeologist. Upon completion of the geophysical logs, the pilot borehole would be enlarged (reamed) to a diameter of 24 inches to approximately the same depth to accommodate the well casing, screen and filter pack.

Once each well is constructed it would immediately be developed through a process of swabbing and airlifting. During this process, drilling fluids and suspended sediment would be removed from

the well. After the drilling fluids are removed along with most of the suspended sediment, the well would be further developed through pumping.

The use of existing wells is not anticipated to require construction beyond that which is described under Subsection 3.12.1.4, Advanced Water Purification Facility and Other Water Treatment Facilities, as several of these wells would require wellhead treatment in order to become operational in support of the CBP.

3.12.2 Project Category 2: Conveyance Facilities and Ancillary Facilities

Operational Scenario: Pipelines, Booster Pumps, Water Storage Tank, Brine Disposal, Etc.
Pipelines and Turnouts: Once a pipeline or turnout is installed, operations do not require any visits unless unforeseen circumstances arise that would require maintenance or repair of the pipelines. In the event of routine maintenance one vehicle trip per maintenance event would be required.

Brine Disposal: The proposed AWPF and wellhead treatment facilities would generate greater brine disposal within IEUA's service area than that which is generated at present. The additional brine stream flow from the AWPF at RP-4 would be 1,027,300 gpd, with a chemical oxygen demand of 262 pounds per day (ppd) and total suspended solids, dry (TSS) of 1 ppd, dry. The additional brine stream flow from the AWPF at RP-4 would be 1,027,300 gpd, with a chemical oxygen demand (COD) of 262 ppd and TSS of 1 ppd, dry. The brine stream flow from the AWPF would ultimately need to be treated at Los Angeles County Sanitation Districts (LACSD) through the Joint Outfall System (JOS) or at the Orange County Sanitation District (OCSD). Additional energy similar to that which would be generated by the AWPF commensurate with the amount of brine generated by the operation of these new IEUA facilities (about 1,150 AFY).

Pump Stations: Pump stations that are incorporated into the project will be operated to convey the water, the capacity and amounts of water pumped varies depending upon the CBP scenario that is ultimately selected. A total of 4 pump stations will be installed.

It is assumed that the three TAKE Pump stations would range between 650 HP to 9,300 HP, with the booster pumps averaging 4,200 HP each.

The PUT pump station would operate at 1,500 HP.

Water Storage Tank: Once the reservoirs are installed, operation of the reservoirs would not require any shifts or employees as they will be monitored and controlled remotely. Scheduled maintenance visits to each reservoir site will occur in the future with one trip per maintenance event. Reservoirs typically do not directly consume energy as water or recycled water is pumped into reservoirs directly from wells or through booster pump stations.

Construction Scenario: Pipelines
An estimated 30 miles or 158,400 LF of pipeline may be installed in support of CBP. The maximum pipe length that would be installed in a single year would be 100,000 LF. Installation of 158,400 LF of pipeline could occur over a period of 3 years, with 53,000 LF being installed each year to coincide with the opening year (2028) of the AWPF.

It is forecast that most of the pipe will range from 10-inch to 48-inch diameter. It is assumed that an underground utility installation team can install an average of 200-400 LF of pipeline per day. A team consists of the following:

- 200-400 feet of pipeline installed per day
- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- Traffic Control Signage and Devices
- 10 Dump/delivery trucks (40 miles round trip distance)
- Employees (14 members per team, 40-mile round-trip commute)

The emissions calculations are based upon the above assumptions for each pipeline installation team. Typically, up to 800 feet of pipeline trench could be excavated, the pipe installed, backfilled, and compacted each day during pipeline installation in undeveloped areas whereas only 400 ft per day can be installed in developed roadways. In either case equipment would be operated for roughly the same portion of the day and daily equipment emissions would be the same, except, that undeveloped areas would not require pavement removal and reinstallation.

It is assumed that three teams will be installing pipelines for a maximum total of 1,200 LF per day (400 x 3 = 1,200 LF). It is assumed that the proposed pipeline installation will occur for a maximum of 260 days in one calendar year.

Ground disturbance emissions assume roughly half an acre of land would be actively excavated on a given day. It is anticipated that installation of pipeline in developed locations will require the use of a backhoe, crane, compactor, roller/vibrator, pavement cutter, grinder, haul truck and two dump trucks operating 6 hours per day; a water truck and excavator operating 4 hours per day and a paving machine and compacter operating 2 hours per day. Installation of pipeline in undeveloped locations would require the same equipment without the paving equipment (cutter, grinder, paving machine). Depending on the pipe size, the trenches may vary in depth and width. A 12” pipeline may have a depth of about 6” and 4” in width. A 72” pipeline may have a depth of about 10” and 10” in width.

The pipelines that would be installed in support of CBP are anticipated to use push-on joints (e.g., gasketed bell-and-spigot) that do not require welding or, where the sizing is greater than 24” cement mortar lined and coated (CML&C) welded steel pipe is preferred. However, the Contractor may occasionally use a portable generator and welder for equipment repairs or incidental uses.

Construction Scenario: Turn Outs

Turnout structures are provided to deliver water from the main canal to the water user via a pipeline or other means. The type of turnout structure and its design requirements are primarily dependent on its location. It is anticipated that installation of a maximum of 6 turnouts that would be between 12” and 72” in size would require a similar team of workers to that of pipeline installation. Installation of 6 turnouts that would be between 12” and 72” in size could occur over a period of 2 years, with 3 turnouts being installed each year to coincide with the opening year (2028) of the AWPF.

A team of turnout installers would consist of the following:

- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- Traffic Control Signage and Devices
- 10 Dump/delivery trucks (40 miles round trip distance)
- Employees (14 members per team, 40-mile round-trip commute)

The emissions calculations are based upon the above assumptions for each turnout installation team. It is assumed that one team will be installing turnouts at a given time and that each turnout would require 180 days to be fully installed.

Ground disturbance emissions assume roughly a quarter acre of land would be actively excavated on a given day. It is anticipated that installation of pipeline in developed locations will require the use of a backhoe, crane, compactor, roller/vibrator, pavement cutter, grinder, haul truck and two dump trucks operating 6 hours per day; a water truck and excavator operating 4 hours per day and a paving machine and compacter operating 2 hours per day. Installation of turnout in undeveloped locations would require the same equipment without the paving equipment (cutter, grinder, paving machine). The contractor may occasionally use a portable generator and welder for equipment repairs or incidental uses.

Construction Scenario: Pump Stations

Pump stations are required to pump water from areas at a lower elevation within the Basin, to areas located at a higher elevation. The total number of pump stations to be constructed in support of the CBP is anticipated to be 4.

It is forecasted that, at each site, no more than 0.5 acre will be actively graded on a given day for site preparation of each pump station. Construction of each pump station will require the delivery and installation of equipment and materials. It is anticipated that grading activities will occur over a 5-day period and this phase of construction will result in 6 truck trips on the worst-case day with an average round trip of 20 miles delivering construction materials and equipment (concrete, steel, pipe, etc.). Installation of the pump station will require the use a crane, forklift, backhoe and front loader operating 4 hours per day. Calculations assume five workers will each commute 40 miles round-trip to the work site.

Each pump station is assumed to be housed within a block building, and will require a transformer to be installed to handle the electric power delivered to the pumps. The proposed pump station building may include a pump room, electric control room, odor control facilities, chemical tanks, and storage room. Construction of the pump station would involve installation of piping and electrical equipment, excavation and structural foundation installation, pump house construction, pump and motor installation, and final site completion.

The pump stations proposed are anticipated to be located at sites that have permanent power available for construction, as such a generator is not anticipated to be required for welding required to construct the pump stations.

Construction Scenario: Water Storage Tank

One 5 MG storage tank is anticipated to be required in support of the CBP. The new tank would be designed in accordance with the California Building Code (CBC), the Occupational Safety and Health Administration (OSHA), American Concrete Institute (ACI), and AWWA's design standards. AWWA's design standards require that reservoirs be operated at fill levels below their maximum physical height in order to prevent roof damage which may be caused by a "sloshing wave" during a seismic event. As a result, the usable capacity of the new reservoir will be reduced from its physical capacity by approximately 30% to 5 MG.

Grading: During mass grading of the site an assumed 5,000 cubic yards (CY) of selected materials will be imported as an engineered backfill. This material will be delivered by trucks to the site in the amount of about 300 trips, assuming 50 trips maximum per day to and from the site, with a

roundtrip length of no more than 50 miles. Fine grading of the site will be completed after the reservoir and piping are installed. It is assumed that a maximum of five to twelve workers will be on the site during grading, which would take place for about 10 days.

Foundation Construction: Following mass excavation, the tank foundation will be installed. The foundation will consist of concrete/steel/aggregate. It is assumed that a maximum of five to twelve workmen will be on the site during foundation construction for a maximum of about 25 days.

Tank Construction: The new 5 MG storage tank will be constructed in the following fashion: floor; walls and columns; roof; prestressing; and appurtenances. It is assumed that a maximum of 12 employees will be on the site during reservoir construction for a maximum of about 50 days.

Overall, reservoir construction is anticipated to require about 3 months from start to finish.

3.12.3 Project Category 3: Groundwater Storage Increase

The CBP proposes the expansion of the Safe Storage Capacity from 700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035 up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter. Generally, this expansion would not result in any visible above ground impacts; however, in order to ensure safe storage capacity within the Chino Basin, the facilities outlined herein (as part of 3.12 Summary of Facility Construction and Operations) are intended to support this expansion.

3.12.4 Project Category 4: AWPF and Other Water Treatment Facilities

Operational Scenario: AWPF and Wellhead Treatment Facilities
Please refer to **Exhibits 10, 11 and 12**, which depict the proposed modifications to RP-4 to enable the installation of the AWPF.

The Operational Scenario for the 15,000 AFY AWPF at RP-4 is discussed in detail under Subsection 3.9.3. Refer specifically to **Table 12** (description of redundancy requirements) and Table 13 (sizing assumptions for the AWPF).

The example Operational Scenarios for the wellhead treatment at is discussed in detail under Subsection 3.10.4, In-Lieu CBP and In-Lieu Local. Refer Specifically to **Table 19**.

According to the IEUA FMP, over the course of the next 15 years, IEUA intends to procure 100 percent of its electricity needs from carbon neutral sources, so in that period of time IEUA will slowly begin to use less carbon sourced energy for greater operational demands.

Construction Scenario: Advanced Water Purification Facility
The installation of the AWPF at RP-4 would require approximately 12 months to construct. It is anticipated that the AWPF would be operational by 2028. The construction of the 15,000 AFY advanced water purification facility would consist of site clearing, grading, construction of facilities, installation of equipment, and site completion. Construction equipment would include the following: one bull dozer or motor grader, backhoes, loaders, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck. It is anticipated that the maximum number of construction personnel at a site on any given day will be 20 persons. The maximum number of truck deliveries is forecasted at 15 per day at 40-miles round-trip per

day of construction. Materials and equipment would be delivered to the site including piping, building materials, concrete forms, roofing materials, HVAC equipment, pumps, diffusers, screens, belt presses, and screw presses.

Construction Scenario: Wellhead Treatment Facilities

The CBP envisions constructing up to 3 wellhead treatment facilities located in the vicinity of multiple wells at existing member agency wells. The area expected to be disturbed by the construction of the proposed treatment facilities would be less than 3 acres for each site. A regional groundwater treatment facility would will range from about 1 acre to 2 acres in size per facility. Construction of water treatment facilities may involve site demolition; site paving; site prep/grading; excavation and installation of yard pipes; installation of treatment facilities; site finishing (landscaping, misc. curb/cutter, etc.); site drainage (above and below grade).[15] Construction equipment would include the following: one bull dozer or motor grader, backhoes, loaders, dump trucks, crew trucks, concrete trucks, cranes, personal vehicles, compactor, delivery trucks, and a water truck. It is anticipated that the maximum number of construction personnel at a site on any given day will be 10 persons. The maximum number of truck deliveries is forecasted at 10 per day at 40-miles round-trip per day of construction. Each wellhead treatment facility will require about 6-months to construct, with both treatment systems assumed to potentially occur within the same year. The operational year is anticipated to coincide with the opening year (2028) of the AWPF.

3.13 ENTITLEMENTS, APPROVALS AND OTHER AGENCY PARTICIPATION

Implementation of future individual project(s) in accordance with the CBP may require a variety of approvals from other agencies. This section summarizes agency approvals that have been identified to date. This list may be expanded as the environmental review proceeds. Consequently, it should not be considered exhaustive.

- Notice of Intent (NOI) to the SWRCB for a NPDES general construction stormwater discharge permit. This permit is granted by submittal of an NOI to the SWRCB, but is enforced through a Storm Water Pollution Prevention Plan (SWPPP) that identifies construction best management practices (BMPs) for the site. In the project area, the Regional Board enforces the BMP requirements described in the NPDES permit by ensuring construction activities adequately implement a SWPPP. Implementation of the SWPPP is carried out by the construction contractor, with the Regional Board and county providing enforcement oversight.

- The project may include the potential discharge of fill into or alterations of “waters of the United States,” “waters of the State,” and stream beds of the State of California. Regulatory permits to allow fill and/or alteration activities due to project activities such as pipeline installation are likely be required from the Army Corps of Engineers (ACOE), the Regional Board, and California Department of Fish and Wildlife (CDFW) over the life of the OBMPU. A Section 404 permit for the discharge of fill material into “waters of the United States” may be required from the ACOE; a Section 401 Water Quality Certification may be required from the Regional Board; a Report of Waste Discharge may be required from the Regional Board; and a 1600 Streambed Alteration Agreement may be required from the CDFW.

[15] Please refer to the discussion of the construction scenario for conveyance facilities for a depiction of the construction associated with installation of pipeline that may be associated with the proposed regional groundwater treatment facilities.

- The U.S. Fish and Wildlife Service (USFWS) and/or CDFW may need to be consulted regarding threatened and endangered species documented to occur within an area of potential impact for future individual projects. This could include consultations under the Fish and Wildlife Coordination Act.

- Land use permits may be required from local jurisdictions, such as individual cities and the two counties (Riverside and San Bernardino).

- Air quality permits may be required from the South Coast Air Quality Management District (SCAQMD).

- Encroachment permits may be required from local jurisdictions, such as individual cities, California Department of Transportation (Caltrans), the two counties (Riverside and San Bernardino), Flood Control agencies, and private parties such as Southern California Edison, The Gas Company, or others such as BNSF Railway Company.

- Watermaster has a separate approval process for the Storage and Recovery Application including material physical injury analysis and consistency with the court approved management agreements within the Chino Basin.

- SWRCB will be a responsible agency if permits or funding are requested from the State Revolving Fund Program or SWRCB's Division of Drinking Water. Additionally, water supply connection permits will be required from DDW upon connecting an agency supply to a new source of supply.

- The SWRCB will also be a responsible agency for the wastewater change petition for the Change of Use proposed by this project.

This is considered to be a partial list of other permitting agencies for future CBP future individual projects.

3.14 AREAS OF KNOWN CONTROVERSY

1. Unused recycled water supplies
2. Regional benefits vs benefits of participating agencies (cost related)
3. Groundwater storage/storage and recovery program

Unused Recycled Water Supplies
In FY 2020/2021, an average of 56,150 AFY of recycled water supply was produced at IEUA's water recycling plants. Of which, 19,534 AFY was used as recycled water direct use and 16,253 AFY was used through surface spreading for groundwater recharge. The remaining supply of 20,364 AFY was discharged as effluent to the Chino Creek and Cucamonga Creek, which eventually reaches the Santa Ana River. IEUA recycled water is used by its Regional Contract Agencies (RCAs) as direct use and are allocated pro-rata shares of the recycled water that is recharged. Some of the RCAs do not utilize all the available recycled water supply for direct use due to a lack of potential customer uses, facilities, and funding opportunities. This unused recycled water supply makes up the plant effluent that is discharged. With the Chino Basin Program, a portion of the unused recycled water supply that is currently discharged would be dedicated by participating RCAs as the source water for the advanced water purification facility

(AWPF). As the interest in maximizing the use of available recycled water continues to grow, there are issues of concern as to how the remaining available supplies are put to use.

Regional and Participating Agency Benefits
The CBP offers both regional benefits and participating agency benefits through the operation of the CBP facilities. Regionally, the construction of the AWPF by 2028 reduces the risk of salinity non-compliance, which will allow for the continued use of recycled water for direct use and surface spreading recharge within the Chino Basin. As drought conditions occur, advanced treatment of recycled water will ensure permit compliance. For the participating agency benefits, the CBP facilities will create new local water supplies, diversify their water portfolio, and provide resilience during imported water supply interruptions. The investments by the participating agencies in the water supply reliability provides indirect benefits to the rest of the water agencies within the Chino Basin in developing their enhanced local supply and reducing demands on imported water during periods of shortages and/or outages. The allocation of the costs to the regional benefits that would result from CBP implementation and to participating agencies remains a topic that continues to evolve.

Groundwater Storage/Storage and Recovery Program
With the CBP facilities, groundwater storage of advanced treated recycled water will be achieved through injection wells. Storage capacity in the Chino Basin will be acquired through a Storage and Recovery Program application administered by the Chino Basin Watermaster. The amount of storage anticipated for the CBP is up to 150,000 AF above the baseline storage assumed in the Chino Basin. This additional storage will require an increase in the current Safe Storage Capacity, which will accommodates both CBP storage requirements as well as the needs of Watermaster stakeholders. The Storage and Recovery Application for the CBP will identify mitigation measures that would protect the Basin from Material Physical Injury (MPI), and would ensure that Hydraulic control is maintained. IEUA will be required to adhere to these mitigation measures in order to carry out CBP operations within the Basin. The Chino Basin's capacity for groundwater storage has become an important resource for long-term supply planning for the Basin stakeholders, and the development of this resource to facilitate Storage and Recovery Programs remains a topic of interest.

3.15 CEQA RESPONSIBLE AGENCIES

Table 33 depicts the many agencies that may be responsible agencies under CEQA as they are stakeholders of the overall Chino Basin Program.

Table 33
CBP WORKGROUP STAKEHOLDERS

Stakeholder	Retail Member Agencies[1]	IEUA Member Agency	Wastewater Contract Agency[1]	Chino Basin Appropriative Pool[2]	Other
Chino Basin Water Conservation District					✓
Chino Basin Watermaster					✓
Chino Desalter Authority (CDA)					✓
City of Chino	✓	✓	✓	✓	
City of Chino Hills	✓	✓	✓	✓	
City of Fontana		✓	✓	✓	
City of Montclair		✓	✓		

Stakeholder	Retail Member Agencies[1]	IEUA Member Agency	Wastewater Contract Agency[1]	Chino Basin Appropriative Pool[2]	Other
City of Ontario	✓	✓	✓	✓	
City of Pomona				✓	
City of Upland	✓	✓	✓	✓	
Cucamonga Valley Water District (CVWD)	✓	✓	✓	✓	
Fontana Water Company (FWC)	✓			✓	
Jurupa Community Services District (JCSD)				✓	
Metropolitan Water District (MWD)					✓
Monte Vista Water District (MVWD)	✓			✓	
San Antonio Water Company (SAWCO)	✓			✓	
Three Valleys Municipal Water District (TVMWD)					✓
Water Facilities Authority (WFA)		✓			✓
West Valley Water District (WVWD)				✓	✓
Western Municipal Water District (WMWD)					✓

Notes: [1]Source: IEUA-WFA Final 2015 Urban Water Management Plan (Arcadis, June 2016).
[2]Source: Appropriative Pool Committee, Calendar Year 2019.

3.16 NOTICE OF PREPARATION COMMENTS ON THE PROJECT DESCRIPTION

No comments were received at the scoping meeting held for the proposed Project. Four comment letters specific to the Project Description were received during the Notice of Preparation Comment Period. These are:

Comment Letter #1 from California State Water Resources Control Board, Division of Drinking Water (DDW) (dated 10/11/21) states:

- *DDW would like to see the following addressed in the EIR:*
  - *Include a list of all the water systems within the Project, the water system's number, and water system components that will be added to each system that will trigger a drinking water supply permit amendment.*
  - *Include a description of these new or modified components of the Project in enough detail to determine if a new water supply permit or permit amendment will be required.*
  - *Provide a project site map that includes all new or modified water system components with the water system they belong to.*
  - *Include the State Water Resources Control Board, Division of Drinking Water, in any list of agencies that will be approving a permit, and the drinking water permit(s) mentioned under any list of permits needed.*

Comment Letter #5 from the City of Ontario (dated 10/14/21) states:

- *The Project Description should include the following:*
  - *Describe the Agency participation and financing for the Program and expand on how it is anticipated that the program will be paid for at a local level.*
  - *Describe the administration of performance criteria during call years for participating and non-participating agencies, including limitations on access to imported water for either participating or non-participating agencies.*

  - *Identify the sources and supply of recycled water to be treated and pledged to the program, and include a description of the Project's compliance with participating agency's Right to First Purchase of treated wastewater per the Regional Sewerage Contract*
- *The City of Ontario believes that the program objectives should be modified as follows:*
  - *Objective 3, which states "Develop infrastructure that addresses long term supply vulnerabilities" should be removed and replaced with the City's proposed objective 7*
  - *Objective 4 should be revised to state "provide a **local** source of water…"*
  - *Objective 5 should be revised to state "Enhance recharge **(injection wells and/or recharge basins)** and…"*
  - *Objective 6 should be revised to state "Develop a solution to produce environmental benefits by enhancing local supply and reducing reliance on important water"*
  - *Proposed Objective 7, which the City proposes should replace Objective 3 states "Develop local water resources by utilizing recycled water locally in the Chino Groundwater Basin to meet the current and future needs of a growing region"*
  - *Proposed Objective 8 states "Minimize the need for additional infrastructure by optimizing existing infrastructure"*
  - *Proposed Objective 9 states "Comply and be consistent with the Regional Sewerage Contract, including but not limited to compliance with each Contracting Agency's Right of First Purchase of treated wastewater"*

Comment Letter #6 from the California Department of Fish and Wildlife (CDFW) (dated 10/14/21) states:

- *CDFW attached notable goals, objectives, and performance monitoring and asks that IEUA keep these in mind when preparing the EIR.*
  - *Approximately 70% of the supply is of local origin coming from local groundwater, local precipitation and surface flows, and recycled water Maintain reliable and resilient water supplies and reduce dependency on imported water.*
  - *Manage at the watershed scale for preservation and enhancement of the natural hydrology to benefit human and natural communities.*
  - *Preserve and enhance the ecosystem services provided by open space and habitat within the watershed.*

Comment Letter #7 from the Orange County Water District (OCWD) (dated 10/14/21) states:

- *OCWD states that it believes that IEUA must divert 17,000 AFY of tertiary recycled water to the Santa Ana River (SAR) or its tributaries above the Prado Dam.*
- *OCWD relays support for IEUA's effort to utilize wastewater to meet growing demands and reduce independence on imported water, while also complying with the Basin objective for TDS.*
- *OCWD states that the EIR should discuss and quantify the change in the amount of imported water to Southern California during an average year and over the 25-year lifespan of the CBP that would result from its implementation.*

Responses to these comments can be found in Subsection 2.2.1 in the Introduction provided as Chapter 2 to this RDPEIR. Additionally, most responses point to text that can be found in this Chapter, the Project Description.

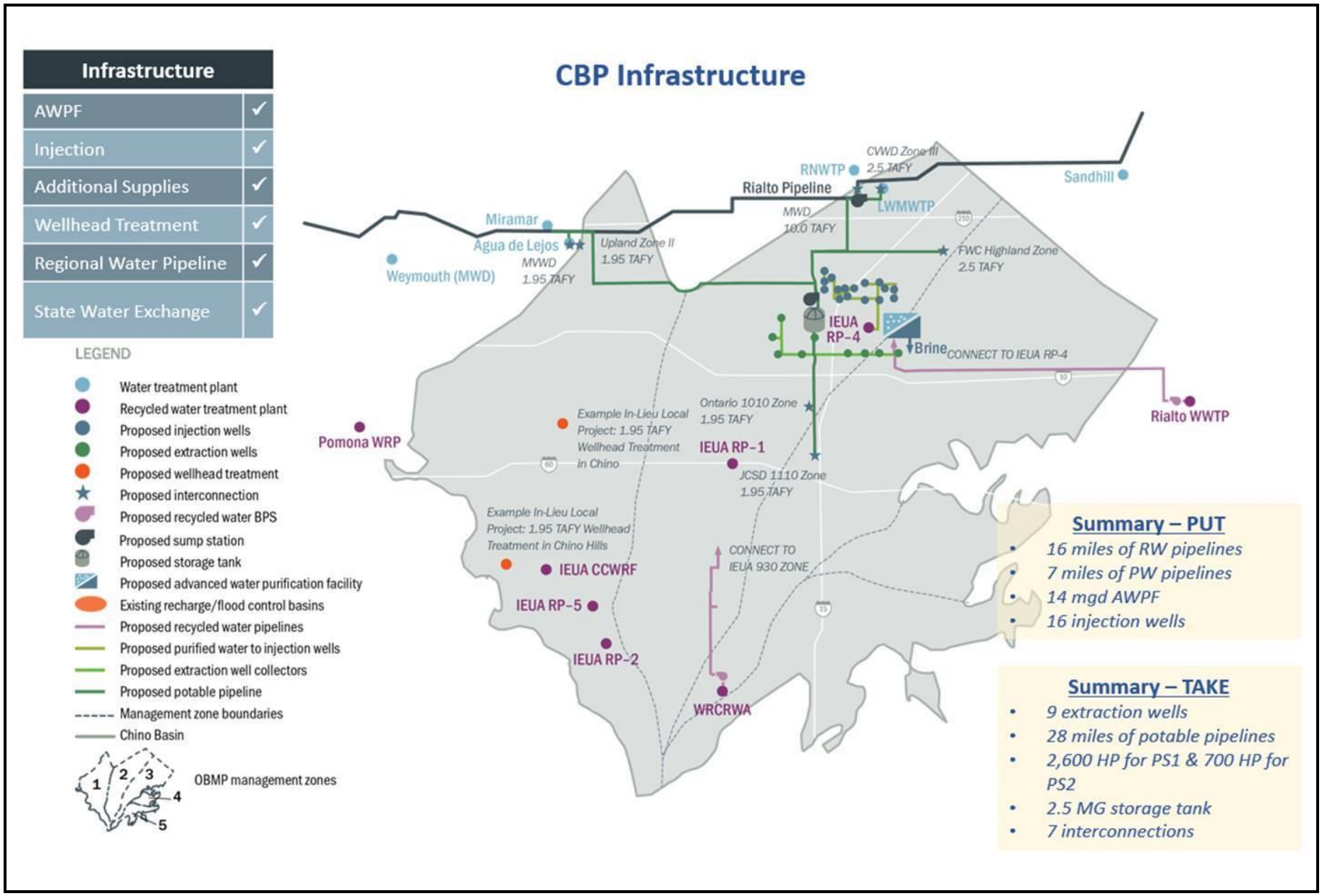


FIGURE 1

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Environmental Consultants

CBP Infrastructure

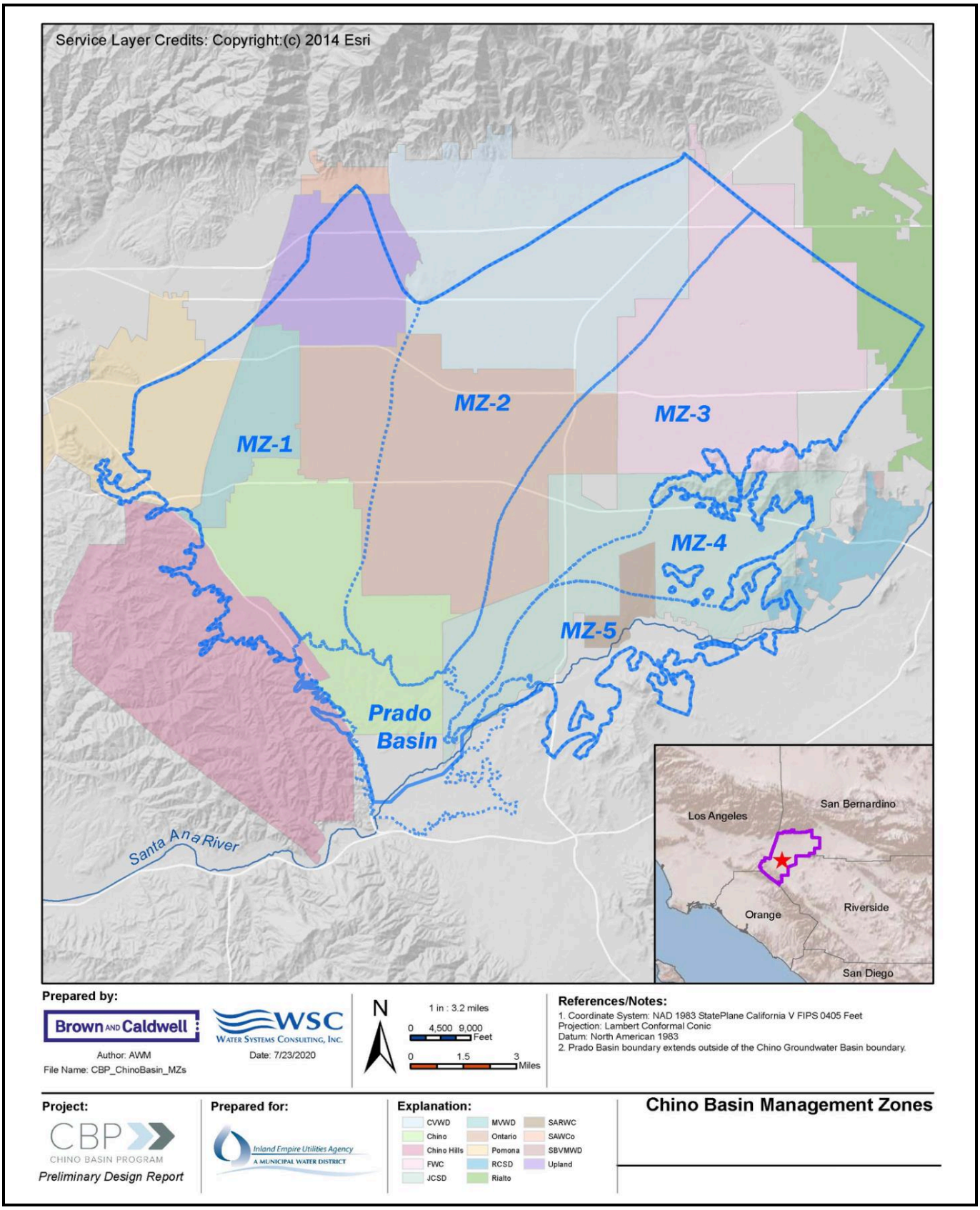


FIGURE 2

Tom Dodson & Associates
Environmental Consultants

Chino Basin Management Zones

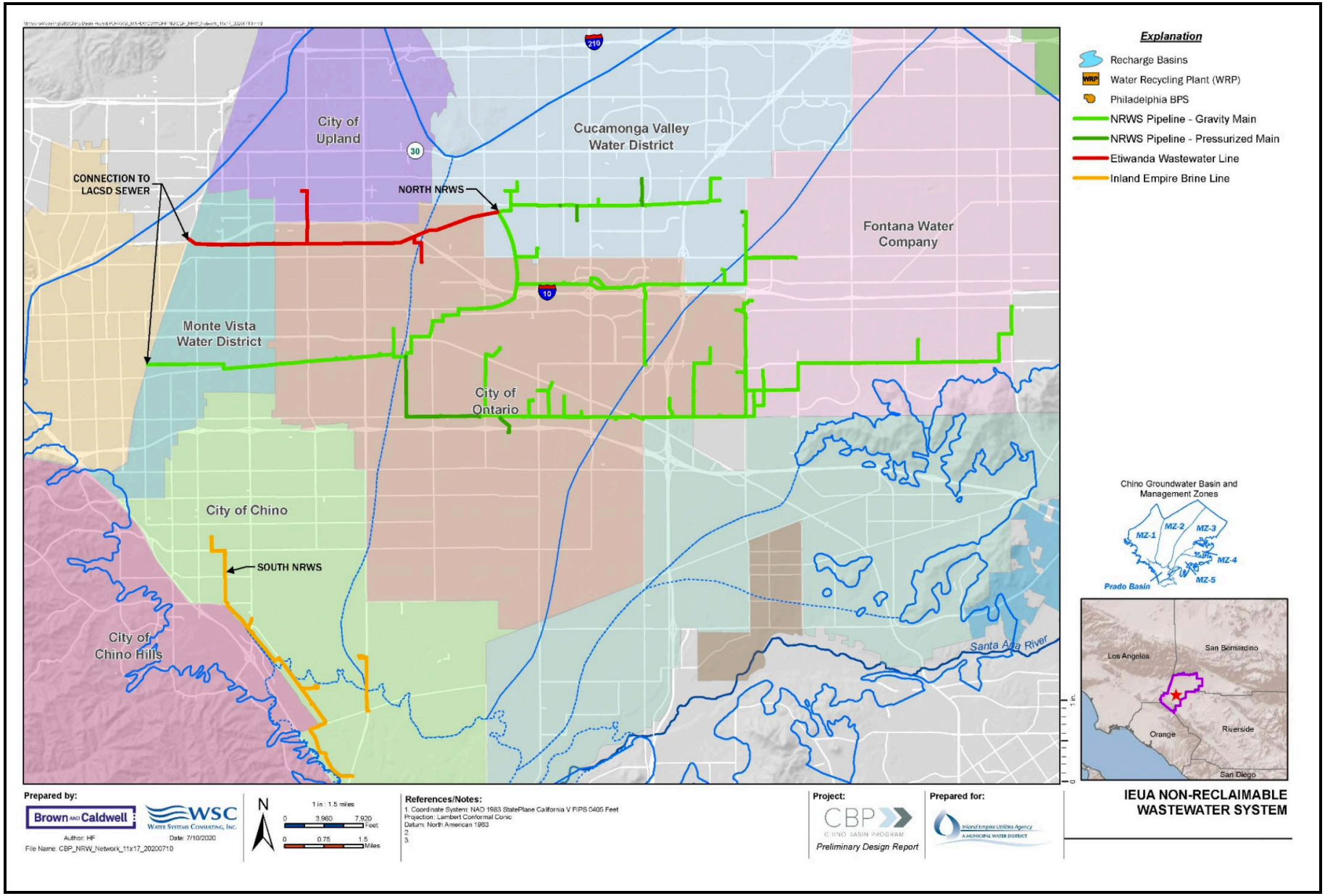


FIGURE 3

Tom Dodson & Associates
Environmental Consultants

IEUA Non-Reclaimable Wastewater System

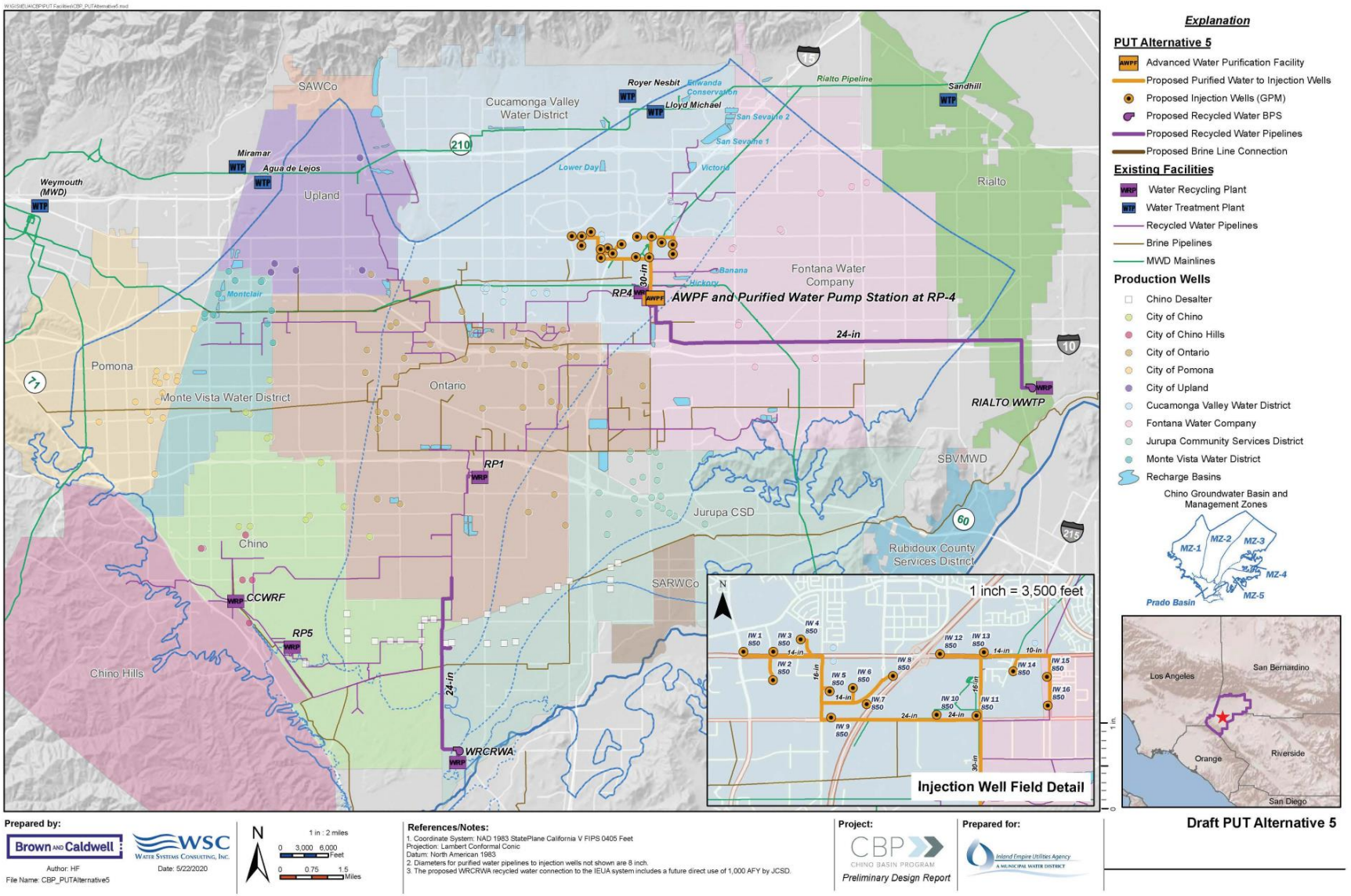


FIGURE 4

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Environmental Consultants

PUT Option 5 Map

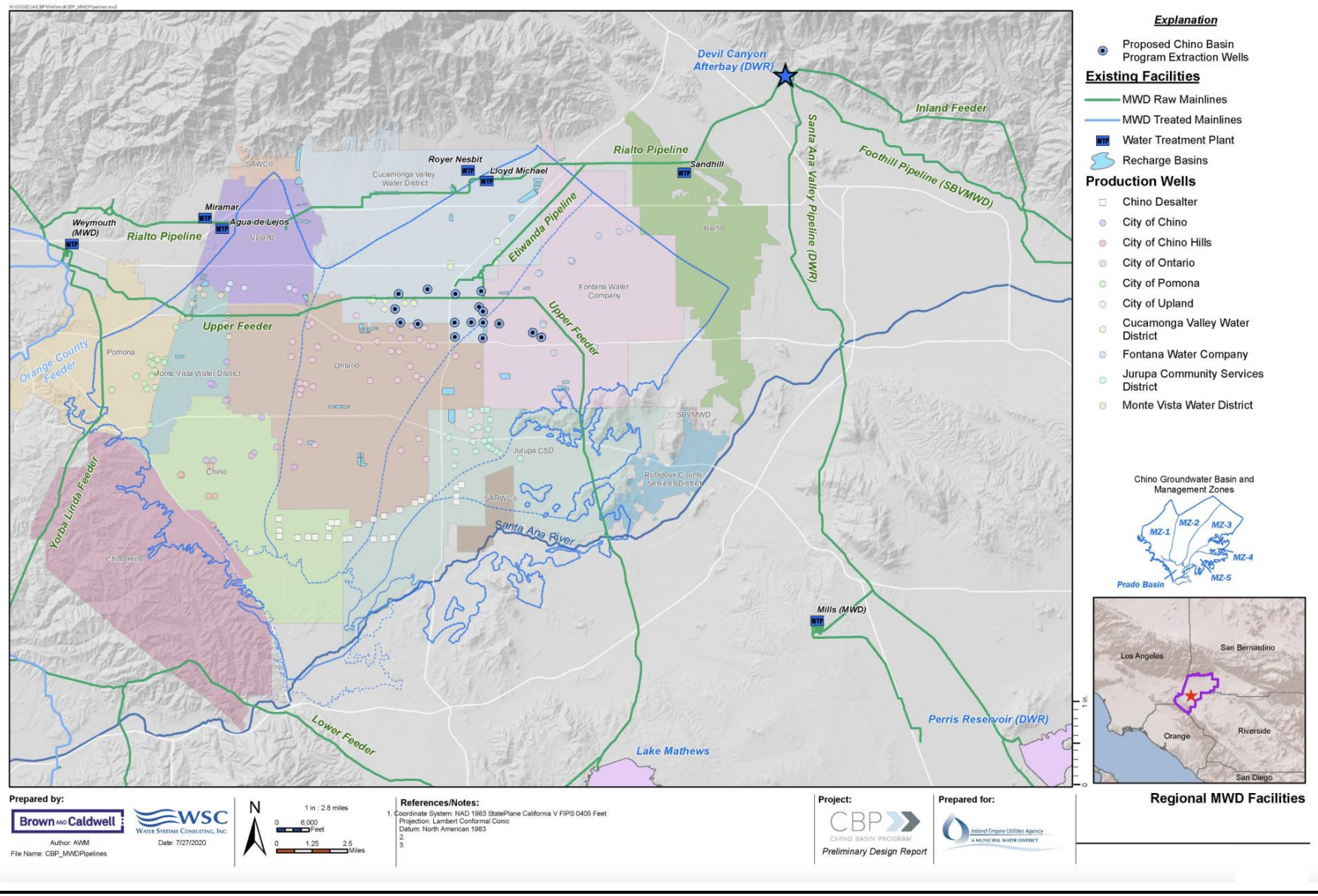


FIGURE 5

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Regional MWD Facilities

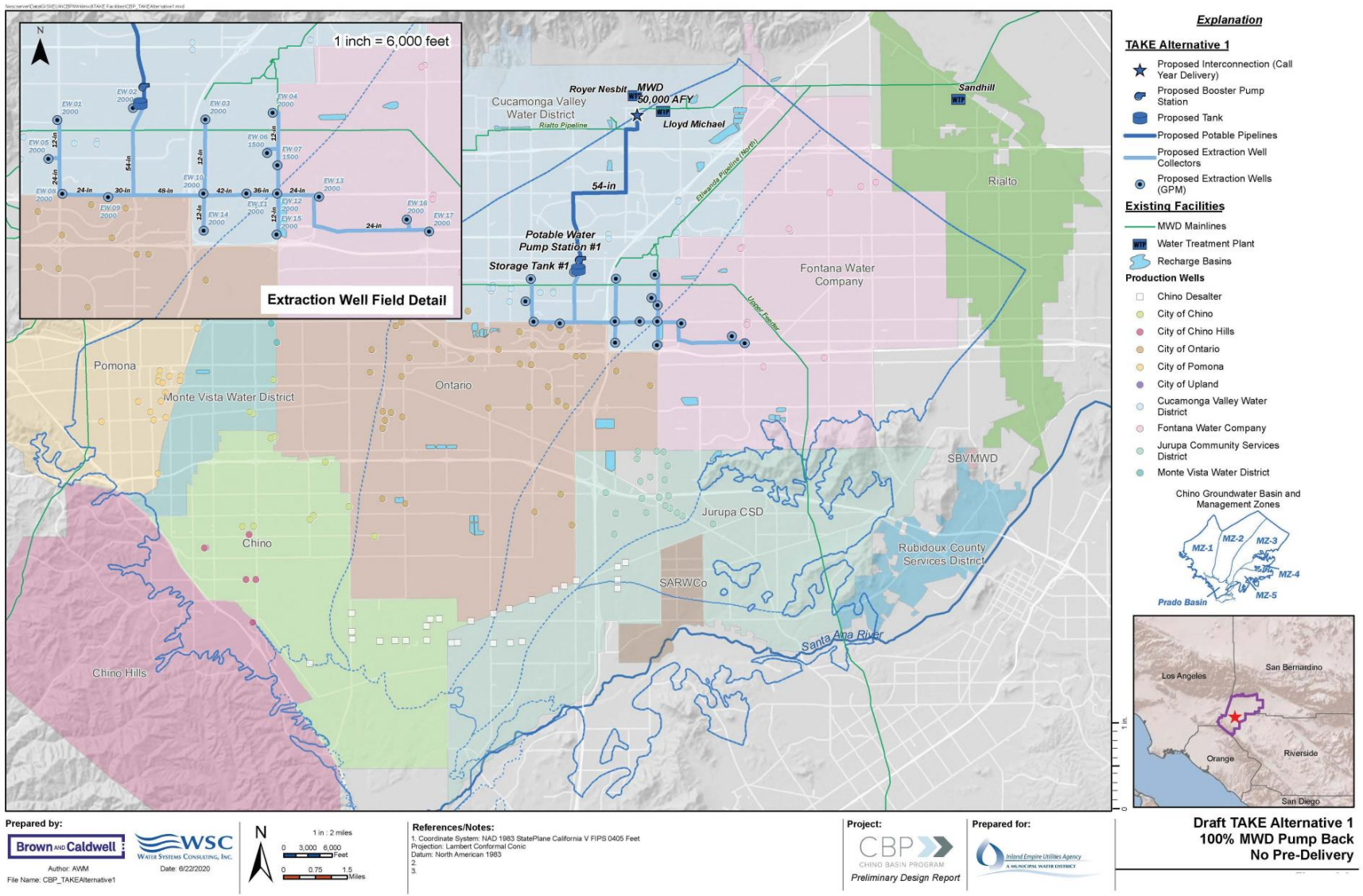


FIGURE 6

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Environmental Consultants

TAKE Option 1 100% MWD Pump Back, Standard Delivery

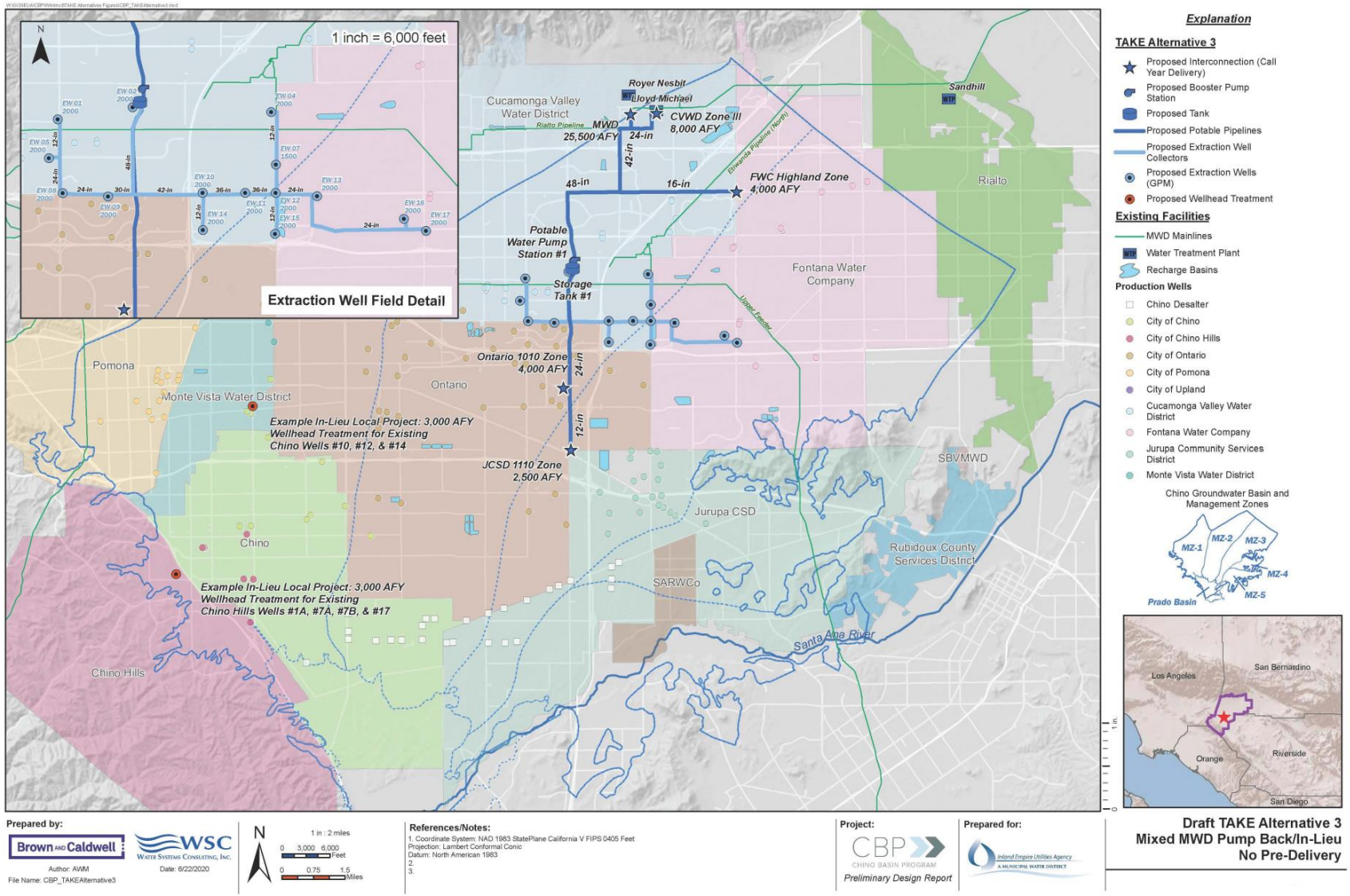


FIGURE 7

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TAKE Option 3 Partial MWD Pump Back and Partial In-Lieu, Standard Delivery

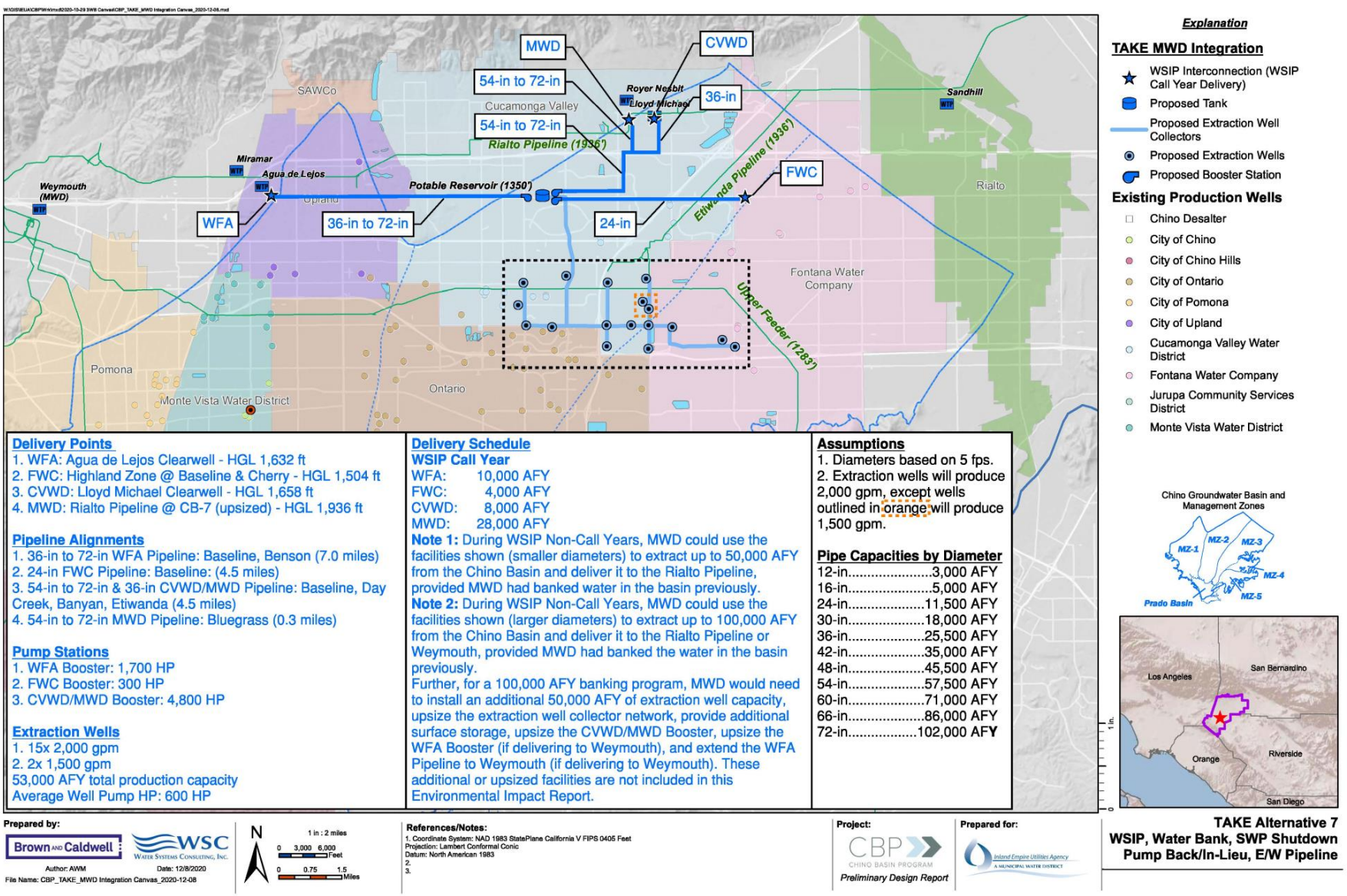


FIGURE 8

Tom Dodson & Associates
Environmental Consultants

TAKE Option 7 WSIP, Water Bank, SWP Shutdown Pump Back / In-Lieu, E/W Pipeline

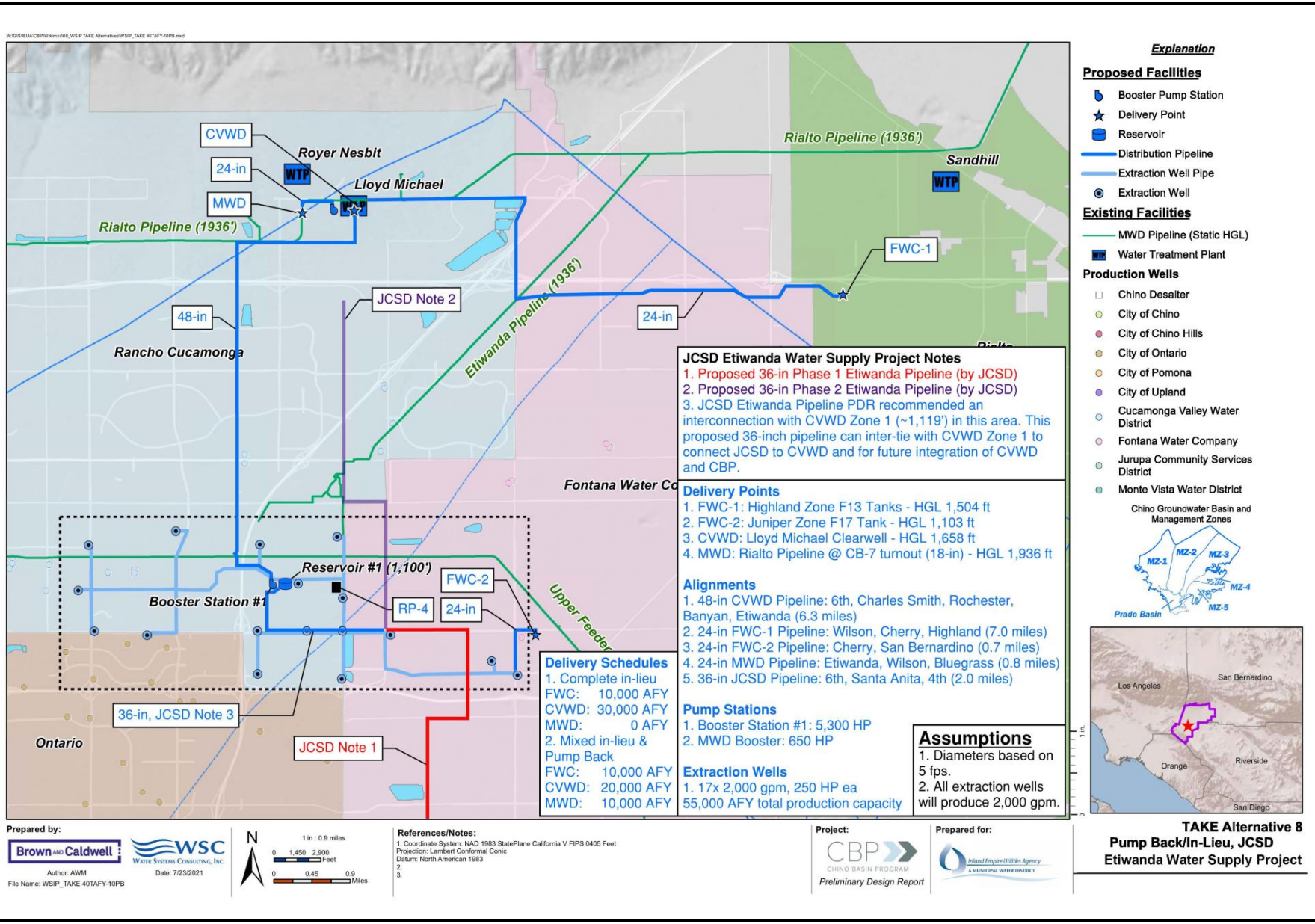


FIGURE 9

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Environmental Consultants

TAKE Option 8 Pump Back / In-Lieu, JCSD Etiwanda Water Supple Project

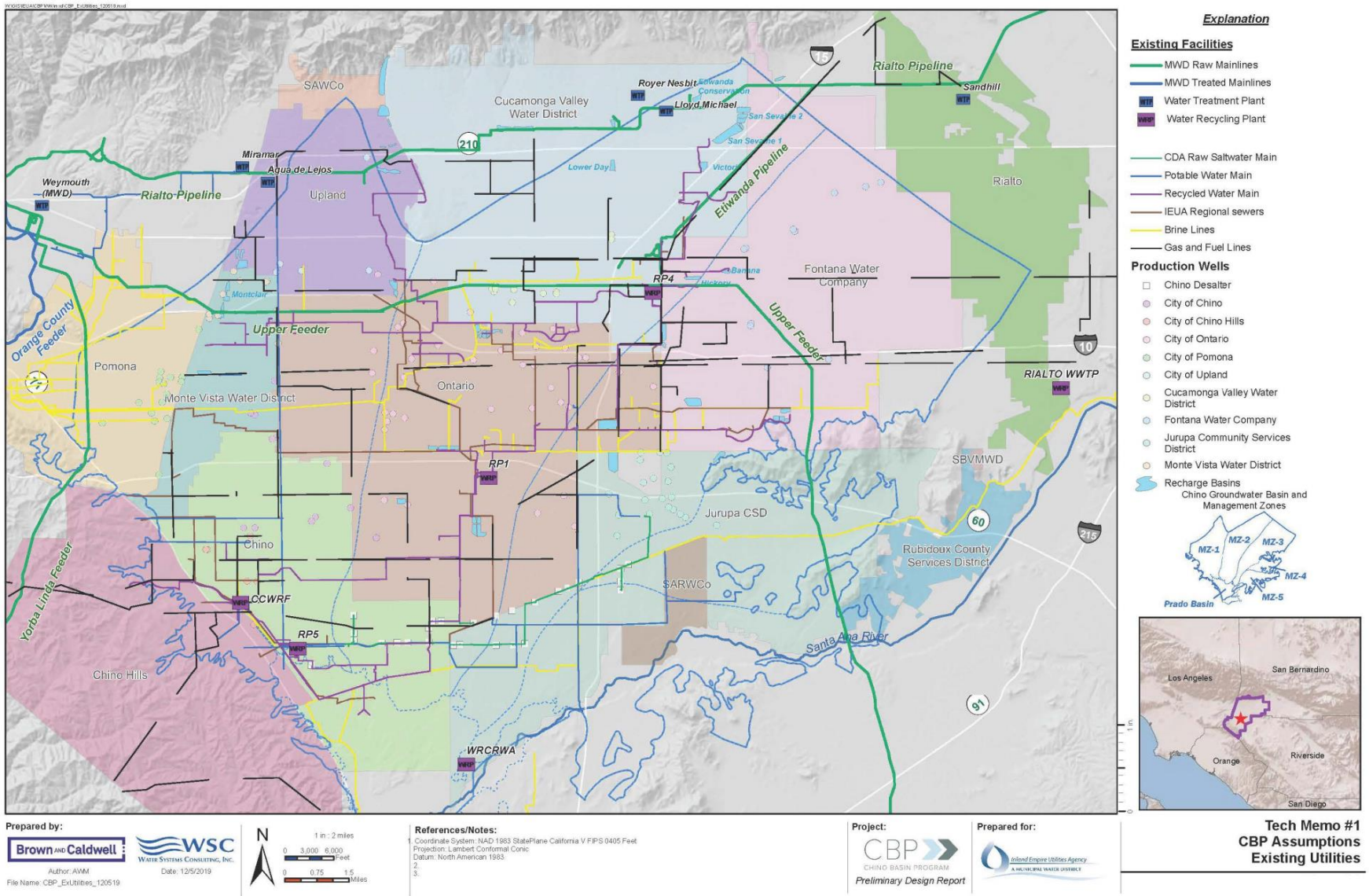


FIGURE 10

Tom Dodson & Associates
Environmental Consultants

Existing Utilities Map

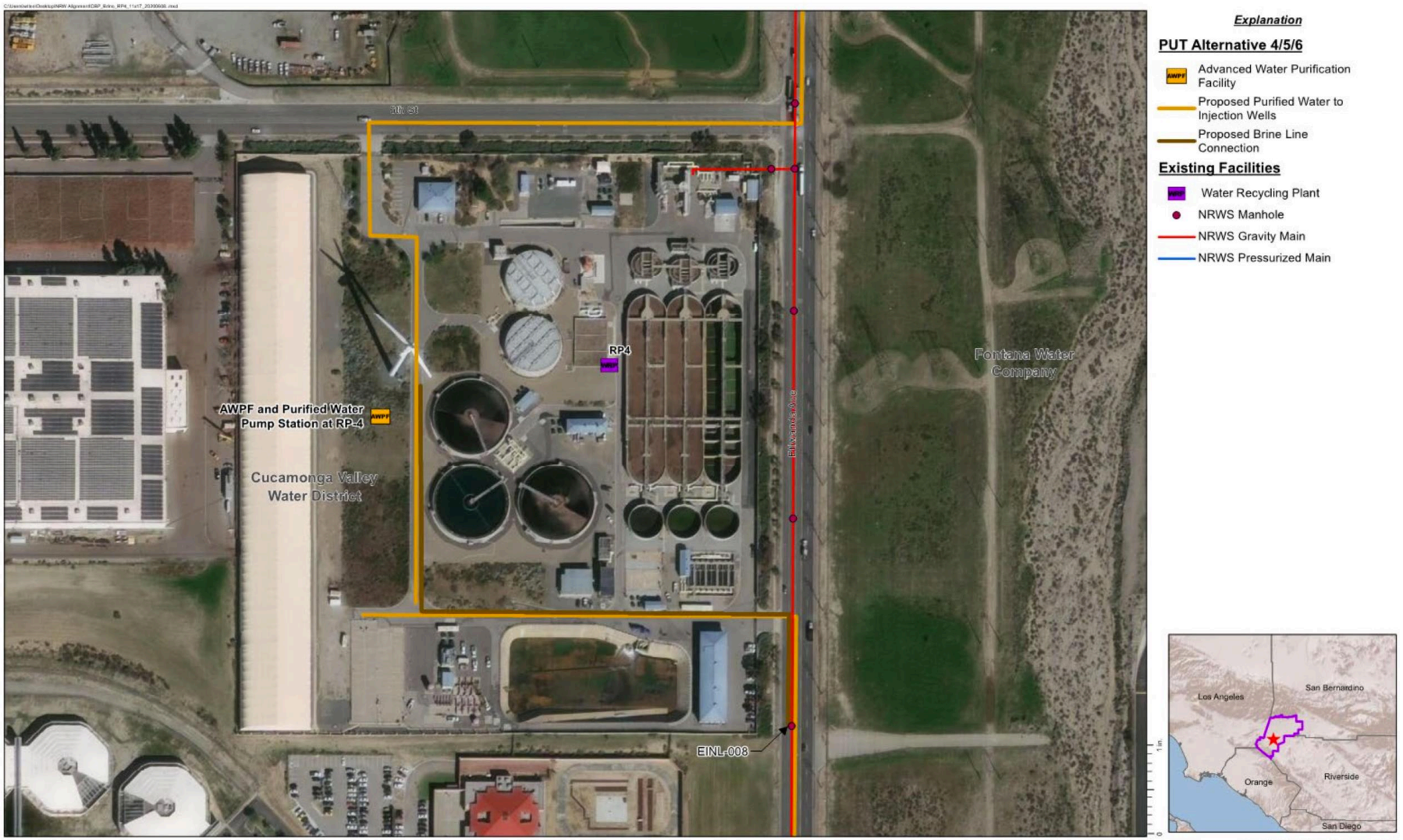


FIGURE 11

Tom Dodson & Associates
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RP-4 AWPF Brine Line



FIGURE 12

Tom Dodson & Associates
Environmental Consultants

City of Chino Hills Wellhead Treatment Facility Brine Line

CHAPTER 4 – ENVIRONMENTAL IMPACT EVALUATION

All Chapter 4 figures are located at the end of each subchapter; not immediately following their reference in text.

4.1 BACKGROUND

The Inland Empire Utilities Agency (IEUA or Agency) serves as wholesale imported water distributor for the Chino Groundwater Basin (Chino Basin), provides industrial/municipal wastewater collection and treatment and other related utility services for the western portion of the Santa Ana River watershed in the southwestern-most portion of San Bernardino County. The IEUA has prepared a Recirculated Draft Program Environmental Impact Report (RDPEIR) to evaluate the potential significant environmental impacts that may result from implementing the Chino Basin Program (CBP).

IEUA and local partners have developed long-term plans to implement a variety of new infrastructure to meet future needs for wastewater treatment and potable water supplies, while increasing resiliency and sustainability of regional water resources management. Some of the facilities included in these plans are addressed in IEUA's ten-year forecast (TYF) and Integrated Water Resources Plan (IRP). The CBP provides an opportunity to implement critical long-term project components of these plans, addressing local, regional, and potentially statewide and federal water resources management issues. The CBP is a revolutionary, first-of-its-kind program designed to help the region move beyond traditional water management practices and into a new era of water use optimization. The CBP promotes proactive investment in managing the water quality of the Chino Groundwater Basin and in meeting regional water supply reliability needs in the face of climate change, while leveraging California's interregional plumbing system and the Chino Basin's future potential for water recycling to produce benefits to local, State, and federal interest.

The CBP was submitted for Proposition 1 – Water Storage Investment Program (WSIP) funding and was awarded $269M ~~$206.9M~~ in conditional funding as of August 2025 ~~in July 2018~~. Under the WSIP, the CBP is proposed to be a ~~25-year~~ conjunctive use project that proposes to develop and utilize a new AWPF to treat and store up to 15,000 acre feet per year (AFY) of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons. IEUA's partner and the State Water Project Contractor that will facilitate the exchange for the CBP is Metropolitan Water District of Southern California (Metropolitan). The CBP would produce 15,000 AFY of new water supply for a period of 25-years to provide for the State exchange, to be used in blocks of up to 50,000 AFY in hydrologically drier years when pulse flows in the Feather River would provide the most ecosystem benefit and other State Water Project (SWP) operations would not be affected. The exchange would be administered through agreements with the DWR, the California Department of Fish and Wildlife (CDFW), Metropolitan, and other project partners.

During the first 25 years of the project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled) locally produced CBP water supplies will directly replace a portion of imported supplies when an SWP water transfer is implemented by MWD and DWR and a pulse flow occurs in northern California. After fulfillment of the Proposition 1 WSIP exchange commitment, the facilities developed under the CBP by IEUA would continue to be operational as part of the overall project life cycle, and during this period the new water supply will be available for local use annually contributing to IEUA's available supply. This analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the

first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operational beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

The CBP would increase additional available groundwater supplies in the adjudicated Chino Basin through increased water recycling that would result from operation of a new advanced water purification facility (AWPF) and through groundwater storage by operation of new injection wells. The CBP would then ~~dedicate~~ exchange a commensurate amount of this "new" water locally generated by the proposed facilities to be used locally in order to enable ~~AWPF for Chino Basin use to provide for an exchange of State Water Project~~ water to remain ~~supplies~~ in Lake Oroville in Northern California that would otherwise be delivered to Southern California. The additional Lake Oroville water would subsequently be released in the form of pulse flows in the Feather River to improve habitat conditions for native salmonids and achieve environmental benefits.

Additionally, new water stored in the Chino Basin would also enhance emergency response water supply availability for IEUA and other participating agencies during crises such as Delta disruption, earthquake, or drought emergency ~~flood or seismic~~ events that disrupt imported water infrastructure. The infrastructure included in the CBP is consistent with infrastructure identified to reduce recycled water salinity for regulatory compliance as well as water infrastructure that has been identified through IEUA's IRP effort.

The program would rely on water transfer agreements through Metropolitan. For every acre-foot of water requested for north of the Delta ecosystem benefits, IEUA would pump locally stored groundwater and deliver it to Metropolitan or use the water locally instead of taking raw imported water from Metropolitan (referred to as "in lieu"). Metropolitan would then leave behind an equivalent amount of water in Lake Oroville to be dedicated and released for the requested ecosystem benefit. The CBP can be operated in a way to provide up to 50,000 AFY of water for up to 7.5 years, with a consecutive draw of no more than 3 years, of the 25-year program (up to 375,000 AF total) as long as the groundwater extraction does not exceed the approved borrow amount. This would result in balancing the PUTs (the components to recharge purified water to the Chino Basin) and TAKEs (the components to extract groundwater and convey potable water supply) to the Chino Basin at the end of the 25-year program, i.e., up to 375,000 AF would be recharged over 25 years and the same amount could be extracted over 25 years. The CBP includes two main categories of facilities: PUT and TAKE components. The PUT and TAKE components are summarized in Table 7, which has been extracted from the Project Description, below.

Table 7
SUMMARY OF PUT AND TAKE COMPONENTS

PUT Components	TAKE Components
• Tertiary recycled water supply and conveyance • Advanced water purification facility (AWPF) • Purified water pumping and conveyance • Groundwater recharge (injection wells and/or recharge basins)	• Groundwater extraction and treatment • Potable water pumping and conveyance • Potable water usage (Metropolitan pump back or in-lieu)

Ultimately, the CBP brings together these components cost-effectively and greatly enhances flexibility and resiliency to regional and local water operations, particularly during future extended droughts expected as climate change continues to impact California. The CBP's proposed AWPF, new injection and extraction facilities, conveyance facilities, and water system interconnections will allow more optimal management of local water supplies, including meeting water quality requirements for the continued use of recycled water within the Chino Basin, improved storage and recovery operations, as well as redundancies in water delivery infrastructure that will facilitate future rehabilitation and replacement of existing infrastructure.

Additionally, the proposed CBP requires an increase in the Safe Storage Capacity of the Chino Basin in order to accommodate an addition of up to 150,000 AF of managed storage above the existing Safe Storage Capacity (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035). As such, the CBP would contemplate a tiered increase in Safe Storage Capacity that would accommodate CBP storage requirements as well as Watermaster stakeholder storage requirements as follows: the CBP proposes an increase in Safe Storage Capacity up to 700,000 AF through June 30, 2039, and to 580,000 AF from July 1, 2039 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter. The storage increase would accommodate the CBP during its 25-year planning horizon, and any future required increase in storage that may be necessary to accommodate the increased recharge and extraction capacities provided by CBP infrastructure would be addressed in future CEQA documentation. Overall, the CBP may: reduce dependence on imported water through development of infrastructure that would provide a new local source of water; improve water quality by reducing the expected TDS concentration of the AWPF effluent to 100 mg/L; and providing a new local water supply for the Basin as a result of the creation of the AWPF that would enable IEUA to continue to treat recycled water below Santa Ana Regional Water Quality Board's Basin Plan regulatory limits for continued Basin use. This proposed tiered increase would supersede the Safe Storage Capacity that was approved in March of 2021 by the IEUA Board and subsequently approved by the CBWM in May 2021. Furthermore, as storage space in the Basin is regulated by Watermaster, a Storage Agreement will be required in order for this proposed Safe Storage Capacity to be adopted.

As the agency that will facilitate implementation of the CBP, IEUA will serve as the Lead Agency for purposes of complying with the CEQA. IEUA has prepared the CBP RDPEIR as the Lead Agency, in cooperation with the California Department of Water Resources (DWR), the CDFW, State Water Resources Control Board (SWRCB), and MWD as responsible agencies. The California Water Commission (CWC) is a Responsible Agency, as it is the Agency that has conditionally awarded IEUA with funding to implement the CBP through the Proposition 1 WSIP. Other agencies that may be Responsible Agencies or Trustee Agencies include IEUA member agencies, listed under Subsection 3.15 of the Project Description.

IEUA has prepared the Chino Basin Program Draft Program Environmental Impact Report (RDPEIR) that evaluates the potential environmental impacts that would result from constructing and implementing the proposed Project.

This chapter of the RDPEIR provides the detailed information used to forecast the type and significance of potential environmental impacts that implementation of the proposed project and related actions could cause if the project is implemented as described in Chapter 3, the Project Description.

In the following subchapters, as discussed in Chapter 2 of this document, each of the 20 topics identified in Appendix G of the CEQA Guidelines will be analyzed as follows: aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, energy, geology/soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire. The environmental impact analysis section for each environmental topic is arranged in the following manner:

a. An introduction that summarizes the specific issues of concern for each subchapter, as identified in the NOP scoping process;
b. A summary of the current or existing environmental setting for each physical resource or human infrastructure system is presented as the baseline from which impacts will be forecast;
c. Based on stated assumptions and identified criteria or thresholds of significance, the potential direct and indirect impacts of the proposed Project are forecast and the significance of impacts is assessed without applying any mitigation; recommended measures that can be implemented to substantially lessen potential environmental impacts are identified, and their effectiveness in reducing impacts to non-significant levels is described; and, potential cumulative environmental impacts are assessed under each environmental topic, where applicable; and,
d. Significant and unavoidable environmental impacts and any significant impacts that may be caused by implementing mitigation measures are addressed.

To provide the reviewer with a criterion or set of criteria with which to evaluate the significance of potential environmental impacts, this document provides issue specific criteria, i.e., thresholds of significance, for each topic considered in this RDPEIR. These criteria are either standard thresholds, established by law or policy (such as ambient air quality standards or thresholds of significance established by the South Coast Air Quality Management District) or project-specific evaluation thresholds used specifically for this project. After comparing the forecasted physical changes in the environment that may be caused by implementing the proposed project with the issue specific significance threshold criterion or criteria, a conclusion is reached on whether the proposed project has the potential to cause a significant environmental impact for the issue being evaluated.

Where appropriate and feasible, measures to reduce potential significant environmental impacts are identified and described in this section of the RDPEIR. Over the past several years, mitigation has evolved in scope and complexity. As environmental issues are addressed in a progressive and adaptive manner, previous measures developed to mitigate project specific impacts are eventually integrated into local, regional, state and federal statutes, rules and regulations, such as the Uniform Building Code or Water Quality Management Plans. Mitigation measures that are incorporated into statutes or rules and regulations become mandatory requirements (not discretionary) and they no longer need to be identified as discretionary mitigation measures applicable to the project, although

they are often referenced to demonstrate that identified environmental impacts can and will be mitigated.

The text in the following subchapters summarizes all of the various measures anticipated to be incorporated into the project to reduce potential significant environmental effects, either to the extent feasible or to a level of less than significant. After determining the degree of mitigation that can be achieved by the proposed measures and after identifying any potential adverse impacts that the mitigation measures may cause, a conclusion is provided regarding the remaining level of impact, such as less than significant and/or unavoidable significant adverse impact for each environmental topic, if any.

To the extent feasible, this document utilizes conservative (worst case) assumptions in making impact forecasts based on the assumption that, if impacts cannot be absolutely quantified, the impact forecasts should over-predict consequences rather than under-predict them. The many technical studies that were prepared for this document are incorporated into this chapter by summarizing the technical information to ensure technical accuracy. The Chino Basin Program Notice of Preparation (NOP) was distributed to the public and through the State Clearinghouse on September 16, 2021. The publication of the NOP established the date for all baseline information contained in this document. The various technical studies prepared in support of this RDPEIR were all compiled and completed concurrent with or after the baseline date of September 16, 2021 and all analysis in the RDPEIR was compiled subsequent to this date.

These technical studies themselves are compiled in a separate volume of the RDPEIR (Volume 2) which will be distributed in electronic form and made available to all parties upon request. The information used and analyses performed to make impact forecasts are provided in depth in this document to allow reviewers to follow a chain of logic for each impact conclusion and to allow the reader to reach independent conclusions regarding the significance of the potential impacts described in the following subchapters.

Furthermore, the data contained in this CBP RDPEIR is augmented by the analysis contained in the *Final Pulse Flows Component of the Water Storage Investment Program Groundwater Projects Supplemental Environmental Impact Report (2024 DWR Pulse Flow FSEIR; SCH No. 2022080216)* dated July 2024 prepared for the California Department of Water Resources (DWR) and prepared by ICF/ESA. This SEIR was circulated from February 16, 2024 to April 1, 2024, and the final document including responses to comments was completed in July 2024. The Pulse Flows Component is defined by the following DWR actions: (1) Release of the pulse flows from Lake Oroville into the Low Flow Channel of the Feather River, with the goal of improving habitat conditions for listed salmonids, as well as improving spawning and migration conditions for other listed and non-listed native fish species. (2) Implementation of the WSIP Operational Exchange Process that develops water used for pulse flow releases. (3) Diversion and conveyance of water to Kern Fan and Willow Springs that would be stored, in part, for ecosystem benefit. Implementation of the Pulse Flows Component would not require construction of any new facilities in addition to those previously analyzed in the three WSIP Groundwater Projects' EIRs (including the 2022 CBP FPEIR and now this RDPEIR). Existing facilities would be used, with operations modified to support the pulse flow releases. The Pulse Flows Component study area analyzed in the FSEIR extends approximately 575 miles from Lake Oroville in Northern California to the WSIP Groundwater Projects in the San Joaquin Valley and Southern California. The 2024 DWR Pulse Flow FSEIR is presented as Subchapter 8.3 to this RDPEIR, and the information and analysis contained therein is hereby incorporated by reference as described further under Subchapter 1.5, Impacts.

4.7 ENERGY

4.7.1 Introduction

This section assesses potential energy impacts from implementation of the Chino Basin Program (CBP). The *Inland Empire Utilities Agency Chino Basin Program Energy Resources Technical Report* dated October 2021 was prepared by Woodard & Curran to evaluate the potential energy impacts associated with construction and operation of the facilities proposed as part of the CBP. A copy of the Energy Resources Technical Report is provided as Appendix 8 of Volume 2 to the ~~is~~ 2022 CBP FPEIR, which is presented as Appendix 1 of Volume 2 to this RDPEIR.[1] Much of the information provided in the following sections is abstracted directly from this technical report with minor edits.

These issues will be discussed below as set in the following framework:

- Introduction
- Environmental Setting: Energy
- Regulatory Setting
- Thresholds of Significance
- Potential Impacts
- Cumulative Impacts
- Unavoidable Adverse Impacts

The following references were used in preparing this Subchapter of the EIR:

- California Air Pollution Control Officers Association. 2021. California Emissions Estimator Model User's Guide version 2020.4.0. May 2021.
- California Air Resources Board. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011.
- California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed October 2021).
- Carpinteria Valley Water District. 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.
- California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2020. 2019 Report of California Oil and Gas Production Statistics. October 2020. https://www.conservation.ca.gov/calgem/pubs_stats/annual_reports/Pages/annual_reports.aspx (accessed October 2021).
- California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2021. Division of Oil, Gas & Geothermal Resources – Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/ (accessed September 2021).
- California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed October 2021).
- California Energy Commission. 2003. Reducing California's Petroleum Dependence. Joint Agency Report with California Air Resources Board. https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf (accessed October 2021).
- California Energy Commission. 2007. State Alternative Fuels Plan.

[1] Where Appendices are referenced later in this Subchapter, it should be noted that the Appendices as well as the whole of the 2022 CBP PEIR are presented as Volume 2 to this RDPEIR.

- California Energy Commission. 2012. 2012 Bioenergy Action Plan. Prepared by the Bioenergy Interagency Working Group. http://resources.ca.gov/docs/energy_and_climate_change/2012_Bioenergy_Action_Plan.pdf (accessed October 2021).
- California Energy Commission. 2018. "Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation." May 9, 2018. https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first (accessed October 2021).
- California Energy Commission. 2019. 2019 California Energy Efficiency Action Plan. November 2019. https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings (accessed October 2021).
- California Energy Commission. 2020. Final 2019 Integrated Energy Policy Report. February 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report (accessed October 2021).
- California Energy Commission. 2020. "California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets." Last modified: August 31, 2020. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed October 2021).
- California Energy Commission. 2021. "Oil Supply Sources to California Refineries." http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed September 2021).
- California Energy Commission. 2021. "Electric Generation Capacity & Energy." https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy (accessed October 2021).
- CEC California Energy Commission 2021. "Supply and Demand of Natural Gas in California." https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed October 2021).
- California Energy Commission. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).
- California Gas and Electric Utilities. 2020. *2020 California Gas Report*. https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf (accessed October 2021).
- California Public Utilities Commission. 2008. 2008 Update to the Energy Action Plan. https://www.cpuc.ca.gov/industries-and-topics/natural-gas/energy-action-plans (accessed October 2021).
- California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
- GasBuddy. 2021. "Gas Price Map." www.gasbuddy.com (accessed September 2021).
- Inland Empire Utilities Agency. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).
- National Highway Traffic and Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed October 2021).
- Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
- Southern California Edison. 2021. "Our Service Territory." https://www.sce.com/about-us/who-we-are/leadership/our-service-territory (accessed October 2021).
- Southern California Edison. 2021. "Who We Are." https://www.sce.com/about-us/who-we-are (accessed October 2021).
- Southern California Gas Company. 2013. "Southern California Gas Company's Service Territory." December 2013. https://www.socalgas.com/documents/news-room/fact-sheets/ServiceTerritory.pdf

(accessed October 2021).
- Southern California Gas Company. 2021. "Company Profile." https://www.socalgas.com/about-us/company-profile (accessed October 2021).
- Southern California Gas Company. 2021. "Gas Transmission Pipeline Interactive Map." https://www.socalgas.com/stay-safe/pipeline-and-storage-safety/natural-gas-pipeline-map (accessed October 2021).
- United States Department of Energy. 2021. "Alternative Fuels Data Center." https://afdc.energy.gov/stations/#/find/nearest (accessed October 2021).
- United States Department of Transportation. 2014. "Corporate Average Fuel Economy (CAFE) Standards." Last modified: August 11, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (accessed October 2021).
- United States Energy Information Administration. 2021. "Petroleum & Other Liquids, California Field Production of Crude Oil." https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA1&f=M (accessed September 2021).
- United States Energy Information Administration. 2021. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed September 2021).
- United States Energy Information Administration. 2021. "Glossary." https://www.eia.gov/tools/glossary/ (accessed October 2021).
- United States Energy Information Administration. 2021. Table P2. Primary Energy Production Estimates in Trillion Btu, 2018. Last modified: June 25, 2021. https://www.eia.gov/state/seds/sep_prod/pdf/P2.pdf (accessed October 2021).
- United States Environmental Protection Agency. 2019. "Trump Administration Announces One National Program Rule on Federal Preemption of State Fuel Economy Standards." https://www.epa.gov/newsreleases/trump-administration-announces-one-national-program-rule-federal-preemption-state-fuel (accessed September 2021).
- United States Environmental Protection Agency. 2021. "History." https://www.energystar.gov/about/history-0 (accessed October 2021).

No comments pertaining to energy were received in response to the Notice of Preparation. No comments pertaining to noise were received at the Scoping Meeting held on behalf of the project.

4.7.2 Environmental Setting: Energy

Projects may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy or the wasteful use of energy resources (*CEQA Guidelines* Section 15126.2[b]). As stated in Appendix F of the CEQA Guidelines, "the goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include (1) decreasing overall per capita energy consumption, (2) decreasing reliance on fossil fuels such as coal, natural gas and oil, and (3) increasing reliance on renewable energy sources." Energy use relates directly to environmental quality because energy use can generate air pollutant emissions that adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are burned to power residences and businesses, heat and cool buildings, and power vehicles. Transportation energy use is dependent on the fuel efficiency of cars, trucks, and public transportation; the different travel modes such as auto, carpool, public transit, and biking/walking; and the miles traveled using each of these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

4.7.2.1 Energy Supply

Petroleum

California is one of the top producers of petroleum in the nation with drilling operations occurring throughout the State but concentrated primarily in Kern and Los Angeles Counties. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the San Francisco Bay area.[2] According to the United States Energy Information Administration, California's field production of crude oil totaled 133.1 million barrels in 2020.[3]

Petroleum Infrastructure in the Chino Basin

There are dozens of gas stations and one petroleum product terminal in the Chino Basin.[4, 5] According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, there are several idle and plugged oil and gas wells located through the Chino Basin as well as multiple plugged dry hole oil and gas wells.[6, 7]

Alternative Fuel Infrastructure in the Chino Basin

A variety of alternative fuels are used to reduce petroleum-based fuel demand. Their use is encouraged through various statewide and local regulations and plans, such as the Low Carbon Fuel Standard and Senate Bill (SB) 32. Alternative vehicle fuels include hydrogen, biodiesel, and electricity. Currently, 42 hydrogen and 10 biodiesel refueling stations are located in California; of these, one biodiesel refueling station is located in the Chino Basin. There are also dozens of publicly available electric vehicle charging stations in the Chino Basin.[8]

Electricity

In 2020, California's in-State electricity generation totaled 190,922 megawatts.[9] Primary fuel sources for the State's electricity generation in 2020 included natural gas, hydroelectric, solar photovoltaic, wind, nuclear, geothermal, biomass, and solar thermal. According to the 2019 Integrated Energy Policy Report, California's electric grid relies increasingly on renewable energy sources, and by 2025, the use of electricity sourced from out-of-State coal generation will be eliminated. As this transition advances, the grid is also expanding to serve additional loads produced by building and vehicle

[2] California Energy Commission (CEC). 2021. "Oil Supply Sources to California Refineries." http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed September 2021).
[3] United States Energy Information Administration (U.S. EIA). 2021. "Petroleum & Other Liquids, California Field Production of Crude Oil." https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA1&f=M (accessed September 2021).
[4] GasBuddy. 2021. "Gas Price Map." www.gasbuddy.com (accessed September 2021).
[5] U.S. EIA. 2021. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed September 2021).
[6] A dry hole well is an exploratory or development well that was found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well (U.S. EIA. 2021. "Glossary." https://www.eia.gov/tools/glossary/ [accessed October 2021].).
[7] California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2021. Division of Oil, Gas & Geothermal Resources – Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/ (accessed September 2021).
[8] United States Department of Energy. 2021. "Alternative Fuels Data Center." https://afdc.energy.gov/stations/#/find/nearest (accessed October 2021).
[9] CEC. 2021. "Electric Generation Capacity & Energy." https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy (accessed October 2021).

electrification, among other factors. California produces more renewable energy than any other State in the United States with 23,313 megawatts of installed renewable capacity.[10, 11]

Southern California Edison

Southern California Edison (SCE), whose service area spans a 50,000-square-mile area of central, coastal, and Southern California, supplies electricity to the Chino Basin.[12] SCE maintains 12,635 miles of transmission lines, 91,375 miles of distribution lines, 1,433,336 electric poles, 720,800 distribution transformers, and 2,959 substation transformers.[13] Approximately 35 percent of electricity provided by SCE is supplied from eligible renewable energy resources (i.e., biomass and biowaste, geothermal, eligible hydroelectric, solar, and wind). Other major energy resources include natural gas (16 percent), large hydroelectric (eight percent), and nuclear power (eight percent).

Electric Power Infrastructure in the Chino Basin

There are several natural gas and biomass electric power plants as well as numerous solar photovoltaic systems in the Chino Basin.[14]

Natural Gas

California's net natural gas production for 2019 was 162.1 billion cubic feet.[15] The State relies on out-of-State natural gas imports for nearly 90 percent of its supply. The California Energy Commission (CEC) estimates that approximately 45 percent of the natural gas burned across the State is used for electricity generation, and much of the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. Building and appliance energy efficiency standards account for up to 39 percent in natural gas demand savings between 1975 and 2010.[16]

Southern California Gas Company

Natural gas is provided to the Chino Basin by the Southern California Gas Company (SoCalGas), whose service area spans Southern California.[17] SoCalGas serves approximately 21.8 million customers with approximately 3,526 miles of gas transmission pipelines, 49,715 miles of gas distribution pipelines, and 48,888 miles of service lines.[18] Natural gas supplied by SoCalGas is sourced primarily from several sedimentary basins in the western United States and Canada including New Mexico, West Texas, the Rocky Mountains, western Canada, and California.[19]

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[10] U.S. EIA. 2021. Table P2. Primary Energy Production Estimates in Trillion Btu, 2018. Last modified: June 25, 2021. https://www.eia.gov/state/seds/sep_prod/pdf/P2.pdf (accessed October 2021).
[11] CEC. 2020. Final 2019 Integrated Energy Policy Report. February 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report (accessed October 2021).
[12] SCE. 2021. "Our Service Territory." https://www.sce.com/about-us/who-we-are/leadership/our-service-territory (accessed October 2021).
[13] SCE. 2021. "Who We Are." https://www.sce.com/about-us/who-we-are (accessed October 2021).
[14] U.S. EIA. 2021. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed September 2021).
[15] California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2020. 2019 Report of California Oil and Gas Production Statistics. October 2020. https://www.conservation.ca.gov/calgem/pubs_stats/annual_reports/Pages/annual_reports.aspx (accessed October 2021).
[16] CEC. 2021. "Supply and Demand of Natural Gas in California." https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed October 2021).
[17] SoCalGas. 2021. "Company Profile." https://www.socalgas.com/about-us/company-profile (accessed October 2021).
[18] SoCalGas. 2013. "Southern California Gas Company's Service Territory." December 2013. https://www.socalgas.com/documents/news-room/fact-sheets/ServiceTerritory.pdf (accessed October 2021).
[19] California Gas and Electric Utilities. 2020. *2020 California Gas Report*. https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf (accessed October 2021).

Natural Gas Infrastructure in the Chino Basin

According to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, there are several idle and plugged oil and gas wells located throughout the Chino Basin as well as multiple plugged dry hole oil and gas wells.[20, 21] No natural gas processing plants are located in the area.[22] The Chino Basin contains several natural gas transmission lines that primarily run parallel to major roadways, such as Interstate 10, Interstate 15, State Route 210, Foothill Boulevard, and East Mission Boulevard.[23]

4.7.2.2 Energy Demand

The most relevant scale at which recent communitywide energy consumption information for existing development is readily available is the county level. Therefore, existing energy consumption in San Bernardino and Riverside Counties is used herein to characterize existing energy consumption in the Chino Basin, as detailed in the following subsections.

Petroleum

As shown in **Table 4.7-1**, communitywide development in Riverside and San Bernardino Counties consumed an estimated 1,699 million gallons of gasoline and 303 million gallons of diesel fuel in 2018, which was approximately 14 percent of statewide gasoline consumption and approximately 17 percent of statewide diesel fuel consumption.[24] In comparison, the combined population of Riverside and San Bernardino Counties is approximately 12 percent of the population of California.[25] Therefore, per capita gasoline and diesel fuel consumption in Riverside and San Bernardino Counties are higher than the statewide averages.

Table 4.7-1
2020 ANNUAL GASOLINE AND DIESEL CONSUMPTION

Fuel Type	San Bernardino and Riverside Counties (gallons)	California (gallons)	Proportion of Statewide Consumption[1]
Gasoline	1,699,000,000	12,572,000,000	13.5%
Diesel	303,000,000	1,744,000,000	17.4%

[1] For reference, the combined population of Riverside and San Bernardino Counties (4,630,362 persons) is approximately 11.7 percent of the population of California (39,466,855 persons) (California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ [accessed October 2021].).
Source: CEC. 2020. "California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets." Last modified: August 31, 2020. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed October 2021).

[20] A dry hole well is an exploratory or development well that was found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well (U.S. EIA 2021c).
[21] California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2021. Division of Oil, Gas & Geothermal Resources – Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/ (accessed September 2021).
[22] U.S. EIA. 2021. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed September 2021).
[23] SoCalGas. 2021. "Gas Transmission Pipeline Interactive Map." https://www.socalgas.com/stay-safe/pipeline-and-storage-safety/natural-gas-pipeline-map (accessed October 2021).
[24] CEC. 2020. "California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets." Last modified: August 31, 2020. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed October 2021).
[25] California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed October 2021).

Electricity

As shown in **Table 4.7-2**, communitywide development in Riverside and San Bernardino Counties consumed approximately 30,507 gigawatt-hours of electricity in 2019, which was approximately 38 percent of electricity consumption by SCE and approximately 11 percent of statewide electricity consumption.[26] In comparison, the combined population of Riverside and San Bernardino Counties is approximately 12 percent of the population of California.[27] Therefore, per capita electricity consumption in Riverside and San Bernardino Counties is lower than the statewide average.

Table 4.7-2
2019 ELECTRICITY CONSUMPTION

Energy Type	Riverside and San Bernardino Counties (GWh)	Southern California Edison (GWh)	California (GWh)	Proportion of Southern California Edison Consumption[1]	Proportion of Statewide Consumption[1]
Electricity	30,507	80,913	279,402	37.7%	10.9%

GWH = gigawatt-hours
[1] For reference, the combined population of Riverside and San Bernardino Counties (4,630,362 persons) is approximately 11.7 percent of the population of California (39,466,855 persons) (California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ [accessed October 2021].).
Source: CEC. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).

Natural Gas

As shown in **Table 4.7-3**, communitywide development in Riverside and San Bernardino Counties consumed approximately 1,000 million US therms of natural gas in 2019, which was approximately 18 percent of natural gas consumption by SoCalGas and approximately eight percent of statewide natural gas consumption.[28] In comparison, the population of Riverside and San Bernardino Counties is approximately 12 percent of the population of California.[29] Therefore, per capita natural gas consumption in Riverside and San Bernardino Counties is lower than the statewide average.'

Table 4.7-3
2019 NATURAL GAS CONSUMPTION

Energy Type	Riverside and San Bernardino Counties (millions of US therms)	SoCalGas (millions of US therms)	California (millions of US therms)	Proportion of SoCalGas Consumption[1]	Proportion of Statewide Consumption[1]
Natural Gas	1,000	5,424	13,158	18.4%	7.6%

[1] For reference, the combined population of Riverside and San Bernardino Counties (4,630,362 persons) is approximately 11.7 percent of the population of California (39,466,855 persons) (California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ [accessed October 2021].).
Source: CEC. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).

[26] CEC. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).
[27] California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed October 2021).
[28] CEC. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).
[29] California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed October 2021).

4.7.3 Regulatory Setting

The following regulations are applicable to energy.

4.7.3.1 Federal

The following subsections summarize the main Federal and State regulations applicable to energy. Details on other Federal and State energy regulations can be found in Section 3.1 of the Energy Resources Technical Report contained in Appendix 8 of Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR~~.

Energy Independence and Security Act of 2007
The Energy Independence and Security Act, enacted by Congress in 2007, is designed to improve vehicle fuel economy and help reduce the United States' dependence on foreign oil. It expands the production of renewable fuels, reducing dependence on oil and confronting climate change. Specifically, it does the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022
- Reduces the U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020, an increase in fuel economy standards of 40 percent as compared to 2007 levels

The Energy Independence and Security Act of 2007 also set energy efficiency standards for lighting (specifically light bulbs) and appliances. New development projects are required to install photosensors and energy-efficient lighting fixtures consistent with the requirements of 42 United States Code Section 17001 et seq.

Energy Policy and Conservation Act
Enacted in 1975, the Energy Policy and Conservation Act established fuel economy standards for new light-duty vehicles sold in the United States. The law placed responsibility on the National Highway Traffic and Safety Administration (NHTSA) for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (U.S. EPA) is responsible for administering the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards. In 2012, the U.S. EPA and NHTSA established final passenger car and light-duty truck Corporate Average Fuel Economy standards for model years 2017 to 2021, which require a combined average fleet-wide fuel economy of 40.3 to 41.0 miles per gallon in model year 2021.[30]

Safer Affordable Fuel-Efficient Vehicles Rule
On September 27, 2019, the U.S. EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program, revoking California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. On June 29, 2020, Part Two of the SAFE Vehicles Rule became effective, revising Corporate Average Fuel Economy and carbon dioxide emissions standards for model years 2021-2026 passenger cars and trucks such

[30] United States Department of Transportation. 2014. "Corporate Average Fuel Economy (CAFE) Standards." Last modified: August 11, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (accessed October 2021).

that the standards increase by approximately 1.5 percent each year through model year 2026, as compared to the 2012 standards which required an approximately five percent annual increase.[31]

Energy Star Program

Energy Star is a voluntary labeling program introduced by U.S. EPA to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In addition, the U.S. EPA joined with the United States Department of Energy in 1996 to expand the program, which now also includes certifying commercial and industrial buildings as well as homes.[32]

Construction Equipment Fuel Efficiency Standard

The U.S. EPA sets emission standards for construction equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068. Emissions requirements for new off-road Tier 4 vehicles were completely phased in at the end of 2015.

4.7.3.2 State

Assembly Bill 1493: Reduction of Greenhouse Gas Emissions

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires the California Air Resources Board (CARB) to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the U.S. EPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the U.S. EPA. Pavley I regulated model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emission Vehicle, Zero Emissions Vehicles, and Clean Fuels Outlet programs, and would provide major reductions in fossil fuel consumption by vehicles and its associated GHG emissions.[33] However, on September 19, 2019, the U.S. EPA withdrew California's Clean Air Act preemption waiver and issued the One National Program Rule, which prohibits states from establishing their own separate fuel economy standards or passing laws that substantially affect fuel economy standards. As a result, California may no longer promulgate and enforce its tailpipe GHG emission standard and zero emission vehicle mandate.[34]

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), the CEC and CARB prepared and adopted a joint-agency report, Reducing California's Petroleum Dependence, in 2003. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation

[31] NHTSA. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed October 2021).
[32] U.S. EPA. 2021. "History." https://www.energystar.gov/about/history-0 (accessed October 2021).
[33] CARB. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011.
[34] U.S. EPA. 2019. "Trump Administration Announces One National Program Rule on Federal Preemption of State Fuel Economy Standards." https://www.epa.gov/newsreleases/trump-administration-announces-one-national-program-rule-federal-preemption-state-fuel (accessed September 2021).

fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita vehicle miles traveled. One of the performance-based goals of AB 2076 is to reduce petroleum demand to 15 percent below 2003 demand.[35]

Energy Action Plan

In 2003, the CEC and California Public Utilities Commission set forth their energy policy vision in the Energy Action Plan. The CEC adopted an update to the Energy Action Plan in February 2008 (EAP II) that supplements the earlier Energy Action Plan and examines the State's ongoing actions in the context of global climate change. The nine major action areas in the Energy Action Plan include energy efficiency; demand response; renewable energy; electricity adequacy/reliability/ infrastructure; electricity market structure; natural gas supply/demand/infrastructure; transportation fuels supply/demand/infrastructure; research/development/demonstration; and climate change.[36]

Bioenergy Action Plan (Executive Order S-06-06)

Executive Order (EO) S-06-06 establishes targets for the use and production of biofuels and biopower and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following in-State production targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources:

- Produce 20 percent of biofuels used in California by 2010,
- Produce 40 percent of biofuels used in California by 2020, and
- Produce 75 percent of biofuels used in California by 2050.

EO S-06-06 also calls for the State to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies potential barriers and recommends actions to address them so the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:[37]

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the State
- Reduce fire danger, improve air and water quality, and reduce waste

Assembly Bill 1007: State Alternative Fuels Plan

In response to AB 1007, the CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, State, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-State production. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use,

[35] CEC. 2003. Reducing California's Petroleum Dependence. Joint Agency Report with California Air Resources Board. https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf (accessed October 2021).
[36] California Public Utilities Commission. 2008. 2008 Update to the Energy Action Plan. https://www.cpuc.ca.gov/industries-and-topics/natural-gas/energy-action-plans (accessed October 2021).
[37] CEC. 2012. 2012 Bioenergy Action Plan. Prepared by the Bioenergy Interagency Working Group. http://resources.ca.gov/docs/energy_and_climate_change/2012_Bioenergy_Action_Plan.pdf (accessed October 2021).

reduce GHG emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.[38]

Senate Bill 350

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires a doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

2017 Climate Change Scoping Plan

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the State's 2030 GHG emissions reduction target of 40 percent below 1990 levels. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation. The 2017 Scoping Plan also includes a wide variety of goals related to energy efficiency and renewable energy that are intended to help meet the State's 2030 GHG emissions reduction target.[39]

California Renewable Portfolio Standard and Senate Bill 100

Approved by former Governor Brown on September 10, 2018, SB 100 accelerates the State's Renewables Portfolio Standard (RPS) program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

California Energy Efficiency Action Plan

The CEC is responsible for preparing the California Energy Efficiency Action Plan, which covers issues, opportunities, and savings estimates related to energy efficiency in California's building, industrial, and agricultural sectors. The 2019 California Energy Efficiency Action Plan focuses on three goals:

- Doubling energy efficiency savings by 2030 (SB 350)
- Removing and reducing barriers to energy efficiency in low-income and disadvantaged communities
- Reducing GHG emissions from the building sector

The plan offers several recommendations to advance these goals, including expanding funding sources for energy efficiency programs beyond ratepayer portfolios, improving energy efficiency data, integrating energy efficiency into long-term utility planning, enhancing the energy efficiency workforce, improving demand flexibility, and expanding building decarbonization.[40]

California Building Energy Efficiency Standards – California Code of Regulations, Title 24, Part 6

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. The 2019 Building Energy Efficiency Standards (California Energy Code), adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting nonrenewable energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic

[38] CEC. 2007. State Alternative Fuels Plan.
[39] CARB. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed October 2021).
[40] CEC. 2019. 2019 California Energy Efficiency Action Plan. November 2019. https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings (accessed October 2021).

systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.[41]

California Green Building Standards Code – California Code of Regulations Title 24, Part 11
The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Code). The 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

Advanced Clean Trucks Regulation
On June 25, 2020, CARB approved the Advanced Clean Trucks Regulation, which requires truck manufacturers (any manufacturer that certifies vehicles over 8,500 pounds gross vehicle weight rating) with sales in California to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, all new trucks sold in California must be zero-emission.

4.7.3.3 Local

IEUA Climate Change Action Plan
IEUA adopted a Climate Change Action Plan (CCAP) in 2019, which sets GHG emission reduction goals. IEUA aims to balance regional sustainability efforts with environmentally conscious energy management strategies to identify projects and objectives that holistically address climate change efforts. The CCAP's GHG reduction goals directly related to energy are listed below:

- Strive toward Carbon Neutrality: IEUA's current renewable portfolio is capable of meeting approximately 50 percent of the agency-wide power needs. Increasing this capacity will reduce IEUA's impact on climate change and enhance environmental sustainability.
- Increase Energy Efficiency: Optimizing facility processes and retrofitting equipment can result in less power demand on the electrical grid.
- Reduce Methane Emissions: IEUA will strive toward optimizing resource recovery by pursuing projects that beneficially use the methane generated in the digestion process as a renewable source of heat and/or power generation.
- Renewable Energy Credits: In the event where meeting an 80 percent reduction by 2050 is not possible from the utilization of renewable resources, IEUA plans to purchase renewable energy credits.

The CCAP also establishes goals and objectives to guide development of future projects. IEUA has identified key areas that should be addressed to create a resilient water and wastewater management system that also contributes to GHG emission reductions. The goals and objectives directly related to energy are listed below: [42]

Goal: Maximize system efficiencies.

[41] CEC. 2018. "Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation." May 9, 2018. https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first (accessed October 2021).
[42] IEUA. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).

- Objective: Improve energy efficiencies at IEUA facilities.
- Objective: Develop water use efficiency and/or conservation programs within the region.
- Objective: Strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources

General Plans

Cities and counties in the Chino Basin typically include energy-related goals and policies in the State-mandated Conservation Element of their General Plans. In addition, some jurisdictions, like the County of San Bernardino, include a standalone element related to energy conservation and renewable energy in their General Plans. The energy-related goals and policies in General Plans generally include intentions to increase the energy efficiency of new and existing development and expand renewable energy production.

Municipal Codes

The municipal codes of cities and counties in the Chino Basin usually include provisions to adopt the latest iteration of the California Building Energy Efficiency Standards and CALGreen as the local building code. In some instances, local municipal codes may include more stringent requirements for energy efficiency and renewable energy usage than the State building codes, which are referred to as "reach codes." However, no reach codes have been adopted by jurisdictions in the Chino Basin. In addition, it should be noted that California Government Code Section 53091 exempts IEUA, as a regional public water purveyor and utility, from local zoning and building ordinances.

4.7.4 Thresholds of Significance

According to Appendix G, Section VI, of the CEQA Guidelines, a project would have a significant effect on energy if the project would:

a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In addition, Appendix F of the CEQA Guidelines states that EIRs may include a discussion of the potential energy impacts of proposed projects and presents a list of items that may be considered in the EIR impact analysis.

4.7.5 Potential Impacts

This section evaluates the potential impacts of the proposed CBP related to energy.

Methodology

Energy consumption can also be considered in terms of direct and indirect impacts, depending on the energy source. For example, direct impacts would be associated with fuel consumption by construction vehicles, and indirect impacts would be associated with the demand for electricity from SCE. Energy use and energy demands for the proposed CBP were developed based on information in Chapter 3, *Project Description*. Operational energy consumption associated with the CBP was also estimated based on energy consumption estimates from similar projects in Southern California.

Based on these similar projects, it was assumed individual projects implemented under the proposed CBP would consume the following quantities of energy each year for operation:[43, 44]

- Injection well: 5 kilowatt-hours (kWh) per acre-foot (AF) per well
- Extraction well: 100 kWh per AF per well
- AWPF: 1,665 kWh per AF
- Pump station: 600 kWh per AF
- Wellhead treatment facilities: 10 kWh per AF
- Brine treatment and disposal: 625 kWh per AF

Projects implemented under the CBP are expected to be operational in 2028. At that time, the CBP would provide up to 50,000 acre-feet per year (AFY) of advanced treated water to Metropolitan in dry or critically dry years. In return, up to 50,000 AFY of SWP water that would otherwise have been exported would be stored in Lake Oroville and used to enhance instream flows in the Feather River. By precluding the need for the export of 50,000 AF of SWP water, the CBP would result in energy savings and an associated reduction in indirect GHG emissions in each year this occurs. The amount of electricity required to supply, treat, and distribute water in Southern California is approximately 11.111 MWh per million gallons, or 3.612 MWh per acre-foot (AF).[45] Thus, in call years when the CBP would avoid the import of approximately 50,000 AFY of water from the SWP, it would conserve up to approximately 181,000 MWh of electricity.

During the response to comments process, IEUA was made aware that Orange County Water District (OCWD) believes that the loss of excess flow to the Santa Ana River (SAR) as a result of implementation of the CBP (totaling about 16,000 AFY of diversions from the SAR), to which it has no water right, will require it to purchase a greater amount of State Water Project (SWP; on a 1:1 basis, i.e. for every 1 AF diverted from the SAR, OCWD would be required to purchase 1 AF from the SWP) and that this purchase will result in greater energy use. IEUA maintains that it is not appropriate to assume that for each of the 16,000 AFY diverted from the SAR as a result of the CBP, it would require a commensurate amount of water specifically from the SWP, as other, more reliable alternative water sources are available to OCWD, such as natural flows in the River or recycled water purchased from the Upper Watershed market. The means by which OCWD ultimately sources its water supply may change as drought conditions become more common; furthermore, as drought conditions persist per MWD's general manager in a press release dated December 1, 2021.

"While Southern California's diverse supply portfolio means other parts of our region can turn to water from the Colorado River and local sources during this time, the dramatic reduction of our Northern California supplies means we all must step up our conservation efforts. Earlier this year, Gov. Newsom asked all Californians to voluntarily reduce their water use by 15 percent…. Climate change is creating a new normal. Looking ahead, we need to increase our investments in water efficiency, recycling and storage….We need our state and federal partners to help accelerate these investments through a coordinated strategy for resilient, integrated and balanced water management."

[43] Carpinteria Valley Water District (CVWD). 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.
[44] Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
[45] CAPCOA. 2010. "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." August. https://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/quantifying-greenhouse-gas-mitigation-measures.pdf?sfvrsn=0 (accessed October 2021).

While MWD may not be able to expect an annual SWP allocation, there are other sources that may be dispersed to meet demand across Southern California. However, alternative sources of water, such as recycled water, desalination, water efficiency, improved water storage, and increased wastewater generation due to growth are becoming more important to be able to meet demand across Southern California. Given the above, IEUA maintains that it is speculative for OCWD to presume that CBP operations would directly lead OCWD to require reliance solely on imported water to replace reduced baseflow volumes. IEUA agrees that some imported water may be required to replace the reduced baseflow volumes that would occur as a result of implementation of the CBP, but to what extent imported water will be required is speculative for the reasons outlined above.

Reliance on recycled water from the Upper Watershed market would not increase energy costs, as the infrastructure to deliver water to the SAR is already in place and is operable. As such, there would be no commensurate increased energy consumption. Another alternative is that OCWD could turn to a desalinization plant system on the Pacific Ocean to obtain a new reliable source of water. To minimize energy consumption, OCWD could construct solar or wind facilities with a battery backup system to offset the energy required to operate such a facility. Furthermore, it is likely that should such a system be developed, GHG minimization would be required under the current legislation (e.g. SB 32 and AB 32), thereby minimizing energy consumption, and thus integrated into project design. The benefit of both of these alternatives is that they are ostensibly more reliable than future water deliveries by the SWP, and additionally, would not require a great amount of energy to implement. Thus, the analysis provided below does not account for additional energy demand in light of the above, given the speculative nature of determining the energy required to obtain the source or sources of water OCWD might ultimately utilize to meet demand as a result of the diversion of water that would occur under the CBP.

Similarly, as described in Subchapter 2.3, Scope and Content of this EIR, and under Subchapter 1.2, Project Background, this analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time and further would be evaluated as part of future master planning efforts. This relates to this Energy analysis in that it would be speculative to address the energy-related operational impacts beyond the proposed 25-year conjunctive use project as proposed herein, and therefore, this analysis focuses on the operational activities and energy impacts thereof that are anticipated to occur for the first 25 years of the project.

Impact Analysis

a) Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction
Construction activities associated with buildout of the proposed CBP would use energy primarily as fuel for the construction vehicle fleet and for vehicle trips to transport workers, materials, supplies, and soil to and from individual construction sites. Consumption of fuel during construction would be temporary, and would not represent an ongoing, long-term demand. Construction contractors for individual CBP projects would be required to adhere to applicable regulations for reducing criteria air pollutant emissions, which would also result in energy conservation. These regulations include CARB's Regulation for In-Use Off-Road Diesel Vehicles, CARB's Regulation of In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles, CARB's Truck and Bus Regulation, and Title 13 California Code of Regulations Section 2449(d)(3) and Section 2485. Together, these regulations limit unnecessary vehicle idling to five minutes, require older (and less fuel-efficient) construction equipment to be retired, and require heavy-duty diesel vehicles operating in California to be equipped with an engine that meets California emissions standards. Construction would involve equipment and trips that are typical for the type of facilities being constructed and would not involve excessive or unnecessary consumption of fuel. Through compliance with existing applicable regulations, construction energy consumption associated with buildout of the CBP would not be inefficient, wasteful or unnecessary. Impacts would be less than significant.

Operation
Operation of CBP facilities would be energy intensive and would require the use of electricity for treatment, conveyance, injection, and extraction of water supplies.[46] Energy consumption from the use of groundwater monitoring wells would be negligible. In addition, the storage reservoir, pipelines, and turnouts would not directly consume energy because water would be pumped into and through these facilities directly from wells or through booster pump stations. Furthermore, although long-term operation of individual projects implemented under the CBP would involve occasional vehicle trips for operations and maintenance of the facilities, the energy consumption associated with these vehicle trips is assumed to be negligible because CBP facilities would largely be monitored remotely. As a result, CBP facilities would require an average of approximately five to six vehicle trips per day for inspections, testing, and maintenance, and these trips would largely be incorporated into existing operations and maintenance activities. Therefore, this analysis focuses on evaluating electricity consumption by the proposed pump stations, injection wells, extraction wells, wellhead treatment facilities, and AWPF (including brine treatment and disposal).

Estimated annual energy consumption associated with operation of CBP facilities is summarized in **Table 4.7-4** for both call years and non-call years. As shown therein, operation of CBP facilities would require approximately 64,280 megawatt-hours (MWh) of electricity in call years and 36,280 MWh of electricity in non-call years. However, in call years, the CBP would conserve up to approximately 181,000 MWh of electricity by precluding the import of SWP water. Therefore, in call years, the CBP would result in a net decrease in electricity consumption of approximately 116,720 MWh as compared to baseline conditions.

[46] CBP facilities would not consume natural gas.

Table 4.7-4
ANNUAL OPERATIONAL ELECTRICITY CONSUMPTION

Project Component	kWh/AF/year	Call Year		Non-Call Year	
		AFY	MWh/year	AFY	MWh/year
Injection wells	5	15,000	75	15,000	75
Extraction wells	100	50,000	5,000	10,000	1,000
Pump stations	600	50,000	30,000	10,000	6,000
AWPF	1,665	17,000	28,305	17,000	28,305
Wellhead treatment	10	17,000	170	17,000	170
Brine disposal	625	1,167	730	1,167	730
Total CBP Electricity Consumption	--	--	**64,280**	--	**36,280**
Offset SWP Electricity Consumption	3,621	50,000	(181,000)	--	0
Net Change in Baseline Electricity Consumption	--	--	**(116,720)**	--	**36,280**

kWh = kilowatt-hour; AF = acre-feet; AFY = acre-feet per year; MWh = megawatt-hour
Source: Appendix 8, Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR.~~

Furthermore, as shown in **Table 4.7-5**, the CBP would result in a net decrease of approximately 240,500 MWh in total electricity consumption associated with local water supplies as compared to baseline conditions over the 25-year term of the proposed water transfer agreements.

Table 4.7-5
OVERALL OPERATIONAL ELECTRICITY CONSUMPTION

Scenario	Annual Electricity Consumption (MWh/year)	Number of Years during Water Transfer Agreement	Total Electricity Consumption (MWh)
Call Years	**(116,720)**	7.5	(875,400)
Non-call Years	**36,280**	17.5	634,900
		TOTAL	**(240,500)**

kWh = kilowatt-hour; AF = acre-feet; AFY = acre-feet per year; MWh = megawatt-hour
Source: Appendix 8, Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR~~.

CBP facilities would be constructed in compliance with existing regulations for building energy efficiency. In addition, the CBP includes exploration of options for new, on-site energy generation facilities in the IEUA service area, such as in-conduit hydropower facilities in locations of the potable water distribution system where energy can be produced in conjunction with reducing system pressure. Finally, investment in local water supplies that offsets the need for imported water is considered to be necessary to begin to reduce the amount of energy associated with water conveyance in the State. The 2017 Scoping Plan recognizes that about two percent of the total energy used in the State is related to water conveyance. As a result, the plan calls for, "increased water conservation and efficiency, improved coordination and management of various water supplies, greater understanding of the water-energy nexus, and deployment of new technologies in drinking water treatment, groundwater remediation and recharge, and potentially brackish and seawater desalination."[47] Therefore, given that the CBP would result in an overall net reduction in electricity consumption associated with local water supplies over the 25-year term of the proposed

[47] CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).

water transfer agreement and that CBP facilities would comply with existing applicable regulations, operational energy consumption associated with the CBP would not be inefficient, wasteful or unnecessary.

It should be noted that the proposed CBP is forecast to cause a reduction in surplus flows to the Santa Ana River (SAR). While IEUA would continue to meet their baseflow obligations to the SAR, and is projected to exceed their baseflow obligations to the SAR even with the proposed diversions of recycled water from IEUA, WRCRWA, and Rialto, the proposed CBP may result in a reduction in surplus flows to the SAR. IEUA is aware that Orange County Water District (OCWD) currently recharges essentially all baseflow of the SAR water discharged from the Prado Dam, and understands that it may also rely on the surplus flows that IEUA has contributed to the SAR in recent years. Given the above, the proposed CBP could have a potential to reduce surplus flows to the SAR, which OCWD may rely on as a contribution to their overall groundwater supply required to meet their service area demand. OCWD has indicated that it may need to increase the volume of imported water purchased in order to replace any reduction in SAR baseflow on a 1:1 basis, i.e. for every 1 AF diverted from the SAR, OCWD would be required to purchase 1 AF from the SWP. However, as stated under Subsection 4.7.5 under Methodology, IEUA maintains that it is not appropriate to make this assumption, as other, more reliable alternative water sources are available to OCWD, such as natural flows in the River, recycled water, desalination, water efficiency, improved water storage, and increased wastewater generation due to growth. The means by which OCWD ultimately sources its water supply may change as drought conditions become more common.

While IEUA's modeling of the CBP suggests that the CBP would not result in a violation of the baseflow obligation to the SAR (refer to Subchapter 4.11, Hydrology and Water Quality, and the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR~~), if OCWD has come to rely on surplus flows and would require alternative sources of water to supplement their supply as a result, the annual energy emissions that would be offset by precluding the need for imported SWP water by the CBP may be overestimated from a cumulative energy use perspective.

If the CBP results in OCWD requiring alternative sources of water due to reduced surplus flows to the SAR, the cumulative energy demand could be increased, but the extent to which this circumstance would result in an increase in energy consumption, cannot be quantified because the exact source of water that OCWD would pursue is unknown. As stated above, the least cost-prohibitive, and most energy minimizing approach would be for OCWD to purchase recycled water from the Upper Watershed market. OCWD could also pursue desalination, water efficiency, and improved water storage, the construction of which would likely be more energy efficient than utilizing imported water to supplement the reduced SAR supply. This analysis assumes that, while the energy utilized to convey SWP to Southern California is not in and of itself inefficient, wasteful or unnecessary, in the context of this project, and when compared to this project, the energy that is offset as a result of reduction of imported water to Southern California is considered a benefit. As such, it is assumed that a significant impact would occur if OCWD would require an increase in imported water over the 25 year life of this project specifically as a result of reduced surplus flows to the SAR, that would be greater than that which would be reduced by implementation of the CBP (i.e. 375,000 AF over 25 years). IEUA maintains that it is speculative to determine to what extent the diversion of recycled water dedicated to the proposed CBP from the SAR would require increased use of imported water by OCWD because the means by which OCWD ultimately sources its water supply may change as drought conditions become more common, and alternative sources of water, such as recycled water, desalination, water efficiency, improved water storage, and increased wastewater generation due to growth are becoming more important to be able to meet demand

across Southern California. Thus, in years such as 2022, in which the SWP allocation is reduced to a 15% allocation due to drought, OCWD may not be able to obtain the required allocation from MWD, or the allocation may come from a different source within MWD's portfolio, or alternative, OCWD may obtain additional supply from other sources, such as those outlined above. Thus, it would be speculative to allocate a specific energy demand to a need for additional water supply by OCWD. Regardless, it is assumed that, amount of alternative sources of water OCWD would require over the 25 year life of the program would require less energy than that which the proposed CBP would offset. As such, given the above, the proposed CBP would not result in direct or indirect inefficient, wasteful or unnecessary operational energy consumption. Impacts would be less than significant.

Combined Project Categories

Level of Significance Before Mitigation: Less than Significant.

Mitigation Measures: No mitigation is required as impacts would be less than significant.

Level of Significance After Mitigation: Less Than Significant.

Cumulative Impact Analysis

Cumulative development in the Chino Basin would increase demand for energy resources. However, new iterations of the California Building Energy Efficiency Standards and CALGreen would require increasingly more efficient appliances and building materials that reduce energy consumption in new development. In addition, vehicle fuel efficiency is anticipated to continue improving through implementation of the existing Pavley regulations under AB 1493, and implementation of the Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy would reduce per capita vehicle miles traveled in the Chino Basin. Cumulative development in the Chino Basin will also be required to be consistent with applicable provisions of local General Plans related to energy efficiency and renewable energy as well as the Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy. Furthermore, as shown in **Table 4.7-2** and **Table 4.7-3**, the percentage of statewide electricity and natural gas consumption attributed to San Bernardino and Riverside Counties (approximately 11 percent and eight percent, respectively) is lower than the counties' proportion of the statewide population (approximately 12 percent). Therefore, a significant cumulative impact related to the wasteful, inefficient, and unnecessary consumption of energy would not occur.
Cumulative Measures: No mitigation is required as impacts would be less than significant.

Level of Significance After Mitigation: Less Than Significant.

b) Would the project conflict with or obstruct existing energy standards or a State or local plan for renewable energy or energy efficiency?

2017 Scoping Plan

The CBP would develop a local water supply and would reduce the demand for energy required to import water from the SWP to Southern California. In this way, the CBP would be consistent with statewide plans that address the energy intensity of the State's water delivery systems. An overarching goal of the 2017 Scoping Plan is to "make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change." The 2017 Scoping Plan notes that recycled water has the potential to reduce overall energy use and GHG emissions if it replaces (rather than serves as an alternative to) an existing

water supply with higher GHG emissions.[48] The CBP would replace imported SWP water, which is energy-intensive, with a local, recycled water source in call years. Furthermore, IEUA would procure energy to serve CBP facilities from SCE, which has historically achieved the RPS and anticipates meeting the RPS of 60 percent renewable energy by 2030.[49] IEUA would also explore options for using additional on-site renewable energy, such as the use of a 2.5-MW solar array at the Inland Empire Regional Composting Facility and in-conduit hydropower facilities in locations of the potable water distribution system where energy can be produced in conjunction with reducing system pressure. As such, the CBP would not obstruct the 2017 Scoping Plan. Impacts would be less than significant.

IEUA CCAP
The IEUA CCAP sets GHG emission reduction goals for IEUA operations, some of which are related to energy efficiency and the use of renewable energy (see Section 4.7.3.3, *Regulatory Setting – Local*). The CBP includes components that intentionally lower the power demand on the electrical grid, such as the potential inclusion of in-conduit hydropower facilities at certain locations of the potable water distribution system where energy can be produced in conjunction with reducing system pressure. Furthermore, during call-years, the CBP would offset imported water from the SWP, which would save energy and preclude SWP-related energy consumption. The CBP would also incorporate the use of available on-site renewable energy sources at RP-4, including the 1-MW wind turbine and 1.5-MW battery, to supply part of the energy demand of CBP facilities, if possible. Moreover, the CBP may use energy generated by the 2.5-MW solar array at the Inland Empire Regional Composting Facility. Therefore, the CBP would support the CCAP objective to strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources. Accordingly, the CBP would not conflict with the CCAP, and impacts would be less than significant.

Combined Project Categories

Level of Significance Before Mitigation: Less than Significant.

Mitigation Measures: None required.

Level of Significance After Mitigation: Less Than Significant

Cumulative Impact Analysis
As discussed above, the project would be consistent with CARB's 2017 Scoping Plan and the IEUA CCAP, which were adopted to reduce the cumulative impact of energy consumption statewide and within IEUA's service area, respectively. Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to the plans adopted for renewable energy and energy efficiency.

CEQA Guidelines Appendix F Considerations
Most of the energy needs of the proposed CBP would be met by SCE, although the proposed AWPF may receive a portion of its energy needs from on-site sources at RP-4, such as the 1-MW wind turbine and 1.5-MW battery. In 2015, SCE delivered more than 87 billion kWh of electricity.[50] The

[48] CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).
[49] California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
[50] SCE. 2021. "Who We Are." https://www.sce.com/about-us/who-we-are (accessed October 2021).

annual electricity demand of the proposed CBP in call years (approximately 64,280 MWh/year as shown in **Table 4.7-4**) would be roughly 0.07 percent of SCE's total annual electricity service (87 million MWh/year). Furthermore, in call years, the CBP would avoid the use of approximately 181,000 MWh/year associated with the import of SWP water, and a portion of this net reduction in electricity usage would reduce demand on regional SCE infrastructure during these years. In non-call years, the CBP annual electricity demand (approximately 36,280 MWh/year as shown in **Table 4.7-4**) would be roughly 0.04 percent of SCE's total annual electricity deliveries. Thus, the proposed CBP's energy demand would be minimal compared to SCE's overall total annual electricity service. IEUA, as part of project planning, would coordinate with SCE to ensure adequate electrical service capacity and distribution facilities would be available. If necessary, IEUA would coordinate and develop additional sources of supply to meet the CBP's energy needs. Therefore, the CBP would not impact local and regional energy supplies, including peak and base period supplies.

Cumulative Impact Analysis
Cumulative growth in the SCE service area would affect regional energy demand. SCE energy demand planning is based on future growth predictions from the General Plans of local jurisdictions. For this reason, development consistent with the applicable General Plan would also be consistent with SCE demand planning. Cumulative development within the SCE service area is not anticipated to result in a significant impact in terms of impacting energy supplies because the majority of cumulative projects would be consistent with their respective General Plans and the growth anticipated by SCE. The CBP would serve water supply needs for existing and planned water demand and would not result in or accommodate unplanned growth. Furthermore, as shown in **Table 4.7-4**, the proposed CBP would result in a net reduction in baseline electricity consumption of approximately 116,720 MWh/year in call years, and a portion of this net reduction in electricity usage would reduce demand on regional SCE infrastructure during these call years. Therefore, the CBP, in combination with other cumulative projects, would not result in cumulative energy impacts.

Cumulative Measures: None required.

Level of Significance After Mitigation: Less Than Significant.

4.7.6 Cumulative Impacts

The cumulative analysis of each Energy issue evaluated in Subchapter (4.7) of the RDPEIR determined that the proposed project would not result in a cumulatively considerable contribution to cumulative energy impacts within the Chino Basin without the need for mitigation. While cumulative development within the region may result in significant cumulative impacts related to area energy consumption, the potential for the proposed CBP to contribute to a cumulatively considerable contribution to such impacts has been minimized through the offset in energy consumption due to a reduction in imported water deliveries. Since this is an essential component of the CBP, no mitigation is required.

4.7.7 Unavoidable Significant Impacts

The programmatic evaluation of energy presented in the preceding analysis demonstrates that neither construction nor operation of individual projects under the proposed CBP would result in the wasteful, inefficient, or unnecessary consumption of energy resources; affect local and regional energy supplies; or conflict with or obstruct existing energy standards or a State or local plan for renewable energy or energy efficiency. Therefore, no unavoidable significant impact to energy would result from implementing the proposed CBP.

4.9 GREENHOUSE GASES / GLOBAL CLIMATE CHANGE

4.9.1 Introduction

This section assesses potential impacts to air quality from implementation of the Chino Basin Program (CBP). The *Inland Empire Utilities Agency Chino Basin Program Greenhouse Gas Technical Report* dated October 2021 was prepared by Woodard & Curran to evaluate the potential impacts related to greenhouse gas (GHG) emissions associated with construction and operation of the facilities proposed as part of the CBP. A copy of the Greenhouse Gas Technical Report is provided as Appendix 9 of Volume 2 to the ~~is~~ 2022 CBP FPEIR, which is presented as Appendix 1 to Volume 2 of this RDPEIR.[1] Much of the information provided in the following sections is abstracted directly from this technical report with minor edits.

These issues will be discussed below as set in the following framework:

- Introduction
- Environmental Setting: Greenhouse Gas Emissions
- Regulatory Setting
- Thresholds of Significance
- Potential Impacts
- Cumulative Impacts
- Unavoidable Adverse Impacts

The following references were used in preparing this Subchapter of the EIR:

- California Air Pollution Control Officers Association. 2010. "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." August. https://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/quantifying-greenhouse-gas-mitigation-measures.pdf?sfvrsn=0 (accessed October 2021).
- California Air Pollution Control Officers Association. 2021. California Emissions Estimator Model User's Guide version 2020.4.0. May 2021.
- California Air Resources Board. 2008. Climate Change Scoping Plan. Sacramento, CA. December 2008. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents (accessed September 2021).
- California Air Resources Board. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011. http://www.arb.ca.gov/regact/2012/leviiighg2012/levisor.pdf (accessed September 2021).
- California Air Resources Board. 2014. AB 32 Scoping Plan Website. Updated June 2014. http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm (accessed September 2021).
- California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).
- California Air Resources Board. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26, 2020. https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery (accessed September 2021).

[1] Where Appendices are referenced later in this Subchapter, it should be noted that the Appendices as well as the whole of the 2022 CBP PEIR are presented as Volume 2 to this RDPEIR.

- California Air Resources Board. 2021. "California Greenhouse Gas Emissions for 2000 to 2019 Trends of Emissions and Other Indicators." https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed September 2021).
- California Department of Food and Agriculture. 2021. "California Agricultural Statistics Review 2019-2020." https://www.cdfa.ca.gov/statistics/ (accessed September 2021).
- California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf (accessed September 2021).
- California Department of Water Resources. 2020. "Climate Action Plan." https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan (accessed October 2021).
- California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
- California Climate Change Center. 2006. Climate Scenarios for California.
- California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf (accessed September 2021).
- Carpinteria Valley Water District (CVWD). 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.
- Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland. 2007. Changes in Atmospheric Constituents and in Radiative Forcing. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf (accessed September 2021).
- Inland Empire Utilities Agency. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).
- Intergovernmental Panel on Climate Change. 2007. Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change
- Intergovernmental Panel on Climate Change. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Intergovernmental Panel on Climate Change. 2018. Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. https://www.ipcc.ch/sr15/ (accessed September 2021).
- Intergovernmental Panel on Climate Change. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf (accessed September 2021).
- National Aeronautics and Space Administration. 2021. "Global Climate Change – Vital Signs of the Planet – Sea Level." https://climate.nasa.gov/vital-signs/sea-level/ (accessed September

2021).
- National Highway Traffic Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed September 2021).
- National Oceanic and Atmospheric Administration. 2021. "Global Climate Report for Annual 2020." State of the Climate. January 2021. https://www.ncdc.noaa.gov/sotc/global/202013 (accessed September 2021).
- Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.
- Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
- South Coast Air Quality Management District. 2008. "Board Meeting Agenda No. 31: Interim CEQA Greenhouse Gas (GHG) Significance Threshold." October. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2 (accessed September 2021).
- South Coast Air Quality Management District. 2021. "Frequently Asked Questions: What is CalEEMod and
what is it used for?" http://www.aqmd.gov/home/rules-compliance/ceqa/air-qualityanalysis-handbook/frequently-asked-questions (accessed October 2021
- State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).
- United States Energy Information Administration. 2021. "California State Energy Profile." February 18, 2021. https://www.eia.gov/state/print.php?sid=CA (accessed October 2021).
- United States Environmental Protection Agency. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. April 2021. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed September 2021).
- Verma, Ram, electronic communication. 2016. "GHG for SWP." May 13.
- World Meteorological Organization. 2013. A summary of current and climate change findings and figures: a WMO information note. March 2013. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU (accessed September 2021).
  World Meteorological Organization. 2020. "Greenhouse Gases." https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse%20gases (accessed September 2021).

No comments pertaining to Greenhouse Gas ~~noise~~ were received at the Scoping Meeting held on behalf of the project. Two comment letters specific to this topic were received in response to the Notice of Preparation.

Comment Letter #4 from the South Coast Air Quality Management District (SCAQMD) (dated 10/12/21) states:

- *Staff recommends that the IEUA use South Coast AQMD's CEQA Air Quality Handbook and website as guidance when preparing the air quality and greenhouse gas analyses.*
- *It is also recommended that the IEUA use the CalEEMod land use emissions software*
- *In the event that the project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Several resources to assist the IEUA with identifying potential mitigation measures for the project include:*
  - *South Coast AQMD's CEQA Air Quality Handbook*
  - *South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan*
    Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

Comment Letter #7 from the Orange County Water District (OCWD) (dated 10/14/21) states:

- *OCWD states that the EIR should analyze and quantify the greenhouse gas emissions by accounting for the CBP's impact on Southern California's total imported water needs.*

Responses to these comments can be found in Subsection 2.2.1 in the Introduction provided as Chapter 2 to this RDPEIR. Additionally, most responses point to text that can be found in this Subchapter.

4.9.2 Environmental Setting: Greenhouse Gas Emissions

4.9.2.1 Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record, which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed a high degree of confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century.[2]

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (United States Environmental Protection Agency [U.S. EPA] 2020).

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its

[2] IPCC. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than CO_2 on a molecule per molecule basis.[3, 4]

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler.[5] However, since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity.[6] GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

4.9.2.2 Greenhouse Gas Emissions Inventory

Global Emissions Inventory

Worldwide anthropogenic emissions of GHGs were approximately 49,000 million metric tons (MMT) of CO_2e in 2010. Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO_2 was the most abundant, accounting for over 75 percent of total 2010 emissions. Methane emissions accounted for 16 percent, while N_2O and fluorinated gases accounted for 6 percent and 2 percent respectively.[7]

United States Emissions Inventory

Total United States (U.S.) GHG emissions were 6,558 MMT of CO_2e in 2019. Emissions decreased by 1.7 percent from 2018 to 2019; since 1990, total U.S. emissions have increased by an average annual rate of 0.06 percent for a total increase of 1.8 percent between 1990 and 2019. The decrease from 2018 to 2019 reflects the combined influences of several long-term trends, including population changes, economic growth, energy market shifts, technological changes such as improvements in energy efficiency, and decrease carbon intensity of energy fuel choices.

[3] The IPCC's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, modeling of GHG emissions was completed using the California Emissions Estimator Model version 2020.4.0, which uses a GWP of 25 for methane, consistent with the IPCC's (2007) *Fourth Assessment Report*. (IPCC. 2007. Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.)
[4] IPCC. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf (accessed September 2021).
[5] World Meteorological Organization. 2020. "Greenhouse Gases." https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse%20gases (accessed September 2021).
[6] Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland. 2007. Changes in Atmospheric Constituents and in Radiative Forcing. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf (accessed September 2021).
[7] IPCC. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

In 2019, the industrial and transportation end-use sectors accounted for 30 percent and 29 percent, respectively, of nationwide GHG emissions while the commercial and residential end-use sectors accounted for 16 percent and 15 percent of nationwide GHG emissions, respectively, with electricity emissions distributed among the various sectors.[8]

California Emissions Inventory

Based on the California Air Resource Board's (CARB) California Greenhouse Gas Inventory for 2000-2019, California produced 418.2 MMT of CO_2e in 2019. The major source of GHG emissions in California is the transportation sector, which comprises 40 percent of the State's total GHG emissions. The industrial sector is the second largest source, comprising 21 percent of the State's GHG emissions while electric power accounts for approximately 14 percent.[9] The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate, which reduces energy consumption for heating and cooling as compared to other states with more extreme weather variations.[10] In 2016, through implementation of stringent GHG emission reduction policies (see further discussion in **Section 4.6.2, Regulatory Setting**), the State of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MMT of CO_2e.[11] The annual 2030 statewide target emissions level is 260 MMT of CO_2e.[12]

4.9.2.3 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2011 to 2020 was approximately 0.82°C higher than the average GMST for the 20th century.[13] Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global

[8] U.S. EPA. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. April 2021. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed September 2021).
[9] CARB. 2021. "California Greenhouse Gas Emissions for 2000 to 2019 Trends of Emissions and Other Indicators." https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed September 2021).
[10] United States Energy Information Administration. 2021. "California State Energy Profile." February 18, 2021. https://www.eia.gov/state/print.php?sid=CA (accessed October 2021).
[11] CARB. 2021. "California Greenhouse Gas Emissions for 2000 to 2019 Trends of Emissions and Other Indicators." https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed September 2021).
[12] CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).
[13] National Oceanic and Atmospheric Administration. 2021. "Global Climate Report for Annual 2020." State of the Climate. January 2021. https://www.ncdc.noaa.gov/sotc/global/202013 (accessed September 2021).

warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC, 2018).[14, 15]

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years. In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the State and regionally-specific climate change case studies.[16] However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.5 to 5.8°F in the next 50 years and by 5.6 to 8.8°F in the next century.[17] Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain (see **Subchapter 4.4, Air Quality**, for a discussion of the health and environmental effects of ozone pollution). In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the State has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains. In Southern California, the average size of summertime non-Santa Ana based fires has significantly increased from 1,129 hectares in the 1960s to 2,121 hectares in the 2000s.[18] If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could tend to temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them.[19]

Water Supply

Analysis of paleoclimatic data (such as tree-ring-based reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California

[14] IPCC. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
[15] IPCC. 2018. Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. https://www.ipcc.ch/sr15/ (accessed September 2021).
[16] State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).
[17] Ibid.
[18] Ibid.
[19] California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf (accessed September 2021).

and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common.[20] The uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the Central and Southern California coasts.[21] The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the proportion of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in Central and Northern California will decline by approximately 66 percent from its historical average by 2050.[22]

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding. The number of atmospheric rivers (regions of high water vapor transport from the tropics to the Pacific Coast that produce intense topographic-induced precipitation along southern California mountain ranges) is expected to increase in the future, resulting in an extended flood hazard season.[23] Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from coastal flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.6 millimeters per year, more than double the twentieth century trend of 1.6 millimeters per year.[24, 25] Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 0.25 to 0.94 meter by 2100 (IPCC 2018). A rise in sea levels could erode 31 to 67 percent of Southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure. Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.[26]

[20] California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf (accessed September 2021).
[21] State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).
[22] Ibid.
[23] Ibid.
[24] National Aeronautics and Space Administration. 2021. "Global Climate Change – Vital Signs of the Planet – Sea Level." https://climate.nasa.gov/vital-signs/sea-level/ (accessed September 2021).
[25] World Meteorological Organization. 2013. A summary of current and climate change findings and figures: a WMO information note. March 2013. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU (accessed September 2021).
[26] State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).

Agriculture

California has an over $50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts.[27] Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks.[28] Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality.[29]

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on global and local scales. Soil moisture is likely to decline in many regions as a result of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage.[30, 31]

4.9.3 Regulatory Setting

The following regulations are applicable to greenhouse gas emissions.

4.9.3.1 International

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nation's Framework Convention on Climate Change (Convention)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

[27] California Department of Food and Agriculture. 2021. "California Agricultural Statistics Review 2019-2020." https://www.cdfa.ca.gov/statistics/ (accessed September 2021).
[28] State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).
[29] California Climate Change Center. 2006. Climate Scenarios for California.
[30] Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.
[31] State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).

International Climate Change Treaties

The Kyoto Protocol is an international agreement linked to the Convention. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014 more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;

- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a).

On November 4, 2019, the Trump administration formally notified the U.N. that the United States would withdraw from the Paris Agreement. It should be noted that withdrawal would be effective one year after notification in 2020.

4.9.3.2 Federal

The following subsections summarize the main federal and State regulations applicable to GHG emissions. Details on other federal and State GHG regulations can be found in Section 3.1 of the Greenhouse Gas Technical Report contained in Appendix 9 of Volume 2 ~~to this DPEIR~~.

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* 549 U.S. 497, 127 S. Ct. 1438 [2007]) that the U.S. EPA has the authority to regulate motor vehicle GHG emissions under the Federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (537 U.S. 392, 134 S. Ct. 2427 [2014]), the U.S. Supreme Court held the U.S. EPA may not determine whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit under the Federal Clean Air Act based on the level of GHG emissions generated by the source. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the U.S. E.PA and the National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The SAFE Rule Part One revokes California's authority to set its own GHG emissions standards and to adopt its own zero-emission vehicle mandates. On April 30, 2020, the U.S. E.PA and the National Highway Traffic Safety Administration published Part Two of the SAFE Vehicles

Rule, which revised corporate average fuel economy and CO_2 emissions standards for passenger cars and trucks of model years 2021 to 2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards.[32] To account for the effects of the SAFE Vehicles Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model.[33]

4.9.3.3 State

CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. There are numerous regulations aimed at reducing the State's GHG emissions. These initiatives are summarized below. For more information on the Senate and Assembly Bills, executive orders, building codes, and reports discussed below, and to view reports and research referenced below, please refer to the following websites: https://www.energy.ca.gov/data-reports/reports/californias-fourth-climate-change-assessment, www.arb.ca.gov/cc/cc.htm, and https://www.dgs.ca.gov/BSC/Codes.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the U.S. EPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allowed California to implement more stringent vehicle emission standards than those promulgated by the U.S. EPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.[34] However, as a result of the Federal SAFE Vehicles Rule discussed above, California's waiver of Clean Air Act preemption was revoked, thereby rescinding the CARB's authority to implement the Advanced Clean Cars program.

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHG emissions to meet the 2020 deadline. In

[32] National Highway Traffic Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed September 2021).
[33] CARB. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26, 2020. https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery (accessed September 2021).
[34] CARB. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011. http://www.arb.ca.gov/regact/2012/leviiighg2012/levisor.pdf (accessed September 2021).

addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO_2e, which was achieved in 2016. The CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others.[35] Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval. The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.[36]

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050. As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.[37]

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), approved by the governor on September 30, 2008, and effective January 1, 2009, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was

[35] CARB. 2008. Climate Change Scoping Plan. Sacramento, CA. December 2008. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents (accessed September 2021).
[36] CARB. 2014. AB 32 Scoping Plan Website. Updated June 2014. http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm (accessed September 2021).
[37] CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).

assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 19 percent reduction in per capita GHG emissions from passenger vehicles by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements. On September 3, 2020, the SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS entitled Connect SoCal, which meets the requirements of SB 375.

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statues of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

As a result, the CARB adopted the Short-Lived Climate Pollutant Reduction Strategy in 2017 and has initiated implementation. SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. CalRecycle has initiated the rulemaking process for these regulations with the proposed regulation text submitted to the Office of Administrative Law in October 2020.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

California Building Standards Code

Title 24 of the California Code of Regulations (CCR) is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2019 Title 24 standards. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

Part 6 – Building Energy Efficiency Standards/Energy Code

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2019 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers (Tiers I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;[38]
- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle (EV) charging stations in newly constructed attached garages for single-family and duplex dwellings ("EV ready"); and
- Designation of at least ten percent of parking spaces for multi-family residential developments as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment ("EV capable").

The voluntary standards require:

- **Tier I:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste with third-party verification, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste with third-party verification, 15 percent recycled content for building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar reflective roof.

California Integrated Waste Management Act (Assembly Bill 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation

[38] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified by CALGreen or a reduced per-plumbing-fixture water use rate.

schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995 through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000.

4.9.3.4 Regional

SCAQMD

The Chino Basin lies within the jurisdiction of the SCAQMD. On December 5, 2008, the SCAQMD Board approved interim CEQA GHG significance thresholds for stationary sources, rules, and plans using a tiered approach for determining significance. No additional guidance has been issued since the release of this interim guidance in 2008. Although the SCAQMD Board has not since approved the thresholds as a permanent rule, they can serve as useful guidance for lead agencies as they set their own significance thresholds. The thresholds are structured in tiers, which are summarized below:

- Tier 1 consists of evaluating whether or not the project qualifies for an applicable exemption under CEQA. If the project qualifies for an exemption, no further action is required. If the project does not qualify for an exemption, it would move to Tier 2.
- Tier 2 consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan or climate action plan. The GHG reduction plan must meet the minimum requirements further detailed in the interim guidance, which include compliance with AB 32 GHG reduction goals, analysis under CEQA, inclusion of GHG inventory tracking and monitoring provisions, and others. If the project is consistent with the qualifying local GHG reduction plan, project impacts related to GHG emissions are not significant. If the project is not consistent with a local GHG reduction plan, if there is no approved local GHG reduction plan, or if the local GHG reduction plan does not include all of the required components, the project would move to Tier 3.
- Tier 3 establishes screening significance thresholds and is the primary tier the SCAQMD Board uses for determining the significance of project impacts related to GHG emissions when it is the lead agency. The SCAQMD has set a screening significance threshold of 10,000 MT of CO_2e per year for determining whether a stationary source project would have a less-than-significant cumulative GHG impact. The threshold recommended for new residential or commercial projects is 3,000 MT of CO_2e per year.
- Tier 4 provides three compliance options for the lead agency based on performance standards. These include: reducing Business-As-Usual (BAU) emissions by a certain percentage, which is currently undefined; achieving early compliance with AB 32 through early implementation of CARB's Scoping Plan Measures; and establishing sector-based performance standards. If the performance standards or the compliance options in Tier 4 cannot be achieved, a project's GHG emissions would be considered significant.
- Tier 5 includes off-site mitigation to reduce a project's GHG emissions to below the applicable screening threshold.[39]

If the project includes stationary sources of emissions (such as emergency backup generators), SCAQMD permits may be required for construction and operation. Permitted equipment would be subject to applicable SCAQMD rules and regulations. SCAQMD Regulation XXVII addresses climate change with the following rules:

[39] SCAQMD. 2008. "Board Meeting Agenda No. 31: Interim CEQA Greenhouse Gas (GHG) Significance Threshold." October. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2 (accessed September 2021).

- Rule 2700 provides definitions of key terms and background information on global warming potential of various gases.
- Rule 2701 establishes the SoCal Climate Solutions Exchange, a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG reductions within SCAQMD's jurisdiction.
- Rule 2702 establishes a GHG Reduction Program under which SCAQMD funds projects through contracts in response to requests for proposals or purchase reductions from other parties.

California Department of Water Resources Climate Action Plan

The Climate Action Plan is the California Department of Water Resources' (DWR) guide to addressing climate change in the programs, projects, and activities over which it has authority. The Climate Action Plan is divided into three phases to address mitigation, adaptation, and consistency in the analysis of climate change. Phase I is the GHG Emissions Reduction Plan, which lays out DWR's GHG emissions reduction goals for the near-term (present to 2030) and long-term (2030 to 2045). Phase II is the Climate Change Analysis Guidance, which develops a framework and guidance for consistent incorporation and alignment of the analysis of climate change impacts in DWR's project and program planning activities. Phase III, the Climate Change Vulnerability Assessment, describes, evaluates, and quantifies the vulnerabilities of DWR's assets in business to potential climate change impacts. Phase III also includes an Adaptation Plan to help prioritize resiliency efforts. DWR's GHG emission reduction targets are consistent with State targets, and the near-term goal is to reduce GHG emissions to at least 60 percent below 1990 levels by 2030. The long-term goals for 2045 are to supply 100 percent of electricity load with zero-carbon resources and achieve carbon neutrality.

DWR's Phase I GHG Emissions Reduction Plan sets construction emissions thresholds to distinguish between typical construction projects and "extraordinary construction projects." Typical construction projects can rely on the Climate Action Plan for streamlined CEQA review. Extraordinary construction projects are not eligible for streamlined review if the project emits more than 25,000 MT of CO_2e in total during the construction phase of the project, or if the project emits more than 12,500 MT of CO_2e in any single year of construction. These thresholds represent the level of GHG emissions that, by themselves, could potentially adversely affect DWR's ability to achieve its GHG emissions reduction goals. DWR notes that these construction emissions thresholds are not established as thresholds of significance for CEQA purposes and should not be considered to constitute a determination by DWR that these thresholds are generally applicable as thresholds of significance for CEQA purposes. To demonstrate consistency with DWR's Climate Action Plan, projects must complete a series of steps, including quantifying GHG emissions from the project using DWR internal guidance, incorporating all project-level GHG emissions reduction measures listed in Chapter VI of the Climate Action Plan (or explaining why measures that have not been incorporated do not apply to the project), determining that the project does not conflict with DWR's ability to implement any of the specific project-level GHG emissions reduction measures listed in Chapter VI, and obtaining additional review if the project would increase energy demands of the State Water Project (SWP) system by 15 gigawatts per year or more. Required project-level GHG emissions reduction measures focus on implementation of best management practices and compliance with existing regulations. The reduction measures aim to reduce GHG emissions from construction projects by minimizing fuel use by construction

equipment, reducing fuel consumption for transportation of construction materials, reducing the amount of landfill material, and reducing emissions from the production of cement.[40]

4.9.3.5 Local

IEUA has voluntarily reported and verified its GHG emissions since 2013 and adopted a Climate Change Action Plan (CCAP) in 2019, which sets GHG emission reduction goals. IEUA aims to balance regional sustainability efforts with environmentally conscious energy management strategies to identify projects and objectives that holistically address climate change efforts. The CCAP's GHG reduction goals are listed below:

- Reduce GHGs to AB 32 Levels: IEUA will follow AB 32 standards using the oldest emission baseline data available to reduce GHG levels to 2007 levels by 2020, 40 percent below 2007 levels by 2030, and 80 percent below 2007 levels by 2050.
- Strive toward Carbon Neutrality: IEUA's current renewable portfolio is capable of meeting approximately 50 percent of the agency-wide power needs. Increasing this capacity will reduce IEUA's impact on climate change and enhance environmental sustainability.
- Report GHG Emissions: IEUA will continue to report GHG emissions across all facilities to The Climate Registry. Rather than focusing on lowering IEUA's direct GHG emissions, potential projects will be evaluated on their potential to reduce global GHG emissions.
- Increase Energy Efficiency: Optimizing facility processes and retrofitting equipment can result in less power demand on the electrical grid.
- Reduce Methane Emissions: IEUA will strive toward optimizing resource recovery by pursuing projects that beneficially use the methane generated in the digestion process as a renewable source of heat and/or power generation.
- Renewable Energy Credits: In the event where meeting an 80 percent reduction by 2050 is not possible from the utilization of renewable resources, IEUA plans to purchase renewable energy credits.

The CCAP also establishes goals and objectives to guide development of future projects. IEUA has identified key areas that should be addressed to create a resilient water and wastewater management system that also contributes to GHG emission reductions. These goals and objectives are listed below:

- Goal: Maximize recycled water production and usage.
    - Objective: Expand infrastructure at IEUA sites, within the region, or surrounding areas to enhance capabilities for end user application, storage, or groundwater replenishment of recycled water.
    - Objective: Upgrade and/or modernize facilities to ensure effective water treatment and continued compliance with all regulatory requirements.
- Goal: Maintain health of the groundwater aquifer.
    - Objective: Improve stormwater capture through improvements to the groundwater replenishment system infrastructure.
    - Objective: Enhance groundwater replenishment capabilities within the Chino Basin through infrastructure upgrades.
    - Objective: Treat groundwater effectively to remove harmful contaminants and ensure a healthy aquifer.
    - Objective: Protect the groundwater quality by properly maintaining and upgrading infrastructure to prevent system failures that may contaminate the groundwater.

[40] DWR. 2020. "Climate Action Plan." https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan (accessed October 2021).

  - Objective: Enhance storage capabilities of storm, recycled, or imported water through expansion of existing infrastructure or collaboration with surrounding water systems.
- Goal: Maximize system efficiencies.
  - Objective: Improve energy efficiencies at IEUA facilities.
  - Objective: Develop water use efficiency and/or conservation programs within the region.
  - Objective: Strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources
- Goal: Measure performance.
  - Objective: Report GHG emissions annually through The Climate Registry.
  - Objective: Track key performance indicators for recycled, storm, and imported water usage within IEUA's management system.

The CCAP does not include thresholds of significance for GHG emissions from IEUA's projects or establish mechanisms for the review of GHG emissions of specific projects.[41]

4.9.4 Thresholds of Significance

According to Appendix G, Section XIII, of the CEQA Guidelines, a project would have a significant effect related to GHG emissions if the project would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

4.9.4.1 Construction

IEUA has not developed numerical thresholds based on a baseline GHG inventory that can be used to evaluate whether construction emissions associated with buildout of the CBP would conflict with achieving the statewide 2030 goal of reducing GHG emissions by 40 percent below 1990 levels. As discussed in **Section 4.9.3.3, Regulatory Setting: Regional**, the SCAQMD published interim CEQA GHG significance thresholds for stationary sources in 2008 and set a screening significance threshold of 10,000 MT of CO_2e per year for determining whether a stationary source project would have a less than significant cumulative GHG impact.[42] However, this threshold was adopted before the statewide 2030 GHG reduction targets were set and is intended to evaluate whether a project would be consistent with the 2020 target of reducing statewide GHG emissions to 1990 levels by 2020. The SCAQMD has not yet proposed or adopted thresholds for GHG reduction targets beyond 2020. Therefore, to determine whether emissions from construction of CBP facilities would hinder the GHG emission reductions required on a statewide basis to achieve the 2030 target, this analysis utilizes an approximated SCAQMD screening threshold for 2030. An annual GHG emission level of 6,000 MT of CO_2e would be 40 percent lower than the 10,000 MT of CO_2e threshold that the SCAQMD previously set to evaluate a project's consistency with reducing statewide GHG emissions to 1990 levels. This threshold is

[41] IEUA. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).
[42] SCAQMD. 2008. "Board Meeting Agenda No. 31: Interim CEQA Greenhouse Gas (GHG) Significance Threshold." October. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2 (accessed September 2021).

utilized to evaluate the significance of construction-related emissions associated with buildout of the CBP.

4.9.4.2 Operation

For the purposes of analyzing operational impacts, the proposed CBP would have a significant impact if it would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment by not meeting its fair share of GHG reductions required on a statewide basis by 2030 or by failing to procure its electricity from carbon-neutral electricity sources by 2045.

4.9.5 Potential Impacts

This section evaluates the potential impacts of the proposed CBP related to GHG emissions.

4.9.5.1 Methodology

Construction

GHG emissions from construction of individual projects under the CBP were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0, consistent with guidance from the SCAQMD.[43] In July 2021, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of CalEEMod version 2020.4.0, which incorporates the latest vehicle emissions standards, construction fleet mix standards, and other applicable regulations. This model has been used to calculate construction-source GHG emissions from on-site and off-site (i.e., mobile) sources.

Model inputs were developed based on information in **Chapter 3, Project Description**, and default values from the CalEEMod computer program. CalEEMod requires the selection of a land use type, but has limited choices for them (e.g., residential, commercial, industrial, educational, recreational, retail, and parking). The selection of "Industrial - Refrigerated Warehouse, No Rail" as a land use type for the AWPF, wells, pump stations, and wellhead treatment facilities allows for project-specific entries for energy use, construction equipment, and construction vehicle trips. The selection of "Parking - Other Asphalt Surfaces" for the pipelines and turnouts allows for project-specific entries on demolition, construction equipment, construction vehicle trips, and resurfacing and does not have model default operational energy usage or ongoing vehicle trips. The selection of "Industrial - Unrefrigerated Warehouse, No Rail" for the storage tank allows for project-specific entries for construction equipment and vehicle trips, site grading, and facilities construction without model default operational energy usage or ongoing vehicle trips. It was assumed that construction of all individual projects under the CBP would commence in 2025 and would proceed through the start of operations of the AWPF in 2028. It was also assumed individual projects implemented under the CBP would incorporate construction best management practices that are required by State law, such as compliance with the State's Portable Equipment Registration Program, CARB's Regulation for In-Use Off-Road Diesel Vehicles, CARB's Regulation of In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles, and Title 13 California Code of Regulations Section 2449(d)(3) and Section 2485. Outputs from the model runs are provided

[43] SCAQMD. 2021. "Frequently Asked Questions: What is CalEEMod and what is it used for?" http://www.aqmd.gov/home/rules-compliance/ceqa/air-qualityanalysis-handbook/frequently-asked-questions (accessed October 2021).

in Attachment A of the Greenhouse Gas Technical Report included as Appendix 9 of Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR~~.

Operation

Operational GHG emissions associated with the CBP were estimated based on energy consumption estimates from similar projects in Southern California. Based on these similar projects, it was assumed individual projects implemented under the proposed CBP would consume the following quantities of energy each year for operation:[44, 45]

- Injection well: 5 kilowatt-hours (kWh) per AF per well
- Extraction well: 100 kWh per AF per well
- AWPF: 1,665 kWh per AF
- Pump station: 600 kWh per AF
- Wellhead Treatment Facilities: 10 kWh per AF
- Brine treatment and disposal: 625 kWh per AF

A portion of the electricity demand of the AWPF (the most energy-consuming component of the CBP) may be supplied from existing on-site renewable energy sources at RP-4, such as the one-megawatt (MW) wind turbine and the 1.5-MW battery. However, for the purposes of this analysis, it was conservatively assumed that energy demands would be fully met by electricity supplied by Southern California Edison (SCE).[46] SCE has achieved a 38 percent renewable portfolio and is on track to achieve 60 percent renewables by 2030.[47] SCE's current carbon intensity factor is 390.983 pounds of CO_2 per megawatt-hour (MWh), 0.033 pounds of nitrous oxide per MWh, and 0.004 pounds of methane per MWh, which equates to approximately 0.178 MT of CO_2e per MWh.[48] This carbon intensity factor for electricity was used to estimate GHG emissions from operation of CBP facilities and is considered conservative given the downward trend in carbon intensity of electricity in California.

Projects implemented under the CBP are expected to be operational in 2028. At that time, the CBP would provide up to 50,000 acre-feet per year (AFY) of advanced treated water to Metropolitan in dry or critically dry years. In return, up to 50,000 AFY of SWP water that would otherwise have been exported would be stored in Lake Oroville and used to enhance instream flows in the Feather River. By precluding the need for the export of 50,000 AF of SWP water, the CBP would result in energy savings and an associated reduction in indirect GHG emissions in each year this occurs. The amount of electricity required to supply, treat, and distribute water in Southern California is approximately 11.111 MWh per million gallons, or 3.612 MWh per acre-foot (AF).[49] The GHG emissions from the SWP are approximately 0.15 MT of CO_2e per megawatt-

[44] Carpinteria Valley Water District (CVWD). 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.
[45] Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
[46] CBP facilities would not require natural gas consumption.
[47] California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
[48] CAPCOA. 2021. California Emissions Estimator Model User's Guide version 2020.4.0. May 2021.
[49] CAPCOA. 2010. "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." August. https://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/quantifying-greenhouse-gas-mitigation-measures.pdf?sfvrsn=0 (accessed October 2021).

hour (MWh).[50] Thus, in years when the proposed CBP precludes the import of 50,000 AF of SWP water, it would avoid the generation of approximately 27,154 MT of CO_2e associated with operation of the SWP.

During the response to comments process, IEUA was made aware that Orange County Water District (OCWD) believes that the loss of excess flow to the Santa Ana River (SAR) as a result of implementation of the CBP (totaling about 16,000 AFY of diversions from the SAR), to which it has no water right, will require it to purchase a greater amount of State Water Project (SWP; on a 1:1 basis, i.e. for every 1 AF diverted from the SAR, OCWD would be required to purchase 1 AF from the SWP) and that this purchase will result in greater energy use and GHG emissions. IEUA maintains that it is not appropriate to assume that for each of the 16,000 AFY diverted from the SAR as a result of the CBP, it would require a commensurate amount of water specifically from the SWP, as other, more reliable alternative water sources are available to OCWD, such as natural flows in the River or recycled water purchased from the Upper Watershed market. The means by which OCWD ultimately sources its water supply may change as drought conditions become more common; furthermore, as drought conditions persist per MWD's general manager in a press release dated December 1, 2021.

"While Southern California's diverse supply portfolio means other parts of our region can turn to water from the Colorado River and local sources during this time, the dramatic reduction of our Northern California supplies means we all must step up our conservation efforts. Earlier this year, Gov. Newsom asked all Californians to voluntarily reduce their water use by 15 percent…. Climate change is creating a new normal. Looking ahead, we need to increase our investments in water efficiency, recycling and storage.…We need our state and federal partners to help accelerate these investments through a coordinated strategy for resilient, integrated and balanced water management."

While MWD may not be able to expect an annual SWP allocation, there are other sources that may be dispersed to meet demand across Southern California. However, alternative sources of water, such as recycled water, desalination, water efficiency, improved water storage, and increased wastewater generation due to growth are becoming more important to be able to meet demand across Southern California. Given the above, IEUA maintains that it is speculative for OCWD to presume that CBP operations would directly lead OCWD to require reliance solely on imported water to replace reduced baseflow volumes. IEUA agrees that some imported water may be required to replace the reduced baseflow volumes that would occur as a result of implementation of the CBP, but to what extent imported water will be required is speculative for the reasons outlined above.

Reliance on recycled water from the Upper Watershed market would not increase energy costs, as the infrastructure to deliver water to the SAR is already in place and is operable. As such, there would be no commensurate increase in GHG emissions resulting from energy use. Another alternative is that OCWD could turn to a desalinization plant system on the Pacific Ocean to obtain a new reliable source of water. To minimize GHG emissions, OCWD could construct solar or wind facilities with a battery backup system to offset the energy required to operate such a facility. Net GHG and criteria air pollutant emissions would then be minimal. Furthermore, it is likely that should such a system be developed, GHG minimization would be required under the current legislation (e.g. SB 32 and AB 32), and thus integrated into project design. The benefit of both of these alternatives is that they are ostensibly more reliable than future water deliveries by the

[50] Verma, Ram, electronic communication. 2016. "GHG for SWP." May 13.

SWP, and additionally, would not require a great amount of energy producing GHG emissions to implement and therefore would not generate substantial GHG emissions. Thus, the analysis provided below does not account for additional energy demand in light of the above, given the speculative nature of determining the energy required to obtain the source or sources of water OCWD might ultimately utilize to meet demand as a result of the diversion of water that would occur under the CBP.

Similarly, as described in Subchapter 2.3, Scope and Content of this EIR, and under Subchapter 1.2, Project Background, this analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time and further would be evaluated as part of future master planning efforts. This relates to this Greenhouse Gas analysis in that it would be speculative to address the GHG emissions generated by project operation beyond the proposed 25-year conjunctive use project as proposed herein, and therefore, this analysis focuses on the operational activities and GHG emissions impacts thereof that are anticipated to occur for the first 25 years of the project.

Impact Analysis

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions
Construction of individual projects under the CBP would generate GHG emissions associated with operation of off-road construction equipment, worker and vendor vehicle trips, and truck hauling trips. Estimated annual construction-related GHG emissions are summarized in **Table 4.9-1**. As shown therein, construction activities associated with buildout of the CBP would generate approximately 16,906 MT of CO_2e in total, or approximately 5,635 MT of CO_2e per year on average over the approximately three-year construction period. Average annual GHG emissions in each year of construction of the CBP between 2025 and 2027 would be lower than the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year. However, given that annual emissions would exceed the 6,000 MT of CO_2e in the most intensive year of construction activities (2027), construction-related GHG emissions impacts would be potentially significant, even with the implementation of MM **GHG-1**.

Table 4.9-1
CONSTRUCTION-RELATED GHG EMISSIONS

Construction Year	MT of CO_2e/year
2025	3,842
2026	5,670
2027	7,394
Total	**16,906**
Average Annual	**5,635**

MT = metric tons; CO_2e = carbon dioxide equivalents
Source: Appendix 9, Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR GHG~~

In addition, as discussed in **Section 4.9.3.4, Regulatory Setting: Local**, DWR has identified screening levels to evaluate construction projects' GHG emissions, which are 25,000 MT of CO_2e in total during the construction phase of a project and 12,500 MT of CO_2e in any single year of project construction. These screening thresholds are set at the levels that aim to aid DWR's progress towards achieving its GHG emission reduction goals.[51] Based on the results shown in **Table 4.9-1**, the total construction phase GHG emissions and average single-year GHG emissions associated with buildout of the CBP would be well below DWR's screening level thresholds. However, as noted in **Section 4.9.3.4, Regulatory Setting: Local**, these screening thresholds are not established as thresholds of significance for CEQA purposes. Therefore, they are presented here for comparison purposes only.

The IEUA has chosen to incorporate the following GHG emission reduction measures identified by the CAPCOA in its 2010 report, *Quantifying Greenhouse Gas Mitigation Measures*, into CBP construction activities, as defined in Mitigation Measure (MM) **GHG-1**:[52]

- Use alternative fuels for construction equipment;
- Use electric and hybrid construction equipment;
- Limit construction equipment idling beyond regulation requirements;
- Institute a heavy-duty off-road vehicle plan; and
- Implement a construction vehicle inventory tracking system.

However, since we do not know to what extent these measures will be sufficient to reduce construction emissions below the SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year, it is not possible to ensure that this significant construction-related impact would be avoided. As such, MM **GHG-1** shall be implemented to minimize construction-related impacts to the greatest extent feasible. As discussed previously, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. As such, while MM **GHG-1** would minimize impacts to the greatest extent feasible, construction-related impacts from implementation of the proposed CBP would be potentially significant.

[51] DWR. 2020. "Climate Action Plan." https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan (accessed October 2021).
[52] CAPCOA. 2010. "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." August. https://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/quantifying-greenhouse-gas-mitigation-measures.pdf?sfvrsn=0 (accessed October 2021).

Operational Emissions

The CBP would also require the consumption of energy for treatment, conveyance, injection, and extraction of water supplies as well as maintenance activities, which would generate GHG emissions. Energy consumption from use of the groundwater monitoring wells would be negligible. In addition, the storage reservoir, pipelines, and turnouts would not directly consume energy because water would be pumped into and through these facilities directly from wells or through booster pump stations. Furthermore, although long-term operation of individual projects implemented under the CBP would involve occasional vehicle trips for operations and maintenance of the facilities, these emissions are assumed to be negligible because CBP facilities would be largely monitored remotely. As a result, CBP facilities would require no more than an average of five to six vehicle trips per day for inspections, testing, and maintenance, and these trips would largely be incorporated into existing operations and maintenance activities. Therefore, this analysis focuses on evaluating GHG emissions associated with energy consumption by the proposed pump stations, injection wells, extraction wells, wellhead treatment facilities, and AWPF (including brine treatment and disposal).

The annual GHG emissions of the CBP would depend on whether it is operating during a call year or a non-call year as well as the current renewable energy portfolio of SCE. During call years, the CBP would extract, pump, and convey up to 50,000 AFY from the Chino Basin; treat and inject up to 15,000 AFY of purified water into the Chino Basin; treat approximately 9,000 AFY of water at the wellhead treatment facilities; and dispose of approximately 1,167 AFY of water via the brine disposal line. In addition, the CBP would offset up to 50,000 AFY of imported water from the SWP during call years. During non-call years, the CBP would extract, pump, and convey up to 10,000 AFY from the Chino Basin; treat and inject up to 15,000 AFY of purified water into the Chino Basin; treat approximately 9,000 AFY of water at the wellhead treatment facilities; and dispose of approximately 1,167 AFY of water via the brine disposal line. However, it would not offset imported SWP water.

Table 4.9-2 presents the net change in baseline GHG emissions associated with the CBP during call and non-call years, as well as for the duration of the proposed 25-year water transfer agreements, assuming conservatively that electricity procured for CBP facilities consists of approximately 38 percent of renewable energy (consistent with SCE's current renewables portfolio). Over time, SCE, along with other electricity providers in California, will increase its renewable energy procurement to 60 percent by 2030 and 100 percent by 2045 in accordance with SB 100. As a result, GHG emissions associated with energy consumption by CBP facilities would decrease over the 25-year term of the proposed water transfer agreements as compared to the estimates provided in **Table 4.9-2**. In addition, GHG emissions associated with the provision of SWP imports would decrease as the percentage of electricity supplied by renewable energy resources for operation of SWP infrastructure increases in compliance with SB 100.

Table 4.9-2
OPERATIONAL GHG EMISSIONS

Scenario	Annual CBP Emissions (MT of CO_2e/year)	Annual Offset SWP Emissions (MT of CO_2e/year)	Net Change in Baseline Emissions (MT of CO_2e/year)	Number of Years during Water Transfer Agreement	Total Emissions (MT of CO_2e)
Call Years – SCE Current Renewables Portfolio (38%)	11,401	(27,154)	(15,753)	7.5	(118,148)
Non-call Years – SCE Current Renewables Portfolio (38%)	6,435	0	6,435	17.5	112,613
				TOTAL	**(5,535)**

AFY = acre-feet per year; MT = metric tons; CO_2e = carbon dioxide equivalents; SCE = Southern California Edison
Source: Appendix 9, Volume 2 of the 2022 CBP FPEIR ~~to this DPEIR~~

As shown in **Table 4.9-2**, under a call year scenario in which SCE has its current portfolio of 38 percent carbon-neutral electricity sources, the CBP would emit an estimated 11,401 MT of CO_2e, which would be less than the approximately 27,154 MT of CO_2e per year of GHG emissions offset by precluding the need for imported SWP water. Therefore, in this scenario, the CBP would result in a net decrease of approximately 15,753 MT of CO_2e in that year. Under a non-call year scenario in which SCE has its current portfolio of 38 percent carbon-neutral electricity sources, the CBP would emit an estimated 6,435 MT of CO_2e. During these non-call years, the energy requirements and associated GHG emissions of the CBP would not be offset by precluding the import of SWP water. In total, operation of the CBP would result in a net reduction in GHG emissions of approximately 5,535 MT of CO_2e (including the reduction from offsetting SWP imports) over the 25-year term of the proposed water transfer agreements.

As stated in **Section 4.9.4, Thresholds of Significance**, for the purposes of CEQA, the GHG emissions associated with CBP operation would result in a significant impact if the CBP would not meet its fair share of GHG reductions required on a statewide basis by 2030 or if it would fail to procure its electricity from carbon-neutral electricity sources by 2045. By procuring electricity from SCE, which is on-track to achieve 60 percent renewables by 2030, the CBP would not generate indirect GHG emissions associated with electricity consumption that exceed the statewide 2030 target.[53] Furthermore, if IEUA were to use its own renewable energy facilities to partially or fully supply the electricity demand of CBP facilities, it would accelerate efforts toward achieving a carbon-neutral electricity supply. Therefore, operation of the CBP would meet its fair share of GHG reductions required to achieve the statewide 2030 GHG reduction target, and impacts would be less than significant.

According to SB 100, the Renewables Portfolio Standard requires California to obtain 100 percent of its electricity from carbon-neutral sources by 2045. Although it is projected that SCE would have a 100 percent carbon-neutral power supply by 2045, it is speculative to determine with complete certainty whether this will be achieved in the future. Likewise, it is speculative to

[53] California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).

determine whether IEUA will achieve its goal of carbon neutrality for all its facilities in the next 15 years. Although the CBP would result in a net reduction in total GHG emissions over the 25-term of the proposed water transfer agreements as compared to existing baseline conditions (see **Table 4.9-2**), the CBP's electricity consumption itself may not be carbon-neutral because GHG emissions may still be generated in both call and non-call years due to the use of electricity supplied from non-renewable energy resources by 2045. As a result of the uncertainty surrounding the future power mix and energy demands of the proposed CBP, the CBP would potentially fail to procure its electricity from carbon-neutral electricity sources by 2045. Therefore, the long-term, indirect impacts of the CBP's operational GHG emissions would be potentially significant in both call and non-call years. Implementation MM **GHG-2** would be required.

Level of Significance Before Mitigation: Potentially Significant.

Mitigation Measures:

GHG-1 ***IEUA shall implement all feasible GHG reduction measures during construction. These may include, but should not be limited to, the following measures identified in the CAPCOA 2010 report, Quantifying Greenhouse Gas Mitigation Measures:***

- ***Use alternative fuels for construction equipment***
- ***Use electric and hybrid construction equipment***
- ***Limit construction equipment idling beyond regulation requirements***
- ***Institute a heavy-duty off-road vehicle plan***
- ***Implement a construction vehicle inventory tracking system***

GHG-2 ***IEUA shall implement all feasible GHG reduction measures during operations. These may include, but should not be limited to, the following measures identified in the CAPCOA 2010 report, Quantifying Greenhouse Gas Mitigation Measures:***

- ***Exceed Title 24 Building energy efficiency standards***
- ***Procure 100 percent renewable electricity from Southern California Edison, a community choice aggregation program, and/or other on-site and off-site renewable energy systems***
- ***Utilize electric or hybrid vehicles and/or encourage operations and maintenance employees to carpool or otherwise commute using a method other than a single-occupancy fossil-fuel powered vehicle***

Level of Significance After Mitigation: Significant and Unavoidable.

Cumulative Impact Analysis

Impacts related to GHG emissions are, by definition, cumulative impacts because they affect the worldwide accumulation of GHGs in the atmosphere. Because the effects of climate change are currently occurring (as described in **Section 4.9.2.3, Potential Effects of Climate Change**), the cumulative worldwide and statewide effects of GHG emissions are significant. For the analysis of impacts related to GHG emissions, CEQA focuses on whether the incremental contribution of a proposed project is cumulatively considerable and thus significant in and of itself. As discussed previously, construction-related GHG emissions would exceed the approximated SCAQMD threshold in the most intensive year of construction (2027). In addition, there may not be sufficient renewable energy resources available to fully supply the electricity demand of the CBP by 2045 consistent with the State's long-term carbon neutrality goals. Although the CBP would result in a net reduction in total GHG emissions over the 25-term of the proposed water transfer agreements as compared to existing baseline conditions (see **Table 4.9-2**), the CBP's electricity consumption itself may not be carbon-neutral because GHG emissions may still be generated in both call and non-call years due to the use of electricity supplied from non-renewable energy resources by

2045. As a result, the CBP would potentially hinder the State's 2030 and long-term GHG emission reduction goals, and its GHG emissions would thus be cumulatively considerable.

Furthermore, the proposed CBP would result in a reduction in surplus flows to the Santa Ana River (SAR). While IEUA would continue to meet their baseflow obligations to the SAR, and is projected to exceed their baseflow obligations to the SAR even with the proposed diversions of recycled water from IEUA, WRCRWA, and Rialto, the proposed CBP would probably result in a reduction in surplus flows to the SAR. IEUA is aware that Orange County Water District (OCWD) currently recharges essentially all baseflow of the SAR water discharged from the Prado Dam, and understands that it may also rely on the surplus flows that IEUA has contributed to the SAR in recent years. Given the above, the proposed CBP could have a potential to reduce surplus flows to the SAR, which OCWD may rely on as a contribution to their overall groundwater supply required to meet their service area demand. OCWD has indicated that it may need to increase the volume of imported water purchased in order to replace any reduction in SAR baseflow on a 1:1 basis, i.e. for every 1 AF diverted from the SAR, OCWD would be required to purchase 1 AF from the SWP. However, as stated under Subsection 4.9.5.1, Methodology, IEUA maintains that it is not appropriate to make this assumption, as other, more reliable alternative water sources are available to OCWD, such as natural flows in the River, recycled water, desalination, water efficiency, improved water storage, and increased wastewater generation due to growth. The means by which OCWD ultimately sources its water supply may change as drought conditions become more common.

While IEUA's modeling of the CBP suggests that the CBP would not result in a violation of the baseflow obligation to the SAR (refer to Subchapter 4.11, Hydrology and Water Quality, and the Addendum to the Technical Memorandum prepared by West Yost provided as Appendix 4 to Volume 2 of the 2022 CBP FPEIR ~~of this DPEIR~~), if OCWD has come to rely on surplus flows and would require alternative source of water to supplement their supply as a result, the annual energy emissions that would be offset by precluding the need for imported SWP water by the CBP may be overestimated from a cumulative perspective.

From a project specific perspective, the CBP would result in a net offset of energy emissions by precluding the need for imported SWP water over the 25 year program. However, from a cumulative perspective, if the CBP would result in OCWD requiring an increase in alternative sources of water due to reduced surplus flows to the SAR, the cumulative energy demand could ~~would~~ be increased, but the extent to which this circumstance would result in an increase in energy, and thereby an increase in GHG emissions, cannot be quantified because the exact source of water that OCWD would pursue is unknown. As stated above, the least cost-prohibitive, and most energy minimizing approach would be for OCWD to purchase recycled water from the Upper Watershed market. OCWD could also pursue desalination, water efficiency, and improved water storage, the construction of which would likely be more energy efficient and emissions minimizing than utilizing imported water to supplement their supply. Nevertheless, as determined above, the CBP would contribute cumulatively considerable GHG emissions as a result of the CBP's electricity consumption itself, which may not be carbon-neutral by 2045, thereby potentially hindering the State's 2030 and long-term GHG emission reduction goals. Thus, regardless of the possible need for OCWD to pursue alternative sources of water to meet demand as a result of the proposed SAR diversions by the CBP, the CBP would contribute to a cumulatively considerable GHG impact that cannot be mitigated.

Although GHG emissions generated by construction and operation of the proposed CBP would result in a significant and unavoidable impact under CEQA for the aforementioned reasons, the

CBP would support the State's effort to adapt to climate change by developing new local water supplies that beneficially reuse wastewater and avoid imported water from the SWP. The CBP is a necessary improvement to mitigate the impacts of climate change on water supply reliability, especially during critically dry years, which are expected to increase in frequency and intensity due to climate change. As the climate changes, the State must adapt to climate change by improving water management resilience to account for warmer temperatures and declining snowpack. New facilities built under the CBP would help manage water supply variability, thereby stabilizing water reliability in areas with limited water supply.

*Cumulative Measures: Implementation of Mitigation Measures **GHG-1** and **GHG-2** is required.*

Level of Significance After Mitigation: Significant and Unavoidable

b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

CARB 2017 Climate Change Scoping Plan
The 2017 Scoping Plan focuses primarily on reducing GHG emissions that result from mobile sources, land use development, and stationary industrial sources. The CBP would not involve a considerable increase in new vehicle trips or land use changes that would result in an increase in vehicle trips, such as urban sprawl, and it does not include new stationary industrial sources of GHG emissions. The 2017 Scoping Plan also recognizes that about two percent of the total energy consumption in California is related to water conveyance. As a result, the 2017 Scoping Plan calls for "increased water conservation and efficiency, improved coordination and management of various water supplies, greater understanding of the water-energy nexus, and deployment of new technologies in drinking water treatment, groundwater remediation and recharge, and potentially brackish and seawater desalination."[54] By augmenting local water supplies, the CBP would offset energy demands associated with imported water supplies in furtherance of this goal of the 2017 Scoping Plan. Therefore, the CBP would not conflict with the 2017 Scoping Plan, and no impact would occur.

IEUA CCAP
The IEUA CCAP sets GHG emission reduction goals for IEUA operations, which are listed in **Section 4.9.3.4, Regulatory Setting – Local**. By nature, the CBP directly supports the CCAP goals to maximize recycled water production and storage and maintain the health of the groundwater aquifer as well as the associated objectives to expand recycled water infrastructure and enhance groundwater replenishment capabilities within the Chino Basin. In addition, as shown in **Table 4.9-2**, operation of the CBP would result in a net reduction in GHG emissions over the 25-year term of the proposed water transfer agreements. The CBP also includes components that intentionally lower the power demand on the electrical grid, such as the potential inclusion of in-conduit hydropower facilities at certain locations of the potable water distribution system where energy can be produced in conjunction with reducing system pressure. Furthermore, during call years, the CBP would offset imported water from the SWP, which would save energy and preclude SWP-related GHG emissions. The CBP would also incorporate the use of available on-site renewable energy sources at RP-4, including the 1-MW wind turbine and 1.5-MW battery, to supply part of the energy demand of CBP facilities, if possible. Moreover, the CBP

[54] ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed September 2021).
[54] CARB. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).

may use energy generated by the 2.5-MW solar array at the Inland Empire Regional Composting Facility (IERCF). Therefore, the CBP would also support the CCAP objective to strive for carbon neutrality through implementation of renewable power generation and beneficial use of resources. Accordingly, the CBP would not conflict with the CCAP, and no impact would occur.

Level of Significance Before Mitigation: Less than Significant.

Mitigation Measures: None required.

Level of Significance After Mitigation: Less Than Significant.

Cumulative Impact Analysis

As discussed under threshold (a), impacts related to GHG emissions are, by definition, cumulative impacts because they affect the worldwide accumulation of GHGs in the atmosphere. Because the effects of climate change are currently occurring (as described in **Section 4.9.2,3, Potential Effects of Climate Change**), the cumulative worldwide and statewide effects of GHG emissions are significant. For the analysis of impacts related to GHG emissions, CEQA focuses on whether the incremental contribution of a proposed project is cumulatively considerable and thus significant in and of itself. The CBP would be consistent with many of the goals of applicable State and local plans and programs, which are designed to reduce the cumulative impact of GHG emissions. Therefore, the contribution of the CBP to cumulative impacts related to consistency with applicable plan, policy or regulation adopted for the purpose of reducing the GHG emissions would not be cumulatively considerable.

Mitigation Measures: None required.

Level of Significance After Mitigation: Less Than Significant.

4.9.6 Cumulative Impacts

Impacts related to GHG emissions are, by definition, cumulative impacts because they affect the worldwide accumulation of GHGs in the atmosphere. Because the effects of climate change are currently occurring (as described in **Section 4.9.2,3, Potential Effects of Climate Change**), the cumulative worldwide and statewide effects of GHG emissions are significant. For the analysis of impacts related to GHG emissions, CEQA focuses on whether the incremental contribution of a proposed project is cumulatively considerable and thus significant in and of itself. The CBP would be consistent with many of the goals of applicable State and local plans and programs designed to reduce GHG emissions and would result in a net reduction in GHG emissions over the 25-year term of the proposed water transfer agreements (see **Table 4.9-2**). As discussed previously, construction-related GHG emissions would exceed the approximated SCAQMD threshold in the most intensive year of construction (2027). In addition, although the CBP would result in a net reduction in total GHG emissions as compared to existing baseline conditions, the CBP's electricity consumption itself may not be carbon-neutral because GHG emissions may still be generated in both call and non-call years due to the use of electricity supplied from non-renewable energy resources by 2045. As a result, the CBP would not meet the State's long-term GHG emission reduction goal of carbon neutrality, and its GHG emissions would thus be cumulatively considerable. As discussed previously, implementation of MM **GHG-2** would reduce the energy usage of CBP facilities and increase the percentage of electricity supplied to CBP facilities by renewable energy resources. Nevertheless, implementation of this mitigation measure may not fully mitigate project impacts if IEUA is not able to supply the remaining electricity demand of CBP

facilities from carbon-neutral electricity sources by 2045 or otherwise mitigate CBP operational emissions. Therefore, impacts would be significant and unavoidable.

Furthermore, as stated above, from a cumulative perspective, if the CBP would result in OCWD requiring an increase in alternative sources of water due to reduced surplus flows to the SAR, the cumulative energy demand could be increased, but the extent to which this circumstance would result in an increase in energy, and thereby an increase in GHG emissions, cannot be quantified because the exact source of water that OCWD would pursue is unknown. As stated above, the least cost-prohibitive, and most energy minimizing approach would be for OCWD to purchase recycled water from the Upper Watershed market. OCWD could also pursue desalination, water efficiency, and improved water storage, the construction of which would likely be more energy efficient and emissions minimizing than utilizing imported water to supplement their supply. Nevertheless, as determined above, the CBP would contribute cumulatively considerable GHG emissions as a result of the CBP's electricity consumption itself, which may not be carbon-neutral by 2045, thereby potentially hindering the State's 2030 and long-term GHG emission reduction goals. Thus, regardless of the possible need for OCWD to pursue alternative sources of water to meet demand as a result of the proposed SAR diversions by the CBP, the CBP would contribute to a cumulatively considerable GHG impact that cannot be mitigated.

Although GHG emissions generated by construction and operation of the proposed CBP would result in a significant and unavoidable impact under CEQA for the aforementioned reasons, the CBP would support the State's effort to adapt to climate change by developing new local water supplies that beneficially reuse wastewater and avoid imported water from the SWP. The CBP is a necessary improvement to mitigate the impacts of climate change on water supply reliability, especially during critically dry years, which are expected to increase in frequency and intensity due to climate change. As the climate changes, the State must adapt to climate change by improving water management resilience to account for warmer temperatures and declining snowpack. New facilities built under the CBP would help manage water supply variability, thereby stabilizing water reliability in areas with limited water supply.

4.9.7 Unavoidable Significant Adverse Impacts

The programmatic evaluation of GHG emissions presented in the preceding analysis demonstrates that construction and operation of individual projects under the proposed CBP would generate GHG emissions that would have a significant impact on the environment. Implementation of MMs **GHG-1** and **GHG-2** would reduce GHG emissions associated with CBP construction and operational activities by reducing fossil fuel consumption, reducing the operational energy usage of CBP facilities, and increasing the percentage of electricity supplied to CBP facilities by renewable energy resources. Nevertheless, implementation of these mitigation measures may not fully mitigate project impacts if IEUA is not able to reduce construction-related GHG emissions below the threshold of significance, supply the remaining electricity demand of CBP facilities from carbon-neutral electricity sources by 2045, or otherwise mitigate CBP construction and operational emissions. Therefore, this impact would be significant and unavoidable.

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4.11 HYDROLOGY AND WATER QUALITY

4.11.1 Introduction

This Subchapter will evaluate the environmental impacts to the issue areas of Hydrology (watershed, drainage and flood hazards) and Water Quality from implementation of the proposed Chino Basin Program (CBP). This section will evaluate the available information about the background hydrology and water quality and forecast the type of impacts that may occur, including identification of mitigation measures that can ensure potential impacts from constructing and operating the various components of the CBP can be reduced to the minimum level achievable consistent with meeting project objectives.

The implementation of the facilities proposed as part of the CBP consists of construction and operation of the various facilities supporting the PUT (the components to recharge purified water to the Chino Basin) and TAKE cycles (the components to extract groundwater and convey potable water supply) that make up the CBP. These potential facilities are separated into four project categories: (1) Project Category 1: Well Development and Monitoring Devices; (2) Project Category 2: Conveyance Facilities and Ancillary Facilities; (3) Project Category 3: Storage Basins, Recharge Facilities, and Storage Bands; and, (4) Desalters and Water Treatment Facilities.

These issues pertaining to hydrology and water quality will be discussed below under the following framework:

- Introduction
- Environmental Setting: Hydrology and Water Quality
- Regulatory Setting
- Thresholds of Significance
- Potential Impacts
- Unavoidable Adverse Impacts

The following reference documents were used in preparing this section of the RDPEIR.

- California Regional Water Quality Control Board, Santa Ana Region. (2008). Water Quality Control Plan Santa Ana River Basin (Region 8) 1995. Updated February 2008.
- FEMA, Map Service Center, Accessed 10/6/21 at: https://msc.fema.gov/portal/home
- Pollock, D. (2016). *User guide for MODPATH Version 7—A particle-tracking model for MODFLOW: U.S. Geological Survey Open-File Report 2016-1086*.
- San Bernardino County, *San Bernardino Countywide Plan*, November 2, 2020
- Santa Ana River Watermaster. (2020). Forty Seventh Annual Report of the Santa Ana River Watermaster for Water Year October 1, 2018 – September 30, 2019. Prepared for Orange County Water District v. City of Chino, et al. Case No. 117628 – County of Orange
- Tom Dodson & Associates (TDA), *Optimum Basin Management Program Addendum No. 2*, March 2021. Prepared on behalf of Watermaster and IEUA. Accessible at: https://cbwm.syncedtool.com/shares/folder/9abb162877b999/?folder_id=1055
- West Yost. *2020 State of the Basin Report*. June 2021. (Appendix 10a, Volume 2 to the 2022 CBP FPEIR ~~this DPEIR~~)
- West Yost. *Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program.* October 15, 2021 (Appendix 4, Volume 2 the 2022 CBP FPEIR ~~this DPEIR~~)
- West Yost. *2020 Chino Basin Maximum Benefit Annual Report*. April 2021. (Appendix 10b, Volume 2 the 2022 CBP FPEIR ~~this DPEIR~~)
- Wildermuth Environmental, Inc., 1999. *Optimum Basin Management Program Phase I Report. Prepared for the Chino Basin Watermaster.*
- Wildermuth Environmental, Inc. 2003. *Optimum Basin Management Program, Chino Basin Dry-Year Yield Program, Preliminary Modeling Report, Chino Basin Watermaster.* July 2003.

- Wildermuth Environmental, Inc. 2007. *2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description*. Prepared for the Chino Basin Watermaster. November 2007.
- Wildermuth Environmental, Inc. 2013. *Optimum Basin Management Program 2012 State of the Basin Atlas*. Prepared for the Chino Basin Watermaster. June 2013.
- Wildermuth Environmental, Inc. 2014. *TIN/TDS: Recomputation of Ambient Water Quality in the Santa Ana Watershed for the Period 1993 to 2012*. Technical Memorandum. August 2014.
- Wildermuth Environmental, Inc. 2015. *Optimum Basin Management Program Chino Basin Maximum Benefit Annual Report*. Prepared for Chino Basin Watermaster April 2015.
- Wildermuth Environmental, Inc. 2018. 2018 Recharge Master Plan Update. Prepared for Chino Basin Watermaster and the Inland Empire Utilities Authority. September 2018.
- Wildermuth Environmental, Inc. 2020. *2020 Safe Yield Recalculation Report*. Prepared for the Chino Basin Watermaster. May 2020.

No comments pertaining to noise were received at the Scoping Meeting held on behalf of the project. Two comment specific to this topic were received in response to the Notice of Preparation.

Comment Letter #3 from the San Bernardino County Department of Public Works (dated 10/12/21) states:

- *Impacts associated with the project's occurrence in the Flood Zones mentioned and mitigation, should be discussed within the Draft EA prior to adoption by the IEUA.*
- *IEUA enforce, at a minimum, the most current FEMA regulations for construction within a Special Flood Hazard Area (SFHA) and coordinate the Project with the U.S. Army Corps. of Engineers (USACOE) within the Prado Dam Inundation area.*

Comment Letter #6 from the California Department of Fish and Wildlife (CDFW) (dated 10/14/21) states:

- *CDFW strongly encourages that future climate or demographic changes that will affect the sustainable management of a groundwater basin, as well as environmental uses and the hydrologic links between surface and groundwater be incorporated.*
- *CDFW recommends that IEUA utilize the Basin Technical Advisory Committee (BTAC) findings and continue to collaborate to ensure groundwater and surface water impacts are adequately evaluated and considered.*

Responses to these comments can be found in Subsection 2.2.1 in the Introduction provided as Chapter 2 to this RDPEIR. Additionally, most responses point to text that can be found in this Subchapter.

Information contained in this Subchapter is supported by the "Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program" and the "Addendum to the Evaluation of the Chino Basin Program/ Water Storage Investment Program," both dated October 15, 2021 and prepared by West Yost (West Yost TM). The West Yost TM and Addendum are provided as Appendix 4, Volume 2 to the ~~is~~ 2022 CBP FPEIR, which is presented as Appendix 1 to Volume 2 of this RDPEIR.[1].

[1] Where Appendices are referenced later in this Subchapter, it should be noted that the Appendices as well as the whole of the 2022 CBP PEIR are presented as Volume 2 to this RDPEIR.

4.11.2 Environmental Setting: Chino Basin Hydrology

The basic hydrology information presented herein is abstracted from the "2020 State of the Basin Report," (2020 Report) published in June 2021 by West Yost on behalf of the Chino Basin Watermaster (Watermaster). The 2020 Report is provided as Appendix 10a of Volume 2 to the 2022 CBP FPEIR ~~this DPEIR~~.

4.11.2.1 Precipitation

Precipitation is a major source of groundwater recharge for the Chino Basin through the deep infiltration of precipitation, applied water and stormwater recharge in streams and recharge facilities. The chart below shows the long-term annual precipitation time series. These annual precipitation estimates are based on the area average over the Chino Basin, created from gridded monthly precipitation estimates prepared by the PRISM Climate Group and covers the period 1895 through 2020. The annual precipitation estimates cover the fiscal year (FY) (July through June). The chart contains a horizontal line indicating the 125-year average annual precipitation of 16.4 inches, and it contains the cumulative departure from mean (CDFM) precipitation. The CDFM plot is a useful way to characterize the occurrence and magnitude of wet and dry periods: positive sloping segments (trending upward from left to right) indicate wet periods, and negative sloping segments (trending downward from left to right) indicate dry periods. The wet and dry periods are labeled at the bottom of the chart. On average, the ratio of dry years to wet years is about three to two. That is, for every ten years, about six years will experience below average precipitation and four years will experience greater than average precipitation. 1945 through 1976 was a 32-year dry period, punctuated by five years of above average precipitation: a dry-to-wet year ratio of about six to one. The period 1999 through 2020 was a 22-year dry period punctuated with six wet years: a dry-to-wet year ratio of about eight to three. Dry periods tend to be long and very dry and wet periods tend to relatively shorter and very wet (see for example 1936 through 1944, 1977 through 1985 and 1993 through 1998).

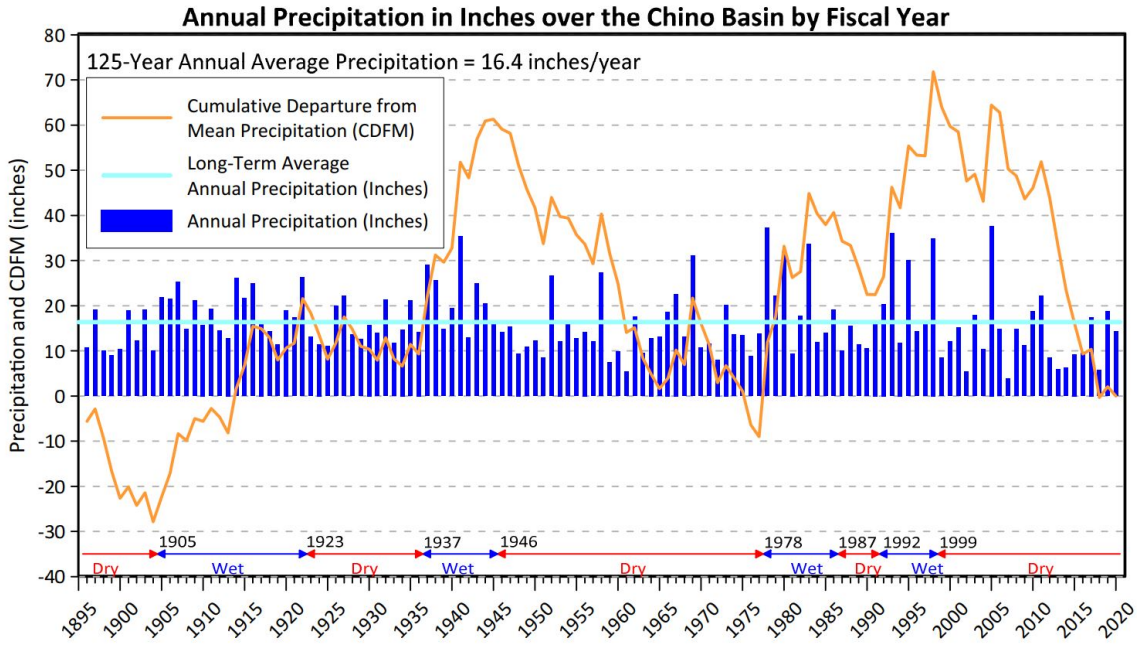


EXHIBIT 4.11-1: ANNUAL PRECIPITATION IN INCHES OVER THE CHINO BASIN BY FISCAL YEAR

4.11.2.2 Surface Water

Figure 4.11-1 shows the location of the Chino Basin within the Upper Santa Ana River watershed and the locations of two key stream-gaging stations in the Chino Basin. Daily discharge data measured at the USGS gaging stations on the Santa Ana River at MWD Xing (USGS Station 11066460) and at the Santa Ana River at Below Prado Dam (USGS Station 11074000) can be used to characterize the discharge of the Santa Ana River as it enters and exits the Chino Basin. Santa Ana River discharge is composed of storm flow and base flow. Storm flow is discharge that is the direct result of runoff from precipitation. Base flow is the difference between the total measured discharge and storm flow, and it primarily consists of discharge from wastewater treatment plants and rising groundwater. Specifically, the summary of the 1969 stipulated judgment[2,3] (Judgment) provides the definition of flows:

> "Storm Flow: That portion of the total flow which originates from precipitation and runoff and which passes a point of measurement (either Riverside Narrows or Prado Dam) without having first percolated to groundwater storage in the zone of saturation, calculated in accordance with procedures referred to in the Judgment."
>
> "Base Flow: That portion of the total surface flow passing a point of measurement (either Riverside Narrows of Prado Dam) which remains after deduction of storm flow, non-tributary flows, exchange water purchased by OCWD, and certain other flows as determined by the (Santa Ana River) Watermaster."

Figure 4.11-1 shows the locations of the USGS gaging stations and the wastewater treatment plant discharges. Base flow is a significant source of recharge to the Chino Basin. **Figure 4.11-1** also shows the annual discharge hydrographs for the Santa Ana River at MWD Xing and at Below Prado Dam. The annual discharge values have been divided into storm and base flows. The base flow time series tends to increase over time, following the conversion of land uses to urban and industrial, until the onset of the great recession in 2008. These land use conversions increased base flow because the urbanized land uses were sewered and the resulting treated wastewater was discharged to the River. After 2008, the base flow decline was caused by decreased water use due to recession and drought and the IEUA increased use of recycled water for direct and indirect uses, thereby reducing its treated wastewater discharges to the River.

Total Santa Ana River base flow entering the Chino Basin at the MWD Crossing (Riverside Narrows) has exceeded 50,000 acre feet per year (AFY) since 1983 except from 1991 to 1995 and from 2009 to 2020. Part of the decrease in base flow at the Riverside Narrows after 2009 is due to a decrease in treated wastewater discharge to the River upstream and falling groundwater levels in the groundwater basins underlying the Santa Ana River upstream, the combined effect of which is a decrease in rising groundwater just upstream of the MWD Crossing.

[2] The Santa Ana River was adjudicated in the 1960s, and a stipulated judgment was filed in 1969 (OCWD v. City of Chino et al., Case No. 117628, County of Orange). Since the Judgment was filed, the Santa Ana River Watermaster (SARWM) has compiled annual reports.

[3] In 2002, recognizing that implementing the recycled water reuse program would require large-scale treatment and mitigation of salt loading under the then-current antidegradation objectives for TDS and nitrate defined in the Basin Plan, the Watermaster and IEUA petitioned the Regional Board to establish a maximum benefit-based SNMP that involved (1) defining a new groundwater quality management zone that encompasses the northern parts of MZ-1, MZ-2 and MZ-3 called the Chino-North GMZ, (2) establishing TDS and nitrate objectives for the Chino-North GMZ to numerically higher values than established for MZ-1, MZ-2 and MZ-3 to enable maximization of recycled water reuse, and (3) committing to a program of salt and nutrient management activities and projects ("maximum benefit commitments") that ensure the protection of beneficial uses of the Chino-North GMZ and downgradient waters (the Santa Ana River and the Orange County GMZ). The technical work performed to support the maximum benefit SNMP proposal included the development and use of an analytical salt budget tool to project future TDS and nitrate concentrations in the Chino-North GMZ with and without the maximum benefit SNMP. The maximum benefit SNMP was incorporated into the Basin Plan by the Regional Board in January 2004.

Total Santa Ana River discharge exiting the Chino Basin at Below Prado Dam has exceeded 100,000 AFY since 1983 except from 2012 to 2018 and 2020. The base flow leaving the Chino Basin is about twice the base flow entering the Basin due to the combined treated wastewater treatment plant discharges of the cities of Corona and Riverside, the IEUA, and the West Riverside County Wastewater Reclamation Authority. The decrease in base flow exiting the Basin after 2005 is due to the decrease in baseflow entering the Basin at the Riverside Narrows, decreases in treated wastewater discharges due to water conservation and recycled water reuse, and increased streambed infiltration caused by increased groundwater production in the southern Chino Basin.

4.11.2.3 Surface Water Quality

The information summarized herein is from the 2020 Chino Basin Maximum Benefit Annual Report prepared by West Yost for the Watermaster and IEUA dated April 2021. The 2020 Chino Basin Maximum Benefit Annual Report is provided as Appendix 10b of Volume 2 to the 2022 CBP FPEIR ~~this DPEIR~~.

Groundwater generally flows from the forebay regions in the north and east toward the Prado Basin[4], where rising groundwater becomes surface water in the Santa Ana River and its tributaries. Recent and past studies have provided insight into the influence of groundwater pumping in the southern end of the Chino Basin on the Safe Yield of the Basin and the ability of pumping in this part of the Basin to control the discharge of rising groundwater to the Prado Basin and Santa Ana River. Several studies quantify the impacts of the groundwater desalters in the southern Chino Basin on groundwater discharge to the Prado Basin and the Santa Ana River. These studies also indicated that the Chino Basin Desalter program and a slight permanent decrease in Basin storage authorized in the Peace II agreement and approved by the Court will (i) capture groundwater flowing south from the forebay regions of the Chino Basin and (ii) reduce the outflow of high-salinity groundwater to the Santa Ana River, thereby providing greater protection of downstream beneficial uses.

The application of the maximum-benefit is contingent upon the implementation of specific projects and programs by the Watermaster and the IEUA. These projects and programs, termed the "Chino Basin maximum-benefit commitments," include "The achievement and maintenance of the "hydraulic control" of groundwater outflow from the Chino Basin, specifically from Chino-North, to protect Santa Ana River water quality and downstream beneficial uses."

Rising groundwater from the Chino Basin to the Santa Ana River consists of groundwater from Chino-North that flows past the Chino Creek Well Field (CCWF) well field and unpumped groundwater south of and outside the influence of the Chino Desalter well fields. Groundwater discharge from Chino-North to the Prado Basin Management Zone (PBMZ) is either pumped by wells, consumed by riparian vegetation in the PBMZ, or becomes rising groundwater and contributes to the Santa Ana River discharge at Prado Dam. Recent sampling since 2015 at monitoring wells in the PBMZ near the Santa Ana River shows TDS fluctuating from about 500 milligrams per liter (mgl) to 1,800 mgl, averaging less than 800 mgl.

The Santa Ana River Watermaster (SARWM) has compiled annual reports pursuant to the Judgment that contain estimates of significant discharges to the Santa Ana River, estimates of the storm flow discharge and base flow discharge of the river each water year, as well as the

[4] Prado Basin refers to the Basin that lies before the Prado Dam; the Prado Dam refers to the Dam itself as a point of location at which Santa Ana River flows are measured or quantified.

volume-weighted TDS concentration of discharge at the Riverside Narrows and at Prado Dam (see SARWM, 2020). **Exhibit 4.11-2** is a time-history chart of the annual discharge components in the Santa Ana River at Prado Dam and the associated annual volume-weighted TDS concentration as reported by the SARWM.

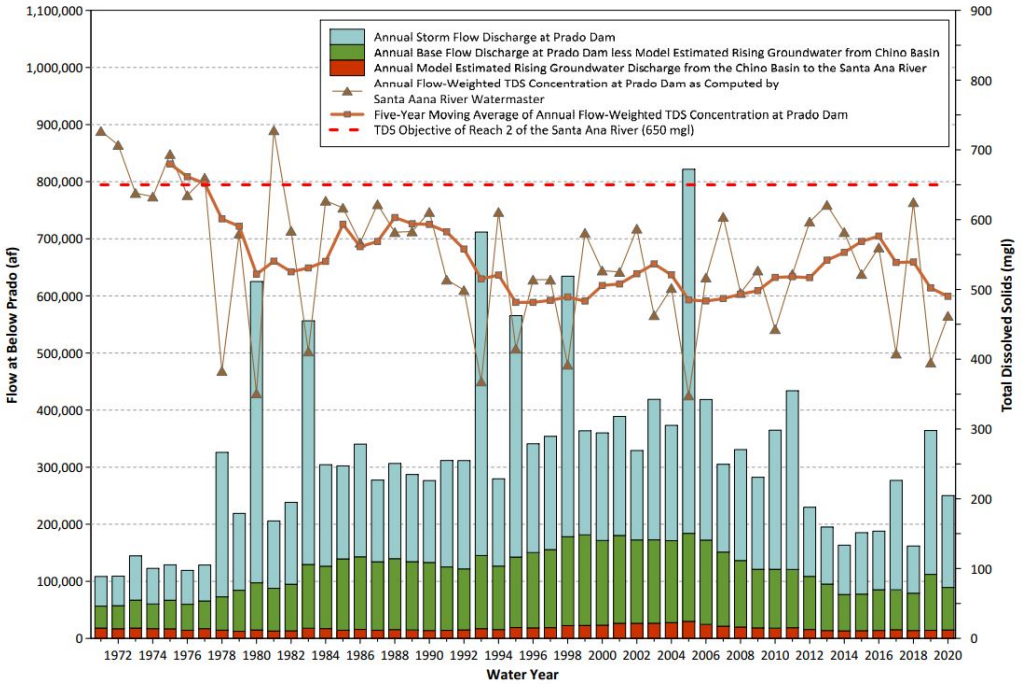


EXHIBIT 4.11-2: PRADO BASIN DISCHARGE DATA

The base flow discharge is represented by two bars: (i) the total rising groundwater discharge from the Chino Basin to the Santa Ana River estimated with the Watermaster's 2020 groundwater model update, and (ii) the SARWM estimate of base flow discharge at Prado Dam minus the rising groundwater from the Chino Basin component — the sum of these two terms equals the SARWM estimate of base flow discharge at Prado Dam. This figure also shows the five-year moving average of the annual flow-weighted TDS concentration of the Santa Ana River at Prado Dam (Reach 2 TDS metric), which is the metric the Regional Board uses to determine compliance with the Basin Plan TDS concentration objective of 650 mgl for Reach 2 of the Santa Ana River.[5] (Regional Board, 2008). Note that:

- Since about 1980, the annual estimates of the rising groundwater discharge from the Chino Basin to the Santa Ana River, which ranged from about 13,000 to 30,000 AFY. This ranges from about three percent of the total annual flow at Prado Dam during wet years to about 17 percent during dry years.
- Since about 1980, the Reach 2 TDS metric has ranged between 481 and 603 mgl and has not exceeded the TDS objective of Reach 2 of 650 mgl—even during extended dry periods when storm water dilution of the Santa Ana River is relatively small (e.g., water years 1984 through 1992, 1999 through 2004, and 2012 through 2016).
- The Reach 2 TDS metric increased continuously from water year 2006 to water year 2016, which coincides with a dry climatic period with a decrease in low-TDS stormwater flow and

[5] Reach 2 of the Santa Ana River spans from Prado Dam to 17th Street in Santa Ana.

a steady decrease in the volume of base flow discharge. The decrease in baseflow is mostly attributable to the decrease in wastewater discharges to the Santa Ana River.

- In water year 2020, the Reach 2 TDS metric was 490 mgl.

These observations suggest that the rising groundwater discharge from the Chino Basin to the Santa Ana River has had minimal impact on the flow and TDS concentration of the Santa Ana River since 1978 and has never contributed to an exceedance of the TDS objective for Reach 2.

From 2005 to 2015, the model-estimated groundwater discharge from Chino-North to the PBMZ, ranged from about 550 AFY to 740 AFY without CCWF operation, representing a small fraction of the total rising groundwater from Chino Basin to the Santa Ana River. It represents, on average, about four percent of the rising groundwater discharge from the Chino Basin to the Santa Ana River, and less than one percent of the total flow in the Santa Ana River at Prado Dam. In 2016, the CCWF commenced operation, further reducing the groundwater discharge from the Chino-North to the PBMZ to the de minimis threshold levels (less than 1,000 AFY). The model-projected groundwater discharge past the CCWF ranges from about 400 to 630 AFY in 2016 through 2020. This represents about three percent of the total rising groundwater discharge to the Santa Ana River from the Chino Basin, and less than one percent of the total flow in the Santa Ana River at Prado Dam.

The groundwater discharge from the Chino-North to the PBMZ that becomes rising groundwater discharge in the Santa Ana River has historically been small compared to total discharge in the Santa Ana River and has further decreased with the operation of the CCWF. Based on the behavioral and climatic trends observed since 2005, the Reach 2 TDS metric will likely continue to increase as other conditions that affect the flow and quality of the Santa Ana River change over time, such as the continued reduction of wastewater effluent discharges to the River, and/or an increase in the duration and frequency of dry periods due to climate change. Given that wastewater effluent discharges are projected to further decline, the maintenance of hydraulic control of Chino-North will become increasingly important to protecting the water quality of the Santa Ana River at Prado Dam and downstream beneficial uses.

4.11.2.4 Flood Hazards

Because of high evaporation and percolation rates associated with the surrounding soils and the climate, runoff from normal rainfall generally soaks into the ground quickly if it falls on permeable surfaces. However, during abnormally intense rainfall, localized flooding may occur with stormwater collecting in slight topographic lows or along streets due to the limited capacity of storm drains and collection systems and before being conveyed into regional stormwater facilities. Urban development within the Chino Basin resulted in greater stormwater runoff that is verified through the measured increase in volume of storm flow downstream of Prado Dam.

Under the Federal Emergency Management Agency (FEMA) National Flood Insurance Program has created Flood Insurance Rate Map (FIRM) panels that delineate flood hazard areas. The FEMA FIRM panels for the Chino Basin are provided in the technical appendices as figures. The FEMA FIRM panels, for the Chino Basin include the following:

These panels, where printed and available, are provided in Volume 2 of the 2022 CBP F~~D~~PEIR, Technical Appendices, Appendix 10c. The index maps provide the panel number for specific areas within each county, which if located within the Chino Basin are provided on the disc listed by panel number. By referencing these maps, it can be determined if proposed future projects

associated with the CBP will be located within flood hazard areas. Flood hazard areas are also shown in city and county General Plans (Safety Element) but these are not as accurate as the FEMA FIRM panels.

06037C1475F	06065C0683G	06071C8605H	06071C8635J	06071C8657H
06037C1725F	06065C0686G	06071C8606H	06071C8636J	06071C8658H
06037C1750F	06065C0687G	06071C8607H	06071C8637J	06071C8659H
06065C0018G	06065C0702G	06071C8608H	06071C8638H	06071C8665H
06065C0019G	06065C0705G	06071C8609J	06071C8639J	06071C8666H
06065C0038G	06071C7870J	06071C8615H	06071C8641J	06071C8667H
06065C0039G	06071C7883H	06071C8616H	06071C8642J	06071C8676J
06065C0667F	06071C7890J	06071C8617J	06071C8644H	06071C9330H
06065C0677G	06071C7895H	06071C8628J	06071C8651H	06071C9335H
06065C0678G	06071C7895J	06071C8629H	06071C8652H	06071C9345H
06065C0679G	06071C7915H	06071C8630J	06071C8653J	06071C9375H
06065C0681G	06071C7920H	06071C8633J	06071C8654H	06071C9616H
06065C0682G	06071C8600H	06071C8634J	06071C8656H	

4.11.2.5 Groundwater

The Chino Basin encompasses about a 235-square-mile area located in the upper Santa Ana River watershed. The Chino Basin is an alluvial valley that is relatively flat from east to west and slopes from the north to the south at a one to two percent grade. Elevations across the alluvial valley area range from about 2,000 feet in the foothills of the San Gabriel Mountains to about 500 feet near Prado Dam. The Chino Basin is bounded by: the San Gabriel Mountains and the Cucamonga Basin to the north; the Rialto-Colton Basin, Jurupa Hills, and the Pedley Hills to the east; the La Sierra area and the Temescal Basin to the south; and by the Chino and Puente Hills and the Pomona and Claremont Basins to the west.

The Chino Basin is one of the largest groundwater basins in Southern California. The 2000 Chino Basin Watermaster Optimum Basin Management Program (OBMP) EIR provides an estimate of groundwater in storage to be about 5,000,000 acre-ft of water and an unused storage capacity of about 1,000,000 acre-ft. More recent work by West Yost (formerly WEI) indicates the actual groundwater stored in the Chino Basin may be 12,000,000 acre-ft or greater (WEI, 2020). Cities and other water supply entities within the Basin produce groundwater for all or part of their municipal and industrial supplies; and about 300 to 400 agricultural users continue to produce groundwater from the Basin. The Chino Basin is an integral part of the regional and statewide water supply system. Prior to 1978, the Basin was in overdraft. After 1978, the Basin has been operated as prescribed in the Judgment and the OBMP.

While considered one Basin from geologic and legal perspectives, the Chino Basin can be hydrologically subdivided into at least five flow systems that act as separate and distinct hydrologic units (**Figure 4.11-2**). Each flow system can be considered a management zone, and the management zones delineated in the OBMP were determined based on these hydrologic units (WEI, 1999). Each management zone has unique hydrology, and water resource management activities that occur in one management zone has limited impacts on the other management zones.

The predominant sources of recharge to the Chino Basin are percolation of direct precipitation and returns from applied water. The following is a list of other potential sources of recharge:

- Infiltration of flow within unlined stream channels overlying the Basin
- Underflow from fractures within the bounding mountains and hills
- Artificial recharge of urban runoff, storm water, imported water, and recycled water at recharge Basins
- Underflow from seepage across the bounding faults, including the Red Hill Fault (from Cucamonga Basin), the San Jose Fault (from the Claremont Heights and Pomona Basins), and the Rialto-Colton Fault (from the Rialto-Colton Basin)
- Intermittent underflow from the Temescal and Spadra Basins

In general, groundwater flow mimics surface drainage patterns: groundwater flows from the forebay areas of high elevation (areas in the north and east flanking the San Gabriel and Jurupa Mountains) towards areas of discharge near the Santa Ana River within the Prado Flood Control Basin.

In detail, groundwater discharge throughout the Chino Basin primarily occurs via:

- Groundwater production
- Rising water within Prado Basin (and potentially other locations along the Santa Ana River, depending on climate and season)
- Evapotranspiration within Prado Basin (and potentially other locations along the Santa Ana River, depending on climate and season) where groundwater is near or at the ground surface
- Intermittent underflow to the Temescal Basin

Groundwater Monitoring

The OBMP established a comprehensive monitoring program for groundwater levels in the Chino Basin. This monitoring program has been refined over time to increase efficiency and to satisfy the evolving needs of the Watermaster and the IEUA, such as new regulatory requirements. **Figure 4.11-3** characterizes the current groundwater-level monitoring program in the Chino Basin.

The Watermaster also initiated a groundwater quality monitoring program in the Chino Basin through the OBMP. Watermaster routinely and proactively collects groundwater quality data from well owners that perform sampling at their own wells, such as municipal producers and government agencies. Groundwater-quality data are also obtained from special studies and monitoring that takes place under the orders of multiple outside agencies. These data are collected from well owners and monitoring entities twice per year. **Figure 4.11-4** shows the wells that have groundwater quality data in the period of July 2015 through June 2020.

Groundwater Pumping

Since its establishment in 1978, the Watermaster has collected information to estimate total groundwater production from the Chino Basin. The Watermaster Rules and Regulations require groundwater producers that produce in excess of 10 AFY to install and maintain meters on their well(s). Well owners that pump less than 10 AFY are considered “minimal producers” and are not required to meter or report to the Watermaster. When the 2000 OBMP was adopted, many of the Agricultural Pool wells did not have properly functioning meters installed, so the Watermaster initiated a meter installation program for these wells. Meters were installed at most agricultural wells by 2003. Watermaster staff visit and record production data from the meters at these wells on a quarterly basis. For the remaining unmetered Agricultural Pool wells, including minimal producer wells, the Watermaster applies a “water duty” method to estimate their production on an

annual basis. Members of the Appropriative Pool and Overlying Non-Agricultural Pool, and the Chino Desalter Authority (CDA) record their own meter data and submit them to Watermaster staff on a quarterly basis. All Chino Basin production data are checked for accuracy and stored in the Watermaster's relational database. The Watermaster summarizes and reports the groundwater production data based on FY (July 1 to June 30). The Watermaster uses reported production to quantify and levy assessments pursuant to the Judgment. **Figure 4.11-5** shows the locations of all active production wells, symbolized by Pool, in the Chino Basin during FY 2019/2020.

Exhibit 4.11-3 below, shows bar charts depicting the annual groundwater production by Pool for FY 1977/1978 through 2019/2020 as recorded in the Watermaster Database. Total annual groundwater production has ranged from a maximum of about 189,000 af during FY 2008/2009 to a minimum of about 123,000 af during FY 1982/1983 and has averaged about 153,000 AFY. Since FY 1977/1978, Agricultural Pool production has decreased about 72,000 af—declining in proportion to the decline in total production—from 55 percent of total production in FY 1977/1978 to 11 percent in FY 2019/2020. During the same period, Appropriative Pool production increased by about 56,000 af—from 39 percent of total production in FY 1977/1978 to 88 percent as of FY 2019/2020—inclusive of production at the CDA wells. Production in the Overlying Non-Agricultural Pool declined from about six percent of total production in FY 1977/1978 to two percent as of FY 2019/2020.

The spatial distribution of production has also shifted since 1978. **Figure 4.11-6** is a series of maps that illustrate the location and magnitude of groundwater production at wells in the Chino Basin for FYs 1977/1978 (Establishment of Watermaster), 1999/2000 (commencement of the OBMP), and 2019/2020 (current conditions).

The decline in agricultural production in the southern half of the Chino Basin has gradually been replaced by production at the CDA wells since FY 2000/2001. The CDA wells and treatment facilities were developed as part of the OBMP. The desalters are meant to enhance water supply reliability and improve groundwater quality in the Chino Basin. **Figure 4.11-7** displays the locations of current and future desalter wells and treatment facilities.

Artificial Recharge

The IEUA, Watermaster, the Chino Basin Water Conservation District, and the San Bernardino County Flood Control District are partners in the planning and implementation of projects to enhance groundwater recharge in the Chino Basin. **Figure 4.11-8** shows the existing and planned recharge facilities, which include recharge basins and Aquifer Storage and Recovery (ASR) wells. Recycled water recharge is a consistent source of artificial recharge in the Chino Basin, averaging 12,900 AFY over the period of FY 2016 through FY 2020. Imported water recharge fluctuates based on availability, need, recharge capacity, and other factors. Annual imported water recharge has varied from 0 to 35,000 AF.

Groundwater Levels

Figure 4.11-9 displays contours of equal groundwater elevation across the Chino Basin during the spring of 2020. The contours indicate that the regional groundwater flow is in a south-southwest direction from the primary areas of recharge in the northern parts of the Basin toward the Prado Basin in the south. There is a discernible depression in groundwater levels around the eastern portion of the Chino Basin Desalter well field, which demonstrates the achievement of Hydraulic Control in this area. This depression merged with the pumping depression around the JCSD well field to the east and increased the hydraulic gradient from the Santa Ana River toward

the desalter well field. Additionally, there continues to be a notable pumping depression in the groundwater-level surface in the northern portion of MZ1 (Montclair and Pomona areas).

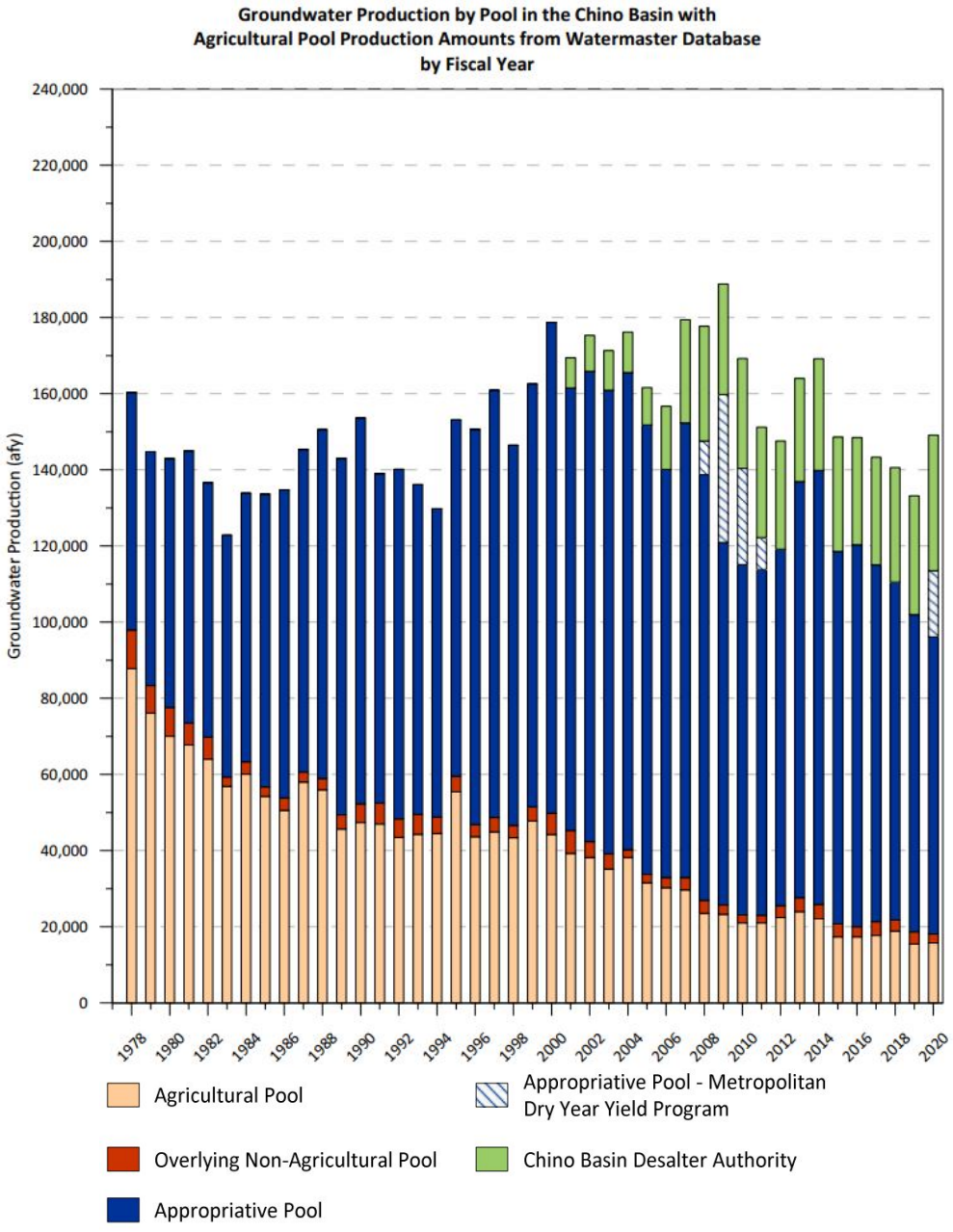


EXHIBIT 4.11-3: GROUNDWATER PRODUCTION BY POOL IN THE CHINO BASIN WITH AGRICULTURAL POOL PRODUCTION AMOUNTS FROM WATERMASTER DATABASE BY FISCAL YEAR

Changes in Groundwater Storage

Figure 4.11-10 shows the change in groundwater elevation during the 20-year period of spring 2000 to spring 2020. This map was created by subtracting a rasterized grid created from the groundwater elevations for spring 2000 from a rasterized grid created from the groundwater

elevations for spring 2020. Groundwater levels have increased in the western portion of the Basin. Groundwater levels have decreased in the central and eastern portions of the Basin, and around the eastern portion of the Chino Desalter well field in the south. The changes in groundwater elevation shown here are consistent with projections from the Watermaster's groundwater modeling efforts (WEI, 2003; 2007; 2014; 2015; 2020) that simulated the changes in the groundwater levels and flow patterns from the production and recharge strategies described in the Judgment, OBMP, Peace Agreement, and Peace II Agreement. These strategies include: desalter production in the southern portion of the Basin; controlled overdraft through Basin Re-Operation to achieve Hydraulic Control; subsidence management in MZ1; mandatory recharge of Supplemental Water in MZ1 to improve the balance of recharge and discharge; and facilities improvements to enhance the recharge of storm, recycled, and imported waters. The changes of groundwater levels are illustrative of changes in storage.

State of Hydraulic Control

Figure 4.11-11 illustrates how groundwater elevations and flow directions have changed in the southern Chino Basin after 20 years of pumping at the Chino-I Desalter well field and 14 years of pumping at the Chino-II Desalter well field. Pumping at the CCWF began in 2014. The groundwater elevation contours depict a regional depression in groundwater levels surrounding the Chino-II Desalter well field and the eastern half of the Chino-I Desalter well field (east of I-20). This regional depression suggests that groundwater flowing south in the Chino-North MZ is being captured and pumped by the desalter wells. Furthermore, the contours southeast of the desalter well field (east of Archibald Avenue) indicate that the Santa Ana River is recharging the Chino Basin and flowing northwest towards the desalter wells. These observations indicate that Hydraulic Control is achieved east of well I-20. West of I-20, the contours suggest that some groundwater flows past the desalter wells. Groundwater modeling has shown that pumping at the CCWF well field decreases the volume of groundwater flow past the desalter wells to less than 1,000 AFY, which the Regional Board defines as de minimis discharge. In 2017, pumping at the CCWF well field declined as well I-17 temporarily ceased operation due to a decrease in the maximum contaminant level for 1,2,3-TCP.

Groundwater Quality

The management of TDS and nitrate concentrations is essential to Watermaster's maximum benefit salt and nutrient management plan. In 2002, Watermaster proposed that the Regional Board adopt alternative maximum benefit water quality objectives for the Chino-North Maximum Benefit Groundwater Management Zone (GMZ) that were higher than the antidegradation water quality objectives for MZ1, MZ2, and MZ3. The proposed objectives were approved by the Regional Board and incorporated into the Basin Plan in 2004 (RWQCB, 2004). The maximum benefit objectives enabled Watermaster and the IEUA to implement recycled water recharge and reuse throughout the Chino Basin. The application of the maximum benefit objectives is contingent upon the implementation of specific projects and programs known as the "Chino Basin maximum benefit commitments." The commitments include requirements for Basin-wide monitoring of groundwater quality, and the triennial recomputation of ambient TDS and nitrate. They also require the development of plans and schedules for water quality improvement programs when current ambient TDS exceeds the maximum benefit objective or when recycled water used for recharge and irrigation exceeds the discharge limitations listed in the IEUA's recycled water discharge and reuse permits.

The ambient water quality (AWQ) of GMZs in the Santa Ana River watershed are computed on a triennial basis and compared with the groundwater-quality objectives defined in the Basin Plan to determine assimilative capacity for TDS and nitrate and to assess if waste discharge requirements

are protective of groundwater quality. AWQ represents the volume-weighted average constituent concentration for a GMZ and is derived from water quality statistics computed at wells based on a 20-year time-history of sample results.

In the Chino Basin, the Chino-North GMZ maximum-benefit objective is used as the measure of compliance to permit recycled water discharge and reuse. The Chino-North maximum-benefit objective is numerically higher than the individual anti-degradation objectives set for MZ1, MZ2, and MZ3. If Watermaster and the IEUA do not implement the specific projects and programs described in the Chino Basin maximum-benefit commitments (Table 5-8 in the Basin Plan), the individual anti-degradation objectives for each management zone will apply, and Watermaster and the IEUA will be required to mitigate TDS and nitrate loading from recycled water discharge and reuse above the anti-degradation objectives.

AWQ determinations have been made for seven 20-year periods: 1954-1973, 1978-1997, 1984-2003, 1987-2006, 1990-2009, 1993-2012 (WEI, 2000; 2005b; 2008a; 2011b; and 2014), 1996-2015 (DBS&A, 2017), and 1999-2018 (WSC, 2020). **Figures 4.11-12** and **4.11-13** show trends in the ambient water quality determinations for TDS and nitrate, respectively.

From 1973 to 2018, the ambient TDS increased from 260 to 350 mgl but remains below the maximum-benefit objective of 420 mgl; 70 mgl of assimilative capacity remains. When the current ambient TDS exceeds the maximum-benefit objective, there will be a mitigation requirement for the recharge and direct use of recycled water. Based on the current rate of increase in the ambient TDS concentration for the Chino North GMZ, assimilative capacity will likely exist until about 2033. In the Chino-East and Chino-South GMZs,[6] the current ambient TDS concentrations are greater than the objectives. However, since the TDS concentration of the recycled water reused by the Chino Basin parties in Chino-East and Chino-South GMZs is less than the antidegradation objectives of 730 and 680 mgl, respectively, there are no regulatory compliance challenges.

From 1973 to 2018, the ambient nitrate in Chino-North increased from 3.7 to 10.3 mgl and is currently above the maximum benefit objective of 5 mgl (**Figure 4.11-13**). To ensure recycled water recharge in the Chino-North GMZ complies with the maximum benefit objective, Watermaster and the IEUA must recharge low-nitrate imported and storm waters such that the 12-month, volume-weighted concentration of all recharge sources (storm water, recycled water, and imported water) is less than or equal to the maximum-benefit objective. In the Chino-East and Chino-South GMZs, the current ambient nitrate concentrations are two to three times greater than the antidegradation objectives of 10 mgl and have been increasing since 1973.

For all GMZs, the increase in ambient constituent concentrations is likely related to an increase in the data available to perform the calculations since the implementation of the OBMP monitoring programs, opposed to the actual degradation of water quality.

Ground-level Monitoring Program

Watermaster has implemented a comprehensive ground-level monitoring program to inform the management of land subsidence due to groundwater pumping in the Chino Basin. This program was developed in the OBMP as a response to measured land subsidence and surface fissuring in MZ-1. The ground-level monitoring program includes measurements of piezometric levels, aquifer-system deformation, vertical ground-motion, and horizontal ground-surface deformation.

[6] The boundaries of the Chino East and Chino South GMZs are identical to the OBMP MZs 4 and 5, respectively.

4.11.3 Regulatory Setting

There are certain regulations that also are used to evaluate the potential significance of impacts on hydrology and water quality. These issues are summarized in the following text.

4.11.3.1 Federal

Federal Clean Water Act
Pursuant to Section 404 of the Clean Water Act, the United States Army Corps of Engineers (ACOE) regulates discharges of dredged and/or fill material into waters of the United States. "Waters of the United States" are defined in ACOE regulations at 33 C.F.R. Part 328.3(a). Navigable waters of the United States are those waters of the United States that are navigable in the traditional sense. Waters of the United States is a broader term than navigable waters of the United States and includes adjacent wetlands and tributaries to navigable waters of the United States and other waters where the degradation or destruction of which could affect interstate or foreign commerce.

The Federal Clean Water Act (CWA) requires all states to conduct water quality assessments of their water resources to identify water bodies that do not meet water quality standards. The water bodies that do not meet water quality standards are placed on a list of impaired waters pursuant to the requirements of Section 303(d) of the CWA.

The Federal Clean Water Act and the State Porter-Cologne Water Quality Act, require Basin-wide planning. Additionally, the National Pollution Discharge Elimination System (NPDES), empowers the regional boards to set discharge standards, and encourages the development of new approaches to water quality management. As part of the NPDES program, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared for construction activities affecting greater than one acre because the discharge of stormwater during construction is considered a non-point source of water pollution.

The Chino Basin is located in the Santa Ana Regional Water Quality Control Board (RWQCB) jurisdiction.

In 1972, the Federal Water Pollution Control Act (Clean Water Act) was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge complies with a National Pollutant Discharge Elimination System (NPDES) permit. The Clean Water Act focused on tracking point sources, primarily from wastewater treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The Clean Water Act was amended again in 1987, adding Section 402(p), to provide a framework for regulating municipal and industrial storm water discharges. In November 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish requirements for specific categories of industries, including construction projects that encompass certain acreage, currently projects of one acre or larger.

National Pollutant Discharge Elimination System (NPDES) Program
As stated above, the NPDES permit program is administered in the State of California by the SWRCB and RWQCBs under the authority of the USEPA to control water pollution by regulating point sources that discharge pollutants into Waters of the US. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit

applies with same or similar conditions to all dischargers covered under the general permit. The proposed program would be covered under the general permits discussed below.

General Dewatering Permit

The SWRCB has issued General Waste Discharge Requirements (WDRs) under Order No. R8-2003-0061, NPDES No. CAG 998001 (Dewatering General Permit) governing non-stormwater construction-related discharges from activities such as dewatering, water line testing, and sprinkler system testing. The discharge requirements include provisions mandating notification, testing, and reporting of dewatering and testing-related discharges. The General WDRs authorize such construction-related discharges so long as all conditions of the permit are fulfilled. This permit would apply to the proposed program for the testing of the effluent pipelines and in the event that shallow perched groundwater is encountered during construction that requires dewatering.

Construction General Permit

The Construction General Permit NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects (LUP), including installation of water pipelines and other utility lines.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving offsite into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Industrial General Permit

The Industrial General Permit (IGP) became effective July 1, 2015 (Order No. 2014-0057-DWQ). The IGP covers ten broad categories of industrial activities, including sewage or wastewater treatment works that store, treat, recycle, and reclaim municipal or domestic sewage with a design flow of one million gallons per day or more, or are required to have an approved pretreatment program under 40 Code of Federal Regulations Part 403. For a sewage treatment facility, the IGP covers both the municipal or domestic sewage being sent to the facility for treatment, and rainwater falling on the facility that must be managed as stormwater. This is because rainwater falling on the facility is routed to the onsite treatment system to prevent contaminants from migrating offsite from the treatment facility.

Municipal Stormwater Permitting (MS4)

The State's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than

250,000 people) municipalities. As part of the Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes. The permit also requires permittees to develop Comprehensive Bacteria Reduction Plans (CBRP).

National Flood Insurance Program (NFIP)
The NFIP is a federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government that states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the federal government will make flood insurance available within the community as a financial protection against flood losses.

In support of the NFIP, FEMA identifies flood hazard areas throughout the United States and its territories by producing Flood Hazard Boundary Maps (FHBMs), Flood Insurance Rate Maps (FIRMs), and Flood Boundary & Floodway Maps (FBFMs). Several areas of flood hazards are commonly identified on these maps. One of these areas is the Special Flood Hazard Area (SFHA) or high-risk area defined as any land that would be inundated by the 100-year flood — the flood having a 1-percent chance of occurring in any given year (also referred to as the base flood).

The high-risk area standard constitutes a reasonable compromise between the need for building restrictions to minimize potential loss of life and property and the economic benefits to be derived from floodplain development. Development may take place within the SFHAs, provided that development complies with local floodplain management ordinances, which must meet the minimum Federal requirements.

4.11.3.2 State

Porter-Cologne Water Quality Act
The Porter-Cologne Water Quality Control Act (California Water Code Division 7, §§ 13000-16104), is California's statutory authority for the protection of water quality. Under this act, the State must adopt water quality policies, plans, and objectives that protect the State's waters. The act sets forth the obligations of the State Water Resources Control Board (SWRCB or State Board) and Regional Water Quality Control Boards (RWQCBs or Regional Boards) pertaining to the adoption of Basin Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater and this authority serves as the basis for Waste Discharge Requirements issued to municipal sewage treatment facilities by the RWQCBs. The Porter-Cologne Water Quality Act is promulgated in Title 22 of the California Code of Regulations. Title 22 includes treatment and reuse requirements for recycled water projects throughout California.

Anti-Degradation Policy
The SWRCB's Anti-Degradation Policy, otherwise known as Resolution No. 68-16, sets specific restrictions for surface and groundwater that have higher than the required quality in order to avoid degradation of those water bodies. Requirements of this policy must be included within all Water Quality Control Plans throughout California (discussed below). Under this policy, actions that would lower the water quality in designated water bodies would only be allowed: if the action

would provide a maximum benefit to the people of California, if it will not unreasonably affect beneficial uses, and if it will not lower water quality below applicable standards.

Water Recycling Requirements

The Santa Ana RWQCB Basin Plan requires that a discharge permit be obtained for the use of recycled water. Water Recycling Requirements (WRR) are prepared on a case-by-case basis for reuse of Title 22 recycled water as well as for discharge of fully advanced treated water intended for groundwater recharge or injection. WRRs are generally issued to the wastewater treatment agency but also cover intended uses. Water recycling criteria are contained in sections 60301 through 60355 of Title 22 and prescribe recycled water quality and wastewater treatment requirements for the various types of allowed uses in accordance with the SWRCB, Division of Drinking Water (DDW) (formerly a part of the California Department of Public Health (CDPH)).

Water Recycling Policy and Salt and Nutrient Management Plans

In February 2009, the State Water Resources Control Board (SWRCB) adopted Resolution No. 2009-0011, which established a statewide Recycled Water Policy. Draft amendments to the Recycled Water Policy were released in May 2012, September 2012, October 2012 (SWRCB hearing change sheets), and January 2013. The Recycled Water Policy Amendment was adopted by the SWRCB on January 22, 2013. The Recycled Water Policy encourages increased use of recycled water and local storm water. It also requires local water and wastewater entities, together with local salt/nutrient contributing stakeholders to develop a Salt and Nutrient Management Plan (SNMP) for each groundwater Basin and subbasin in California.

Sustainable Groundwater Management Act

In 2014, the in 2014, the California State Legislature approved a combination of bills that together formed the Sustainable Groundwater Management Act (SGMA). SGMA requires the formation of local Groundwater Sustainability Agencies (GSAs) that must develop Groundwater Sustainability Plans (GSPs) for medium or high priority groundwater basins in California by 2022. The goal of the GSPs is to make groundwater basins sustainable by the year 2042. In San Bernardino County, the Valley District is forming a joint GSA with other groundwater management agencies in the region to begin preparing a GSP that will manage future groundwater extraction in the program area. The Chino Basin is exempt from most of the SGMA requirements because it is adjudicated.

Recycled Water Groundwater Recharge Projects

On June 18, 2014, new regulations were adopted covering groundwater recharge for potable reuse with recycled water. The new regulations (CWC sections 13500-13529.4) outline permit requirements for recharging groundwater with recycled water for potable reuse in California. The regulations cover surface recharge and subsurface injection and transfer permitting responsibilities from the CDPH to the SWRCB Division of Drinking Water (DDW). The regulations include protocols to provide for source control, water quality control, retention time, emergency response planning, monitoring programs, operational plans, management plans, reporting requirements, and public review requirements.

California Water Code Section 1211

California Water Code section 1211 requires that: (1) the owner of any wastewater treatment plant obtain the approval of the SWRCB before making any change in the point of discharge, place of use, or purpose of use of treated wastewater where changes to the discharge or use of treated wastewater have the potential to decrease the flow in any portion of a watercourse, and (2) the SWRCB review the proposed changes pursuant to the provisions of Water Code section 1700. In

order to approve the proposed change, the State Water Board must determine that the proposed change will not operate to the injury of any legal user of the water involved.

4.11.3.3 Regional

Santa Ana Basin Plan

The SWRCB sets statewide policy and together with the RWQCBs implement State and federal laws and regulations. Each of the nine Regional Boards has adopted a Basin Plan. The Santa Ana Region Basin Plan covers parts of southwestern San Bernardino County, western Riverside County, and northwestern Orange County. The Basin Plan specifies water quality objectives for all surface waters within the Santa Ana River watershed. Water quality objectives specified for the creeks and streams include total dissolved solids (TDS), hardness, chloride, sulfate, fluoride, sodium, and total inorganic nitrogen. Groundwater quality objectives for all groundwater basins address total coliform, chemical constituents, radioactivity, and taste and odor (Santa Ana RWQCB, 2016). Chino Basin-specific groundwater quality objectives addressed maximum benefit objectives for total dissolved solids (420 mg/L) and nitrogen (5 mg/L).

The Basin Plan has developed water quality objectives for both surface water and groundwater resources within the Santa Ana River watershed. Water quality objectives for all resources address nitrate, TDS, metals, total coliform, chemical constituents, radioactivity, and taste and odor (Santa Ana RWQCB, 2016). Chino Basin-specific groundwater quality objectives have been developed for total dissolved solids (420 mg/L) and nitrogen (5 mg/L).

The *Water Quality Control Plan for the Santa Ana River Basin Region 8* (Basin Plan) provides the framework for the RWQCB's regulatory program (Santa Ana RWQCB, 2016). Specifically, it:

1. Sets forth surface and groundwater quality standards for the Santa Ana Region;
2. Identifies beneficial uses of water and discusses objectives that shall be maintained or attained to protect those uses;
3. Provides an overview of types of water quality issues, and discusses them in the context of potential threats to beneficial uses;
4. Denotes recommended or required control measures to address the aforementioned water quality issues;
5. Prohibits certain types of discharge in particular areas of the Region;
6. Summarizes relevant State Board and Regional Board planning and policy documents, and discusses other relevant water quality management plans adopted by federal, state, and regional agencies; and
7. Identifies past and present water quality monitoring programs, and discusses monitoring activities that could be implemented in future Basin Plan updates.

Overall, the Basin Plan functions as the regulatory authority for water quality standards established in local NPDES permits and other RWQCB decisions.

Santa Ana River Judgment

IEUA and Western Municipal Water District (WMWD) have a joint obligation under the 1969 Santa Ana River (SAR) Judgment[7] to provide Base Flow discharge at Prado. The SAR Judgment states the following:

[7] Superior Court of the State of California for the County of Orange, 1969. (See footnote 1, above.)

> "CBMWD [Chino Basin Municipal Water District, now IEUA] and WMWD shall be responsible for an average annual Adjusted Base Flow of 42,000-acre feet at Prado. A continuing account […] shall be maintained of actual Base Flow at Prado, with all adjustments thereof and any cumulative debit or credit. Each year the obligation to provide Base Flow shall be subject to the following:
>
> 1. Minimum Annual Quantities. Without regard to any cumulative credits, or any adjustments for quality for the current Water Year […], CBMWD and WMWD each year shall be responsible for not less than 37,000 -acre feet of Base Flow at Prado, plus one-third of any cumulative debit; provided, however, that for any year commencing on or after October 1, 1986, when there is no cumulative debit, […] said minimum shall be 34,000 acre feet."

The historical accrual of Base Flow credits means that the IEUA's and WMWD's minimum Base Flow obligation at Prado will be 34,000 AFY into the foreseeable future. Notably, the Judgment only prescribes a requirement for the volume of Base Flow and does not prescribe its source.

4.11.3.4 Local

County policies generally pertaining to hydrology and water quality have been included in the section below. Future projects under this EIR will be analyzed at the program-level to assess the applicability of all local jurisdiction's General Plan and municipal code polices to those projects.

Chino Basin Recharge Master Plan

On December 21, 2007, the Court ordered the Chino Basin Watermaster to prepare a Recharge Master Plan Update (RMPU) for Chino Groundwater Basin. In coordination with the Chino Basin Water Conservation District, IEUA, and the Judgment parties, the 2010 RMPU was developed through a stakeholder process. The RMPU outlines recharge estimations, summaries of the projected water supply availability, and the physical means to accomplish those recharge projections. The sections include: safe yield, local stormwater management and mitigation of the loss of safe yield; integrated review of water supply plans; stormwater recharge enhancement opportunities; supplemental water recharge enhancement opportunities; regional stormwater and supplemental water recharge facilities; and supplemental water for replenishment (WEI, 2013). The Recharge Master Plan must be updated no less frequent than every five years; the current version is the 2018 RMPU (WEI, 2018).

City and County General Plan and Municipal Codes

The Chino Basin includes the following incorporated cities: Chino, Chino Hills, Eastvale, Fontana, Jurupa Valley, Montclair, Ontario, Pomona, Rancho Cucamonga, and Upland. The Chino Basin overlays San Bernardino and Riverside County, and as such includes limited areas of unincorporated Riverside and San Bernardino Counties. Each of these cities and counties has its own General Plan and municipal code that pertain to protection of hydrological resources.

4.11.4 Thresholds of Significance

The criteria used to determine the significance of impacts related to Hydrology and Water Quality may be considered potentially significant if the project would:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?
c) 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 runoff in a manner which would result in flooding onsite or offsite?
   (iii) create or contribute 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?
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

These impact issues are evaluated in below under the Impacts Discussion.

4.11.5 Impacts Discussion

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

This section includes a discussion of the potential impacts to water quality standards and waste discharge requirements as they relate to surface water. The information presented herein is abstracted from the Addendum to the West Yost TM (Appendix 4, Volume 2 of the 2022 CBP FPEIR ~~this DPEIR~~). The potential impacts to groundwater quality standards are summarized in question (b) herein.

Projected Impacts to Surface Water

As detailed in Chapter 3, some of the source water for the CBP is anticipated to be recycled water that is currently discharged to the Santa Ana River or its tributaries. **Table 4.11-1** below summarizes the assumptions for the wastewater discharge schedule with the CBP (CBP discharge scenario) and the wastewater discharge schedule without the CBP (baseline discharge scenario) for fiscal years 2030 and 2040. The baseline discharge scenario serves as a point of comparison to evaluate the potential impacts to water quality standards and Santa Ana River base flow compliance under the CBP discharge scenario. The CBP discharge scenario reduces wastewater discharges to the Santa Ana River by about 16,000 AFY compared to the baseline discharge scenario throughout the program period (the 25-year period of 2029 through 2053). An additional 1,000 AFY is necessary to facilitate the CBP and is assumed to come from reduced demand of wastewater for direct use.

As indicated in Chapters 2 and 3 of this RDPEIR, predicting adverse environmental impacts, particularly beyond 25 years in the future is deemed speculative because the physical characteristics of the Santa Ana River Watershed are continuing to evolve; the climate of the State as a whole is transitioning due to Global Warming; and while the demands for more water to support the growing population in the Chino Basin will increase, the amount of increased demand is unknown. A few basic assumptions can be defined for the period after 25 years of the CBP at this time: the Chino Basin Watermaster will continue to manage groundwater production in accordance with the 1978 Judgment to control overdraft; surface flow will continue to be discharged to the Santa Ana River through Prado Dam in conformance with the 1969 Judgment for delivery of surface flows to Orange County; and the volume of recycled water treated by the AWPF will not increase beyond 16,000 AFY without performing a follow-on CEQA review. Thus,

potential hydrologic impacts of continued operation of the AWPF beyond 25 years will not be greater than forecast for the CBP. Depending on the manner in which the AWPF treated effluent is managed after the CBP is completed, impacts may be less as this water is used to support local use and to continue maintaining the salt balance in the upper portion of the Chino Groundwater Basin.

Table 4.11-1
RECYCLED WATER DISCHARGE ASSUMPTIONS FOR BASELINE AND CBP DISCHARGE SCEANRIOS[8] (AF)

Agency	Facility/ Discharge Point	Baseline Discharge Scenario		CBP Discharge Scenario		Baseline minus CBP Discharge Scenario	
		2030	2040	2030	2040	2030	2040
IEUA	001 (Prado)	1,569	1,569	1,151	1,151	418	418
IEUA	002 (Cucamonga Creek)	9,079	9,079	3,637	3,637	5,443	5,443
IEUA	RP-5 (Chino Creek)	2,802	2,802	1,519	1,519	1,283	1,283
IEUA	CCWRF (Chino Creek)	3,587	3,587	737	737	2,850	2,850
Subtotal (IEUA)		**17,038**	**17,038**	**7,043**	**7,043**	**9,995**	**9,995**
SBMWD	RIX	20,275	20,625	20,275	20,625	0	0
City of Rialto	Rialto	10,137	13,115	6,637	9,615	3,500	3,500
City of Riverside	RWQCP	26,604	25,221	26,604	25,221	0	0
WRCRWA	WRCRWTP	2,500	2,500	0	0	2,500	2,500
City of Corona	WWTP #1	1,681	1,681	1,681	1,681	0	0
Subtotal (Non-IEUA)		**61,197**	**63,141**	**55,197**	**57,141**	**6,000**	**6,000**
Total		**78,235**	**80,179**	**62,240**	**64,185**	**15,995**	**15,995**

Projected Water Quality Impacts to Surface Water

The Water Quality Control Plan for the Santa Ana River Basin[9] specifies a TDS objective of 700 milligrams per liter (mgl) for the base flow in Reach 3[10] of the Santa Ana River (SAR). Compliance is determined based on the TDS concentration of the SAR at below Prado Dam in August and September. Since the influence of storm flow and non-tributary flow is at a minimum during these months, the flow in the SAR in August and September is assumed to be entirely base flow. To estimate the potential impacts of the CBP discharge scenario on TDS in the Santa Ana River at Prado Dam, a mass-balance approach was conducted using July through September historical data from the 16-year period of fiscal year (FY) 2005 through 2020. This mass-balance study is documented in the addendum to the West Yost TM.

Figure 4.11-14 shows an annual comparison of the monthly average discharges and monthly average volume-weighted TDS concentrations for July, August, and September (summer months) with and without diversions (i.e., with and without the reduction in wastewater discharge to the SAR due to the CBP shown in **Table 4.11-1**). For every year, the volume-weighted TDS concentration is greater with diversions than without diversions. In 2010, 2012, 2017, and 2019, the diversions are projected to result in an exceedance of the SAR Reach 3 TDS objective of 700

[8] Acronyms are defined as follows: Recycling Plant No. 5 (RP-5); Carbon Canyon Water Recycling Facility (CCWRF); San Bernardino Municipal Water Department (SBMWD); Rapid Infiltration and Extraction Facility (RIX); Riverside Water Quality Control Plant (RWQCP); Western Riverside County Regional Wastewater Authority (WRCWRA); Western Riverside County Recycled Water Treatment Plant (WRCRWTP); Wastewater Treatment Plant (WWTP)
[9] California Regional Water Quality Control Board, Santa Ana Region. (2011). *Water Quality Control Plan, Santa Ana River Basin (8)*. January 24, 1995 (Updated February 2008 and June 2011).
[10] Reach 3 of the SAR runs from Mission Boulevard in Riverside to Prado Dam

mgl (shown in red on **Figure 4.11-14**). As shown on **Figure 4.11-14**, the volume-weighted TDS without diversions fluctuates between 560 (2005) and 720 mgl (2018) and the volume-weighted TDS with diversions fluctuates between 560 (2005) and 790 mgl (2016). Over the 16 years of data analyzed, the volume-weighted TDS without and with diversions is 623 and 636 mgl, respectively, an increase of 13 mgl. Over the period from 2012 through 2019, when wastewater discharges were generally lower than before 2011, the volume-weighted TDS without and with diversions is 660 and 692 mgl, respectively, an increase of 32 mgl.

These results indicate that the diversions of wastewater for the CBP will, in most years, result in higher TDS concentrations in the SAR at below Prado Dam, potentially causing a violation of the Reach 3 TDS objective. In 4 out of the 15 years analyzed the diversions were projected to cause a violation of the Reach 3 TDS objective.

The significance of the CBP's projected increase of the Reach 3 TDS concentration of about 32 mgl depends on the background TDS conditions in Reach 3 of the SAR. The Santa Ana Watershed Project Authority's annual monitoring data indicates that the Reach 3 TDS was violated in three of the past four reported years (2017, 2018, and 2020; the 2021 report is expected in mid-2022). Prior studies have shown that the IEUA's wastewater discharges dilute the higher-TDS base flow in Reach 3 (WEI, 2015). As of this writing, there have been no actions or changes to the wasteload allocations to address these exceedances.

Furthermore, the predictive scenarios in the 2017 Wasteload Allocation Model (Geoscience, 2020) indicate that violations of the Reach 3 TDS objective are not expected to occur under the "maximum likely" wastewater discharge conditions but would occur under the "most likely" and "minimum expected" wastewater discharge conditions. None of these scenarios include the CBP. Given the recent and projected exceedances of the Reach 3 TDS objective without the CBP, it is unlikely that the CBP will be the sole cause of an exceedance of the Reach 3 TDS objective. However, as indicated in **Figure 4.11-14**, there may be years where the CBP diversions cause TDS concentrations to exceed the Reach 3 TDS objective. IEUA will continue to ensure that it meets its future discharge requirements and wasteload allocations when conducting the CBP.

Compliance with Base Flow Obligations in the Santa Ana River

As detailed in Chapter 3, the IEUA and WMWD have an obligation to ensure 34,000 AFY of base flow in the Santa Ana River at Prado Dam. The diverted wastewater that will serve as source water for the CBP would otherwise contribute to the base flow in the Santa Ana River. The potential impacts of these diversions on the base flow in the Santa Ana River at Prado were evaluated with Watermaster's Chino Basin groundwater model, which simulates surface water flows tributary to and at Prado Dam. Watermaster's Chino Basin groundwater model was recently calibrated in 2020 using the historical period of July 1, 1977 through June 30, 2018. The current version of the model is the 2020 Chino Valley Model (CVM). This evaluation is documented in the addendum to the West Yost TM. The modeling tool used in the West Yost TM is an integrated set of surface and groundwater models owned by the Watermaster, which includes Reach 3 of the Santa Ana River from Riverside Narrows (USGS stream gage 11066460) to below Prado Dam. The CVM is a peer-reviewed model that has been used in many recent investigations, including the recalculation the Safe Yield of the Chino Basin, and has been accepted by the Court with jurisdiction in the Chino Basin. The CVM is well-calibrated to the groundwater levels in the Chino Basin and the streamflow in the SAR at below Prado Dam. Therefore, the use of the CVM is valid for evaluating the changes in SAR flow rates and the biological impacts of the CBP.

The CBP diversion scenarios D1 through D6 have the same groundwater injection and extraction

schedule for the CBP scenarios 1 through 6 shown in **Table 4.11-2**, respectively. They also include the assumed wastewater discharges for the CBP discharge scenario shown in **Table 4.11-1**. The baseline scenario that is used as a point of comparison to the CBP diversion scenarios includes the assumed wastewater discharges for the baseline discharge scenario shown in **Table 4.11-1**. This baseline planning scenario is identical to the baseline planning scenario which is discussed in the response to question (b), except the surface water discharges from the Western Riverside County Recycled Water Treatment Plant are assumed to be 2,500 AFY instead of 0 AFY.

Figure 4.11-15 is a time series of the annual SAR discharge at below Prado Dam under the baseline scenario and CBP diversion scenarios D1 and D2. Of the six CBP diversion scenarios, D1 and D2 have the greatest and least SAR discharge at below Prado Dam, respectively. The other four CBP diversion scenarios have discharges ranging between D1 and D2 and are omitted from **Figure 2** for clarity. The average discharge at below Prado Dam during the program period under the baseline scenario is 167,400 AFY, compared to 152,200 AFY in D1 and 151,000 AFY in D2.

The discharges shown in **Figure 4.11-15** represent the total of storm flow and base flow at Prado Dam. MODFLOW NWT (the groundwater and surface water flow code used in the CVM) does not allow for the exact accounting of base flow and storm flow components. Therefore, this study estimates the annual base flow at SAR as 12 times the average annual SAR discharge below Prado Dam over the summer months (July through September). Since the influence of storm flow is at a minimum during these months, the flow in the SAR is assumed to be entirely base flow. The average monthly discharge at below Prado Dam during the program period over the summer months under the baseline scenario is 5,200 acre-feet per month (afm), compared to 3,700 afm in D1 and 3,650 afm in D2. The minimum average summer discharge over all scenarios occurs in FY 2055 in D2, where the average monthly summer discharge is 3,570 afm. Extrapolated over the entire year, the minimum base flow would be 42,800 AFY, 8,800 AFY greater than the 34,000 AFY base flow obligation. Based on the assumptions incorporated into the CBP diversion scenarios (e.g., expected value hydrology, upstream wastewater discharges), the reductions in SAR discharge at below Prado Dam will not cause a violation of the base flow obligation at Prado.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?

The information presented herein is abstracted from the West Yost TM (Appendix 4, Volume 2 of the 2022 CBP FPEIR ~~this DPEIR~~) documenting the groundwater modeling of the six CBP scenarios (see **Table 10** in Chapter 3).

In this investigation, the groundwater level and groundwater flow response for all planning scenarios was evaluated using the CVM and related pre- and post-processing tools. The potential impact of the CBP scenarios on the movement of solvent plumes in the Basin was evaluated with the USGS-MT3D model, a solute and reactive transport model, that uses the groundwater level and flow information directly from the Model and plume-specific information to project the movement of the groundwater plumes. The particle-tracking model MODPATH (Pollock, 2016) was used to calculate travel time between the injection wells and the extraction wells to determine Title 22 compliance.

Impacts of the six CBP scenarios are evaluated relative to the baseline scenario over the program period (the 25-year period of 2029 through 2053). Recall that, as described in Subchapter 2.3, Scope and Content of this EIR, and under Subchapter 1.2, Project Background, this analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operationally viable beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time and further would be evaluated as part of future master planning efforts. Thus, the groundwater injection and extraction scenarios focus on the first 25 years of the CBP because the management of the water supply generated by the AWPF beyond that period is unknown beyond that operations would be required to operate within the parameters set forth in the Chino Basin Judgment and the Basin Plan (see Section 3.4.3.7). Therefore, this analysis focuses on the operational activities and hydrology impacts thereof that are anticipated to occur for the first 25 years of the project.

Projected Groundwater Injection and Extraction for the CBP Scenarios

Table 4.11-2 below shows the schedule of operational cycles of injection (PUT) and extraction (TAKE) volumes through the planned CBP facilities for the six CBP scenarios.

Table 4.11-2
SUMMARY OF PUT/TAKE CYCLES FOR THE CBP SCENARIOS (1,000 AF)

Calendar Year	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6	
	Put	Take	Put	Take	Put	Take	Put	Take	Put	Take	Put	Take
2029	15	-	15	50	15	4.0	15	40	12	-	12	40
2030	15	-	15	50	15	4.0	15	40	12	-	12	40
2031	15	-	15	50	15	4.0	15	40	12	-	12	40
2032	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2033	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2034	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2035	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2036	15	50	15	-	15	40	15	4.4	12	40	12	-
2037	15	50	15	-	15	40	15	4.4	12	40	12	-
2038	15	50	15	-	15	40	15	4.4	12	40	12	-
2039	15	-	15	50	15	4.0	15	40	12	-	12	40
2040	15	-	15	50	15	4.0	15	40	12	-	12	40

Calendar Year	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6	
	Put	Take	Put	Take	Put	Take	Put	Take	Put	Take	Put	Take
2041	15	-	15	50	15	4.0	15	40	12	-	12	40
2042	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2043	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2044	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2045	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2046	15	50	15	-	15	40	15	4.4	12	40	12	-
2047	15	50	15	-	15	40	15	4.4	12	40	12	-
2048	15	50	15	-	15	40	15	4.4	12	40	12	-
2049	15	-	15	50	15	4.0	15	40	12	-	12	40
2050	15	-	15	25	15	4.0	15	20	12	-	12	20
2051	15	-	15	-	15	4.0	15	4.4	12	-	12	-
2052	15	50	15	-	15	40	15	4.4	12	40	12	-
2053	15	25	15	-	15	20	15	4.4	12	20	12	-
Total	**375**	**375**	**375**	**375**	**375**	**367.8**	**375**	**375**	**300**	**300**	**300**	**300**

The impacts of the changes in project groundwater pumping and recharge projections are described under the "Projected groundwater levels" and "Impacts on groundwater quality" sections herein.

Projected Groundwater Levels

Differences in Groundwater Levels between Baseline and CBP Scenarios

Figures 4.11-16 through **4.11-21**show the differences in groundwater levels between CBP Scenarios 1 through 6, respectively, and the baseline scenario, at the end of the program period (December 31, 2054). The impacts of the assumed operations of the CBP scenarios on groundwater levels are evaluated under four categories: pumping sustainability, subsidence, net recharge, and hydraulic control.

Impacts on Pumping Sustainability due to Changes in Groundwater Levels

The term sustainability, as used herein, 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 metrics are defined for each well by its owner. 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. If the groundwater level falls below the sustainability metric, the owner will either need to lower the pumping equipment in their well or reduce the well's pumping rate.

The increase in storage and subsequent removal of stored water will raise groundwater levels during the PUT periods and lower groundwater levels during the TAKE periods. This increase and decrease in groundwater levels may impact the parties in the Basin disproportionately. Pumping sustainability becomes a concern if the assumed CBP operations cause groundwater levels to fall below sustainable pumping levels at the parties' wells when the stored water is removed.

The extent of the effect of a CBP scenario on the pumping sustainability of a well depends on the timing of the PUT and TAKE cycles. As shown in the hydrographs in Appendix A of the West Yost

TM, the minimum groundwater levels occur at the end of a TAKE cycle and generally recover to near the baseline groundwater level three to four years after the TAKE cycle ends. The largest negative differences between the baseline and a CBP scenario occurs at the end of a TAKE cycle. The West Yost TM summarizes the impacts of the CBP scenarios on pumping sustainability on wells in the Chino Basin. One or more CBP scenarios cause two wells (City of Ontario Well 39 and Jurupa Community Services District Well 16) to experience pumping sustainability challenges that do not experience sustainability challenges under the baseline scenario. One or more CBP scenarios are projected to exacerbate existing pumping sustainability challenges by 10 feet or more at the City of Ontario Wells 38, 37, and 31, and CVWD Well CB-5. These effects are localized and temporary and can be mitigated with a change in operations of the CBP and/or the Appropriator wells.

Impact Conclusion

The impacts to groundwater sustainability may be significant, however mitigation is provided below that will minimize impacts below significance thresholds. This is for the following reasons:

- When the Final CBP Scenario is selected and developed, IEUA must submit a Storage and Recovery Program application to Watermaster. Loss of pumping sustainability caused by a Storage and Recovery Program is considered MPI under the Peace Agreement. Under the 2020 Storage Management Plan (SMP), and enforced through mitigation provided below, Watermaster will review each Storage and Recovery Program application, estimate the surface and ground water systems' response, prepare a report that describes the response and potential MPI, and develop mitigation requirements to mitigate MPI caused by the proposed Storage and Recovery Program. Potential mitigatory actions are outlined below. The Storage and Recovery Program applicant (IEUA) will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the Storage and Recovery Program storage agreement.
- Watermaster conducts comprehensive groundwater-level monitoring under the Peace Agreement and Court orders. The information developed from this monitoring will be used to identify potential impacts on pumping sustainability and to develop mitigation requirements to mitigate for these impacts. Potential mitigation 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 (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. The Project Description outlines facilities proposed by the CBP, and their operations or modifying operations thereof can be used to implement these mitigation actions.

Impacts on Subsidence due to Changes in Groundwater Levels

Watermaster has been conducting subsidence investigations in MZ-1 since September 2000. Detailed information on Watermaster's land subsidence investigations, causes of subsidence, Watermaster's subsidence management plan for the so-called managed area in Chino, and annual monitoring reports and ongoing investigations to develop a land subsidence management plan for the northwest MZ-1 area can be found on Watermaster's website.[11] This body of work includes the review of historical land subsidence across the Basin using Interferometric Synthetic

[11] https://cbwm.syncedtool.com/shares/folder/9abb162877b999/?folder_id=1055

Aperture Radar (InSAR)[12], ground level surveys, the construction and monitoring of vertical and horizontal extensometers, controlled pumping tests, rigorous review of Basin hydrogeology, and numerical modeling.

PA-7 is the key subsidence indicator well used in Watermaster's MZ-1 Long Term Management Plan for the managed area in Chino. Under this plan, Basin management activities must maintain a groundwater elevation greater than the guidance level of 400 feet above mean sea level (ft-amsl) at the PA-7 piezometer to ensure that permanent new land subsidence does not occur. The guidance level is defined as the threshold groundwater elevation at the onset of inelastic compaction of the aquifer system as recorded by the Ayala Park extensometer. The guidance level was established by Watermaster and is subject to change based on the periodic review of monitoring data.

To evaluate the risk of MPI due to subsidence over the entirety of MZ-1, historical groundwater levels were used to develop a groundwater level control surface (new land subsidence metric) throughout MZ-1 that defined the likelihood of initiating new subsidence: if groundwater levels are greater than the new land subsidence metric, then new land subsidence should not occur; if groundwater levels fall below the new land subsidence metric, then new land subsidence could occur and cause MPI.

The western part of the Basin is either susceptible to or actively experiencing land subsidence. The areas of current concern include the so-called "managed area" and the northwest MZ1 area. Land subsidence in the "managed area" has been reduced to de minimis levels through the voluntary efforts of the cities of Chino and Chino Hills. Land subsidence in the northwest MZ1 area, including parts of Chino, Montclair, Ontario, and Pomona, is continuing, and Watermaster is currently in the process of developing a land subsidence management plan in this area.

New land subsidence would become a concern if CBP operations cause groundwater levels to fall below the new land subsidence metric in the areas susceptible to land subsidence. And, pursuant to the Peace Agreement, this new land subsidence is MPI and would require mitigation. In this Environmental Analysis, we use the term new land subsidence to refer to land subsidence caused by the lowering of groundwater levels below the current estimate of the new land subsidence metric. The ongoing subsidence in northwest MZ-1 is occurring because the groundwater levels in that area have been and are currently less than the pre-consolidation stress.

To determine the risk of new land subsidence, projected minimum groundwater levels for the CBP scenarios and the baseline scenario were compared at each of the locations in MZ1 that were used to develop the new land subsidence metric in the baseline scenario. The CBP scenarios are not projected to initiate new land subsidence in any location in MZ1 that was not already projected to initiate new land subsidence in the baseline scenario. Scenario 2 results in the greatest negative difference in minimum groundwater levels compared to the baseline scenario (about -2.5 feet). The location of the greatest negative difference is an area where new subsidence was already projected to occur in the baseline scenario. These projected additional declines in groundwater levels (by up to -2.5 feet) have the potential to exacerbate the occurrence of new subsidence in these areas. The minimum groundwater levels in MZ1 in Scenarios 3 and 5 are always greater than or equal to the groundwater levels in MZ1 in the baseline scenario; therefore, there is no increased risk of new land subsidence in these scenarios.

[12] https://www.usgs.gov/centers/ca-water-ls/science/interferometric-synthetic-aperture-radar-insar?qt-science_center_objects=0#qt-science_center_objects

Impact Conclusion

The impacts on new land subsidence may be significant, however mitigation is provided below that will minimize impacts below significance thresholds. This is for the following reasons:

- The CBP scenarios are not projected to initiate new land subsidence in areas of MZ1 that were not already projected to experience land subsidence in the baseline scenario.
- New land subsidence caused by a Storage and Recovery Program (e.g., the CBP) is considered MPI under the Peace Agreement. Under the 2020 SMP, IEUA must submit a Storage and Recovery Program application to Watermaster before commencing operations. Watermaster will review this application, estimate the surface and ground water systems' response, prepare a report that describes the response and potential MPI, and develop mitigation requirements to mitigate MPI caused by the CBP. IEUA will develop mitigation measures pursuant to these requirements and incorporate them into its Storage and Recovery Program application. Potential mitigatory actions are outlined below. Upon approval by Watermaster, these mitigation measures will be incorporated into IEUA's Storage and Recovery Program storage agreement.

Watermaster conducts comprehensive groundwater-level and ground-level monitoring under the Peace Agreement and Court orders and pursuant to its adaptive Subsidence Management Plan under the guidance and supervision of the Ground Level Monitoring Committee (GLMC). Participation in the GLMC process could be an appropriate monitoring and mitigation measure to ensure that the CBP does not result in MPI related to land subsidence in the Chino Basin. The information developed from this monitoring will be used to identify the potential for new land subsidence and to develop mitigation requirements to mitigate for these impacts. Potential mitigation actions include: (1) ensuring that the CBP facilities are limited to MZ-2 and MZ-3, (2) modifying the PUT and TAKE cycles to ensure the CBP operations do not contribute to the lowering of groundwater-levels below the new land subsidence metric, (4) providing an alternate supply to MZ-1 producers to maintain groundwater-levels above the new land subsidence metric, to the extent that the CBP operations affect them, (5) a combination of (1) through (4) above, and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions. The Project Description outlines facilities proposed by the CBP, and their operations or modifying operations thereof can be used to implement these mitigation actions.

Impacts on Net Recharge due to Changes in Groundwater Levels

Net recharge is net inflow to the Basin excluding the direct recharge of Supplemental Water. The CBP operations that assume a late TAKE have the effect of temporarily increasing storage before the TAKE cycle is completed. The CBP modeling indicates that storing water in the Basin for subsequent removal has the effect of reducing net recharge to the Basin. Net recharge is a key factor in the calculation of Safe Yield, and therefore a reduction in net recharge will cause a reduction in Safe Yield.

Exhibit 4.11-4 below shows the time series of net recharge for the baseline scenario and the CBP scenarios. The scenarios with late calls (Scenarios 1, 3, and 5) result in a decrease of net recharge of up to 410 AFY compared to the baseline scenario. The scenarios with early calls (Scenarios 2, 4, and 6) result in an increase of net recharge of up to 840 AFY compared to the baseline scenario.

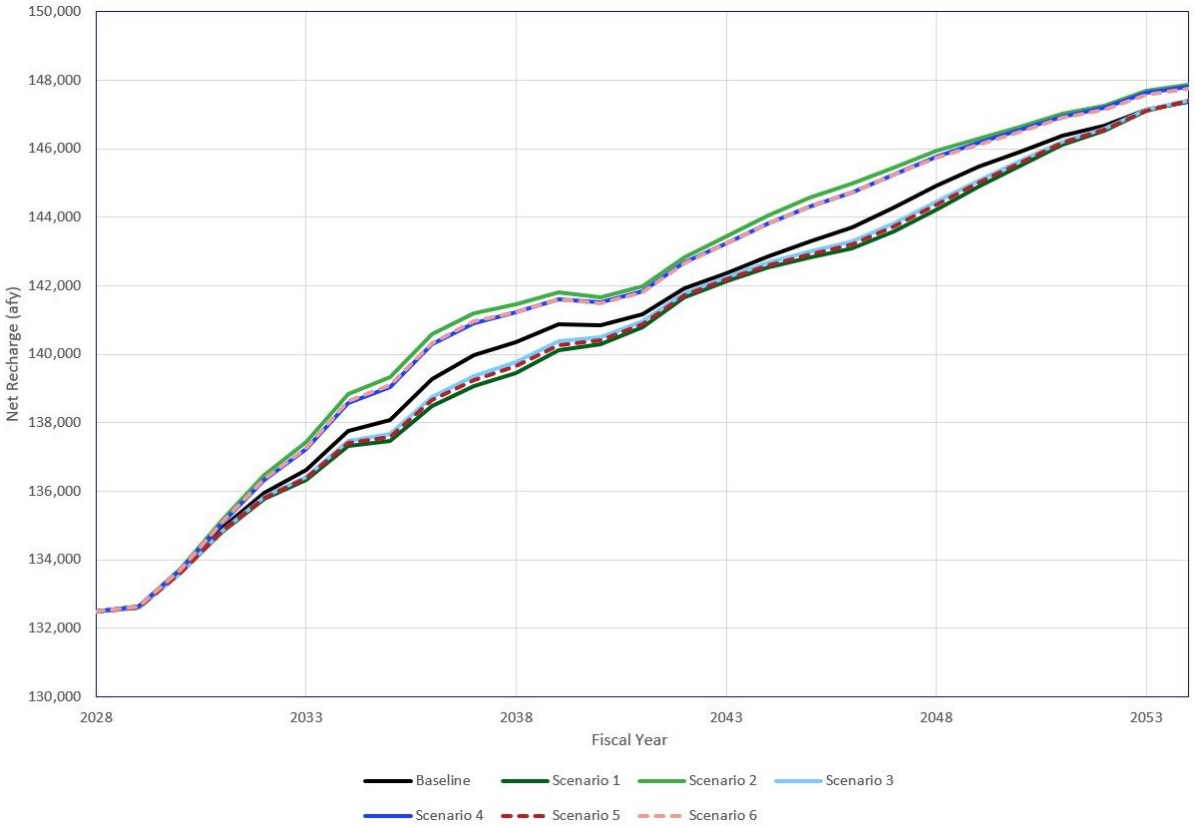


EXHIBIT 4.11-4: PROJECTED NET RECHARGE FOR THE BASELINE AND CBP SCENARIOS

Impact Conclusion

The impacts on net recharge may be potentially significant; however, mitigation is provided below that will minimize impacts below significance thresholds. This is for the following reasons:

- Reduction in net recharge caused by a Storage and Recovery Program (e.g., the CBP) is an adverse impact that must be mitigated. Under the 2020 SMP, Watermaster will estimate the reduction in net recharge and Safe Yield for the CBP and deduct it from water stored in the CBP storage account to compensate for its impact on net recharge and Safe Yield. Watermaster will review these impacts and develop mitigation requirements for the proposed CBP operations. The IEUA will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Potential mitigatory actions are outlined below. Upon approval by Watermaster, these mitigation measures will be incorporated into the IEUA's CBP storage agreement.
- Watermaster conducts comprehensive monitoring (under the Peace Agreement and Court orders) and modeling to estimate net recharge of the Chino Basin. The information developed from these efforts will be used to identify potential and actual losses of net recharge and to develop mitigation requirements to mitigate for these impacts. Potential mitigation actions include: (1) modifying the PUT and TAKE operations to minimize reductions in net recharge; (2) deducting the reduction in net recharge from its Storage and Recovery account (e.g., CBP scenario 3); (3) recharge additional water to mitigate reductions in net recharge; (4) construct facilities in the

southern part of the Basin to eliminate the reduction of net recharge due to the CBP operations; (5) a combination of (1) through (4); and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions. The Project Description outlines facilities proposed by the CBP, and their operations or modifying operations thereof can be used to implement these mitigation actions.

Impacts on Hydraulic Control due to Changes in Groundwater Levels

The application of the maximum-benefit is contingent upon the implementation of specific projects and programs by the Watermaster and the IEUA. These projects and programs, termed the "Chino Basin maximum-benefit commitments," include "The achievement and maintenance of the "hydraulic control" of groundwater outflow from the Chino Basin, specifically from Chino-North, to protect Santa Ana River water quality and downstream beneficial uses." If these maximum-benefit commitments are not met, the antidegradation objectives would apply for regulatory purposes. The application of the antidegradation objectives would result in no assimilative capacity for TDS and nitrate in the Chino-1, Chino-2, and Chino-3 GMZs, and the Regional Board would require mitigation for both recycled water and imported State Water Project (SWP) water discharges to Chino-North that exceed the antidegradation objectives. Furthermore, the Regional Board would require that the Watermaster and the IEUA mitigate the effects of discharges of recycled and imported SWP water that took place in excess of the antidegradation objectives under the maximum-benefit objectives retroactively to January 2004. The mitigation for past discharges would be required to be completed within a ten-year period following the Regional Board's finding that the maximum-benefit commitments were not met.

The attainment of Hydraulic Control is measured by demonstrating, from groundwater elevation data, either that all groundwater north of the Chino Basin desalter (desalter) well fields cannot pass through the desalter well fields (total hydraulic containment standard) or that groundwater discharge through the desalter well fields is, in aggregate, less than 1,000 AFY (de minimis Hydraulic Control standard). The Regional Board has agreed that compliance with the Hydraulic Control standard will be determined from the results of periodic calibrations and applications of the Watermaster's Chino Basin groundwater model and interpretations of the model results.

The achievement of Hydraulic Control required the expansion of the Chino desalter program to 40,000 AFY and the reduction in storage in the Basin by 400,000 af. Hydraulic Control was recently achieved when the subsurface discharge through the Chino Creek well field (CCWF), a part of the Chino desalter facilities, was reduced to less than 1,000 AFY (see **Figure 4.11-7** for the location of the CCWF). Increasing storage in the Basin will have the effect of increasing the subsurface discharge through the CCWF, potentially causing a loss of Hydraulic Control. The loss of Hydraulic Control could have significant economic adverse impacts to the parties if required to mitigate past TDS and nitrate loading to the Chino Basin in excess of the antidegradation objectives resulting from recycled water reuse for all recycled water used back to 2004 and all future recycled water reuse.

Model simulations of the baseline and all CBP planning scenarios indicated complete Hydraulic Control in the CDA well field area running from the Jurupa Hills in the east to Chino Desalter well I-4 in the west for the projection period of 2018 through 2054.

Exhibit 4.11-5 below shows time series of the projected groundwater discharge through the CCWF for the baseline scenario and the CBP scenarios compared to the de minimis Hydraulic Control standard of 1,000 AFY. The groundwater discharge through the CCWF is projected to be less than 1,000 AFY for all CBP scenarios. The discharge through the CCWF in the baseline

scenario and the CBP scenarios declines over time, never exceeds more than 450 AFY, and is always less than the de minimis discharge standard. Discharge through the CCWF is greatest under Scenario 1, where the discharge averages 10 AFY more than the baseline scenario over the program period.

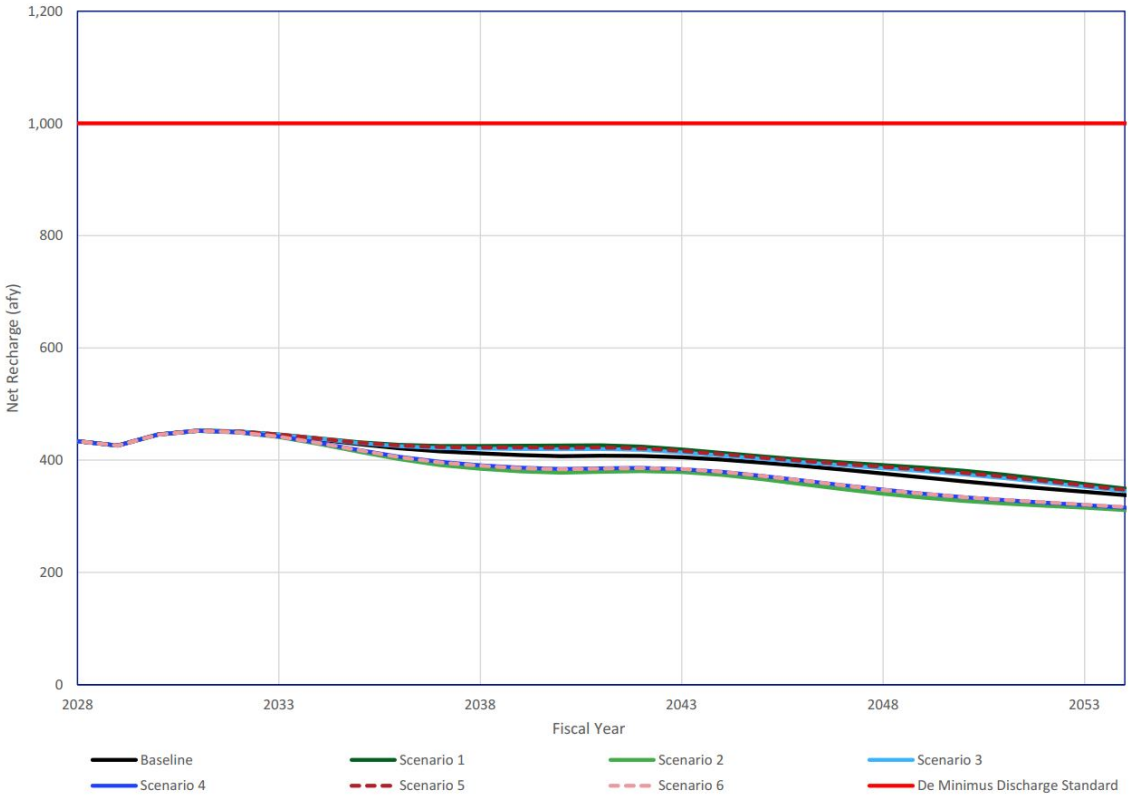


EXHIBIT 4.11-5: PROJECTED DISCHARGE THROUGH THE CCWF FOR THE BASELINE AND CBP SCENARIOS

Impact Conclusion

The impacts on hydraulic control are not projected to be significant. Regardless, given that implementation of the CBP will require a Storage and Recovery Program application and ultimately a Storage and Recovery Program Agreement, the Watermaster will monitor the state of hydraulic control and would be able to enforce mitigation measures on the IEUA's operation of the CBP such that no significant impacts would occur over the life of the Program.

Impacts on Groundwater Quality

The modeling of the CBP scenarios evaluated seven VOC plumes in the Chino Basin: the Pomona area, GE Flat Iron, CIM, Chino Airport, South Archibald, Milliken Landfill, and Stringfellow plumes. The two inorganic plumes include the Kaiser TDS and the Stringfellow perchlorate plumes.

Figures 4.11-22 through **4.11-24** show the projected locations of the plumes at the end of the program period for the baseline scenario compared to Scenarios 1 and 2, 3 and 4, and 5 and 6, respectively. A review of **Figures 4.11-22** through **4.11-24** show that no CBP scenario is projected to accelerate the southern (downgradient) boundaries of the plumes compared to the baseline scenario. The plume displacements due to the CBP scenarios are minor compared to the magnitude of the projected movement of the plumes in the baseline scenario. None of the CBP

scenarios are projected to result in any plume impacting a well operated by an Appropriative Pool party that is not already projected to be impacted under the baseline scenario.

Future projections of the Stringfellow TCE and perchlorate plumes were not made because the Model does not currently include the hydrogeologic resolution to make a reasonable projection of their movements. Future projections of the Kaiser TDS plume were not made because its location is not well known nor is the spatial distribution of the TDS concentration within it.

These simulations are not definitive assessments of the fate of these plumes. The precise movement of these plumes is controlled by the localized heterogeneities that are not represented in the Model. The best use of the solute modeling results described herein is to show how the CBP scenarios could affect the movement of the plumes relative to the baseline scenario. The projected locations of the plumes are shown in outline form for each scenario and indicate the limits of the projected plume with a VOC concentration greater than 5 µg/l.

In addition to the potential impacts of the CBP scenarios on the movement of the VOC plumes in the Chino Basin, the injection of the tertiary recycled water that is treated at the AWPF may also affect the water quality of the Chino Basin. To comply with the California Code of Regulations Title 22 Regulations for Groundwater Replenishment of Recycled Water (Title 22), purified recycled water must have a minimum underground residence time of at least two months as demonstrated with a tracer study after construction. Numerical modeling is granted 50 percent credit of a tracer test and must demonstrate four months of travel time between injection and extraction wells.

The particle-tracking model MODPATH (Pollock, 2016) was used to calculate travel time between the injection wells and extraction wells. In a particle-tracking simulation, tracer particles are inserted into the groundwater model around injection wells at specific times, then MODPATH calculates the flow paths and travel times of the inserted particles based on the simulated flow fields of the groundwater-flow model. To estimate the residence time of the treated recycled water injected at the CBP injection wells, a cluster of 21 particles were inserted at each of the model grid cells corresponding to the planned injection wells. New clusters of particles were inserted at the start of each quarter during the program period to capture the changes in the groundwater flow field over time. The travel time of particles that reach CBP extraction wells or the Parties' extraction wells can be used as a metric to evaluate compliance with Title 22 regulations. As mentioned in the introduction and Brown and Caldwell (2020), numerical modeling methods must demonstrate four months of travel time between injection and extraction wells. Brown and Caldwell (2020) use the conservative estimate of six months of travel time as a threshold for determining compliance with Title 22 regulations.

Figure 4.11-25 shows the locations of particles at six months (light blue) and two years (dark blue) after their release from the injection wells during the program period for CBP Scenario 1. Six months after particles are released, all particles are located within 0.2 miles of their original location. Two years after particles are released, all particles are within one mile of their initial locations. Scenarios 2 through 6 show similar patterns of particle migration. Across all scenarios, the minimum travel time from an injection well to an extraction well (either a CBP well or a well owned by a Party) is 8.3 months, greater than the threshold for compliance with Title 22. Furthermore, it should be noted that the source water that will be injected in the CBP will be of better quality than the ambient groundwater and will therefore improve the water quality of the Basin.

Impact Conclusion
The impacts on groundwater quality are projected to be less than significant. Regardless, given that implementation of the CBP will require a Storage and Recovery Program application and ultimately a Storage and Recovery Program Agreement, the Watermaster will monitor the state of groundwater quality and groundwater plumes, and would be able to enforce mitigation measures on the IEUA's operation of the CBP such that no significant impacts would occur over the life of the Program.

Summary of Impacts to Groundwater from CBP Operations

The groundwater level impacts are spatially varying, and they are embedded in the impact assessment for new land subsidence and pumping sustainability.

The CBP scenarios analyzed herein are projected to cause changes in storage and net recharge throughout the program period. The early call scenarios are projected to cause an increase in net recharge, and the late call scenarios are projected to cause a decrease in net recharge. As mentioned earlier, one way to mitigate the induced reduction in net recharge due to the late call scenarios is to reduce the takes by the amount of reduced net recharge. Not addressing the induced reduction in net recharge due to the late call scenarios will reduce the Safe Yield allocated to the Appropriative Pool parties, cause overdraft, or both, and will increase the risk of pumping sustainability challenges.

No CBP scenarios are projected to affect the direction or speed of the VOC plumes in the Chino Basin. The modeled travel times of the injected water in the CBP are projected to meet the Title 22 requirements for the recharge of treated wastewater.

The Watermaster will periodically review current and projected Basin conditions, compare this information to the projected Basin conditions assumed in the evaluation of the IEUA's Storage and Recovery Program application for the CBP, and compare the projected CBP operations to actual CBP operations. The Watermaster will then make findings regarding the efficacy of the mitigation program and requirements included herein and by the CBP storage agreements. Based on the Watermaster's review and subsequent findings, where applicable, the Watermaster will then require changes and/or modifications in the CBP storage agreements that would adequately mitigate MPI and related adverse impacts.

Based on this information, the CBP would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge and will not impede sustainable management of the Basin. Impacts would be less than significant following implementation of the mitigation measures below.

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

HYD-1: Watermaster shall review the IEUA's Storage and Recovery Program application for the CBP and estimate the surface and ground water systems' response (estimate the potential for new pumping sustainability challenges). Watermaster shall then prepare a report that describes the response and potential Material Physical Injury (MPI) to the Chino Basin and shall develop mitigation requirements pursuant to MM HYD-2 to mitigate MPI caused by the CBP. The IEUA shall develop mitigation measures pursuant to these requirements established by the Watermaster; these measures shall be incorporated into its Storage

and Recovery Program application. Upon approval by Watermaster, these mitigation measures shall be incorporated into the CBP storage agreement.

HYD-2: To mitigate MPI caused by the IEUA's proposed Storage and Recovery Program application (as described above under HYD-1), the data gathered through Watermaster's comprehensive groundwater-level monitoring shall be used to identify potential impacts on pumping sustainability and to develop mitigation requirements to mitigate for these impacts. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or 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 (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.

HYD-3: Watermaster shall review the IEUA's Storage and Recovery Program application for the CBP and estimate the surface and ground water systems' response (estimate the potential for new land subsidence). Watermaster shall then prepare a report that describes the response and potential MPI to the Chino Basin and shall develop mitigation requirements to mitigate MPI caused by the proposed CBP. The IEUA shall develop mitigation measures pursuant to these requirements pursuant to MM HYD-4 established by the Watermaster; these measures shall be incorporated into its Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the CBP storage agreement.

HYD-4: To mitigate the potential for new land subsidence caused by the IEUA's proposed Storage and Recovery Program application (as described above under HYD-3), the data gathered through Watermaster's comprehensive groundwater-level and ground-level monitoring shall be used to identify the potential for new land subsidence and to develop mitigation requirements to mitigate for these impacts. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or TAKE cycles to ensure the CBP does not contribute to the lowering of groundwater-levels below the new land subsidence metric, (2) providing an alternate supply to MZ-1 producers to maintain groundwater-levels above the new land subsidence metric, to the extent that the CBP affects them, (3) a combination of (1) and (2) above, and (4) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

HYD-5: Watermaster shall estimate the reduction in net recharge and Safe Yield for the CBP and deduct it from water stored in the CBP storage account, which will compensate for its impact on net recharge and Safe Yield. Watermaster shall review these impacts and develop mitigation requirements for the CBP. The IEUA shall develop mitigation measures pursuant to the requirements suggested in MM HYD-6 and established by Watermaster; these measures shall be incorporated into the IEUA's Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures shall be incorporated into the CBP storage agreement.

HYD-6: To mitigate reduction in net recharge and Safe Yield caused by the CBP (as described above under HYD-5), the Watermaster's comprehensive monitoring and modeling that estimates net recharge of the Chino Basin shall be used to identify potential and actual losses of net recharge and to develop mitigation requirements to mitigate impacts thereof. Potential mitigation includes, but is not limited to: (1) modifying the PUT operations and/or TAKE cycles to minimize reductions in net recharge, (2) deducting the reduction in net recharge from the IEUA's Storage and Recovery account, (3) recharge additional water to mitigate reductions in net recharge, (4) construct facilities in the southern part of the Basin to eliminate the reduction of net recharge due the CBP, (5) a combination of (1) through

(4), and (6) the implementation of a monitoring program to verify the effectiveness of the mitigation actions.

HYD-7: Watermaster shall periodically review current and projected Basin conditions and shall compare this information to the projected Basin conditions assumed in the evaluation of the CBP Storage and Recovery Program application process, compare the projected CBP operations to actual operations. The Watermaster shall then make findings regarding the efficacy of the mitigation program and requirements required herein and by the CBP storage agreement. Based on Watermaster's review and subsequent findings, where applicable, Watermaster shall require changes and/or modifications in the CBP storage agreement that will adequately mitigate MPI and related adverse impacts including but not limited to pumping sustainability, net recharge and safe yield, subsidence, hydraulic control, and groundwater quality.

Note this document acknowledges that monitoring is not mitigation in and of itself, but it is essential to the Watermaster's mitigation process because it identifies the potential for a potential significant impact (MPI). Data indicating that a significant impact may be evolving will allow the Watermaster to initiate any of the mitigation measures outlined above that can reduce or eliminate the potential impact identified through monitoring. The text below identifies how this can be accomplished.

Level of Significance After Mitigation: Less Than Significant

The mitigation measures provided above require the Watermaster to utilize its monitoring network based on the most current version of the Chino Valley Basin model—whether it is the 2020 CVM, or some future update—to evaluate the IEUA's storage and recovery program for the CBP to determine whether it will cause MPI, and to require mitigation, if feasible.

Pumping Sustainability

Mitigation measures (MM) **HYD-1** and **HYD-2** address impacts of the CBP related to pumping sustainability in the Chino Basin; these measures would ensure that Watermaster gathers the appropriate data to (1) determine whether the CBP operations would result in loss of pumping sustainability, and (2) respond with appropriate mitigation to minimize the potential loss of pumping sustainability that may occur from CBP operations. These measures would enable the IEUA and Watermaster to prevent adverse impacts related to pumping sustainability that may result from implementation the CBP.

Subsidence

MMs **HYD-3** and **HYD-4** address potential new subsidence within the Chino Basin; these measures would ensure that the Watermaster gathers the appropriate data to respond (1) determine whether the CBP operations would result in new subsidence, and (2) respond with appropriate mitigation to minimize the potential for new subsidence that may occur from the CBP operations. These measures would enable the IEUA and Watermaster to prevent adverse impacts related to new subsidence that may result from implementation of the CBP.

Net Recharge and Safe Yield

MMs **HYD-5** and **HYD-6** address potential reduction in net recharge and impacts to Safe Yield within the Chino Basin due to the CBP; these measures would ensure that the Watermaster gathers the appropriate data to (1) determine whether the CBP operations would result in potential reduction in net recharge and impacts to Safe Yield, and (2) respond with appropriate mitigation to minimize the potential for a reduction in net recharge and for impacts to Safe Yield that may occur from the CBP operations. These measures would enable the IEUA and Watermaster to

prevent adverse impacts related to potential reduction in net recharge and impacts to Safe Yield that may result from implementation of the CBP.

Hydraulic Control

The projected impacts of the CBP on Hydraulic Control are projected to be less than significant. However, MM **HYD-7** addresses the plan of response by Watermaster and the IEUA should the Basin conditions come to vary from the projections that have been modeled as part of the CBP planning. This measure would enable the Watermaster to modify previously agreed upon mitigation measures to address actual Basin conditions and apply these measures to the CBP allowing for flexibility in how the Watermaster approaches minimizing the groundwater issues outlined herein to below significance levels. Furthermore, as part of the Watermaster's review of the IEUA's Storage and Recovery Program application for the CBP, the effects of the CBP operations on the state of Hydraulic Control will be re-assessed. If Watermaster determines that the CBP operations may result in significant impacts to Hydraulic Control, the Watermaster will require that the IEUA implement mitigation (enforced through MM **HYD-7**) to reduce their impacts to less than significant levels.

Water Quality

The impacts of the CBP on water quality are projected to be less than significant. However, MM **HYD-7** addresses the plan of response by the Watermaster and the IEUA should the Basin conditions come to vary from the projections that have been modeled as part of the CBP planning. This measure would enable the Watermaster to modify previously agreed upon mitigation measures to address actual Basin conditions and apply these measures to the CBP allowing for flexibility in how the Watermaster approaches minimizing the groundwater issues outlined herein to below significance levels. Furthermore, as part of the Watermaster's review of the IEUA's Storage and Recovery Program application for the CBP, the effects of the CBP operations on the movement of major contaminant plumes in the Chino Basin will be re-assessed. If the Watermaster determines that the CBP operations may result in significant impacts to the movement of the plumes, the Watermaster will require the IEUA to implement mitigation (enforced through MM **HYD-7**) to reduce their impacts to less than significant levels.

General Impacts to Groundwater from CBP Implementation

As previously stated, MM **HYD-7** addresses the plan of response by the Watermaster and the IEUA should the Basin conditions come to vary from the projections that have been modeled as part of the CBP planning. This measure would enable the Watermaster to modify previously agreed upon mitigation measures to address actual Basin conditions and apply these measures to the CBP. This allows for flexibility in how the Watermaster approaches minimizing the groundwater issues outlined herein to below significance levels.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Cumulative development within the Basin could result in a decrease in groundwater supplies or interference with groundwater recharge, thereby impeding sustainable groundwater management of the Basin. The CBP would be subject to the Watermaster's authority over management of the Chino Basin. Pursuant to the 2020 SMP, the IEUA must submit a Storage and Recovery Program application for the CBP prior to commencing operations. The Watermaster must then evaluate the potential impacts of the CBP operations on the impact criteria described in this section. If the Watermaster determines that any of the impacts are significant, the Watermaster will require that

IEUA implement or facilitate one or more mitigation measures (potentially including MMS **HYD-1** through **HYD-7**) when operating the CBP to ensure that there are no adverse impacts or MPI resulting from the CBP. As such, with implementation of the above mitigation, the Watermaster and the IEUA would be able to minimize impacts of the CBP on the Basin, thereby reducing any potential for the CBP to contribute cumulatively considerable impacts on the Basin. Therefore, implementation of the CBP and any associated mitigation measures will not impede sustainable groundwater management of the Basin, and cumulative impacts would therefore be less than significant.

Level of Significance After Mitigation: Less Than Significant

c(i). Would the project 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 result in substantial erosion or siltation onsite or offsite?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The proposed wells could alter the existing drainage patterns at each project site. It is not known whether the wells will be installed within developed sites or within sites that are vacant and undeveloped. However, given the small area (less than one half acre) within which the proposed wells will be installed, it is not anticipated that substantial changes in drainage would occur. The construction of proposed facilities would require activities such as pavement breaking, ditching, drilling, excavation and demolition, which would temporarily alter each site's existing ground surface and drainage patterns. Compliance with the construction general permit (CGP), Stormwater Pollution Prevention Plan (SWPPP), or San Bernardino and Riverside Counties MS4 Permits where applicable would be required. However, given the small size area in which the wells would be developed, mitigation to enforce best management practices (BMPs) is provided below to minimize impacts at sites that are less than an acre and are therefore not subject to the CGP or SWPPP. Each of these permits and plans would require the implementation of BMPs that manage overland runoff from construction sites and establish permanent drainage pathways to stabilized outlets.

With implementation of such BMPs and compliance with conditions of required permits governing storm water runoff from construction sites, potential onsite and offsite erosion would be reduced and discharges from construction sites would not exceed the capacity of existing storm water drainage systems. Impacts would be less than significant.

During operation of the proposed wells, the presence of new facilities at each project site and changes in the extent of permeable or impermeable surfaces could alter the direction and volume of overland flows during both wet and dry periods. Operation of the proposed wells would require mitigation to minimize the potential for these changes resulting in a less than significant impact.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of up to 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches

in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the same as those identified under Project Category 1; however, it is anticipated that the majority of the facilities proposed as part of Project Category 2 would be more than one acre in size and as such would be subject to a CGP or SWPPP for development of each individual project. Mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce impacts to a level of less than significant. Development of conveyance facilities within roadways would result in minimal changes in the roadway drainage pattern once installed as the roadways will be returned to their original or better condition and no operational impact would occur.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, it is not anticipated that this expansion would substantially alter the existing drainage pattern of the Chino Basin, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation onsite or offsite. Impacts related to the facilities that would support this safe storage capacity expansion are discussed throughout this document, and impacts related to the hydrology of the Chino Basin as a result of this expansion are discussed under question (b) above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be the same as those identified under Project Category 1 and 2. It is anticipated that the majority of the facilities proposed as part of Project Category 4 would be more than one acre in size and as such would be subject to a CGP or SWPPP for development of each individual project. Mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce impacts to a level of less than significant. Additionally, as with the mitigation proposed to address ground disturbance associated with installation and maintenance of proposed monitoring equipment on existing wells discussed under Project Category 1, the same mitigation measure would also minimize the potential for erosion as a result of ground disturbance associated with installation of proposed groundwater treatment at existing well sites.

Combined Project Categories

The majority of the proposed facilities would not result in the addition of impervious surfaces that would result in substantial erosion or siltation onsite or offsite. The construction of proposed facilities would require activities that would temporarily alter each project site's existing ground

surface and drainage patterns. Compliance with the CGP, SWPPP, County MS4 Permits, and BMPs enforced through mitigation provided below would minimize all construction impacts to less than significant levels.

The presence of all new facilities at each project site could change permeable and impermeable surfaces and alter the direction and volume of overland flows. As such, mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce potential erosion and siltation impacts to a level of less than significant.

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

HYD-8: ***Prior to the commencement of construction of any CBP project that will disturb less than one acre (i.e., that is not subject to the California Construction Stormwater General Permit), IEUA shall require implementation of and construction contractor(s) shall select best management practices (BMPs) to achieve a reduction in pollutants from stormwater discharge to the maximum extent practicable during the construction of each CBP facility, and to control urban runoff after each CBP facility is constructed and is in operation. Examples of BMP(s) that would achieve a reduction in pollutants include, but are not limited to:***

- ***The use of silt fences or coir rolls;***
- ***The use of temporary stormwater desilting or retention basins;***
- ***The use of water bars to reduce the velocity of stormwater runoff;***
- ***The use of wheel washers on construction equipment leaving the site;***
- ***The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;***
- ***The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and***
- ***Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.***

HYD-9: ***Prior to commencement of construction of project facilities, IEUA shall be required to either:***

(1) Prepare a No Net Discharge Report demonstrating that within each facility surface runoff shall be collected and retained (for use onsite) or detained and percolated into the ground on the site such that site development results in no net increase in offsite stormwater flows. Detainment shall be achieved through Low Impact Development techniques whenever feasible, and shall include techniques that remove the majority of urban storm runoff pollutants, such as petroleum products and sediment. The purpose of this measure is to remove the onsite contribution to cumulative urban storm runoff and ensure the discharge from the sites is treated to reduce contributions of urban pollutants to downstream flows and to groundwater; or, where it is not feasible to eliminate stormwater flows off of a site or where otherwise appropriate, the Watermaster and/or Implementing Agency shall:

(2) Prepare a grading and drainage plan that identifies anticipated changes in flow that would occur on site and minimizes any potential increases in discharge, erosion, or sedimentation potential in accordance with applicable regulations and requirements for the County and/or the City in which the facility would be located. In addition, all new drainage facilities shall be designed in accordance with standards and regulations. The plan shall identify and implement retention basins, best management practices, and other measures to ensure that potential increases in

storm water flows and erosion would be minimized, in accordance with local requirements.

HYD-10: ***To minimize potential ground disturbances associated with installation and maintenance of wellhead treatment at existing wells, the equipment and treatment facilities shall be installed within or along existing disturbed easements or rights-of-way or otherwise disturbed areas, including access roads and pipeline or existing utility easements, except where only undisturbed area exists within an existing well site footprint.***

HYD-11: ***For long-term mitigation of site disturbances at CBP facility locations, all areas not covered by structures shall be covered with hardscape (concrete, asphalt, gravel, etc.), native vegetation and/or man-made landscape areas (for example, grass). Revegetated or landscaped areas shall provide sufficient cover to ensure that, after a two-year period, erosion will not occur from concentrated flows (rills, gully, etc.) and sediment transport will be minimal as part of sheet flows.***

Level of Significance After Mitigation: Less Than Significant

MM **HYD-8** would require implementation of BMPs for projects of less than one acre in size that would be comparable to the requirements of the CGP and SWPPP, which are required for larger projects.

During project design, overland flows and drainage at each CBP project site would be assessed and drainage facilities would be designed such that no net increase in runoff would occur, in accordance with the Riverside and San Bernardino County MS4 Permits. As required by MM **HYD-9**, either surface runoff shall be collected and retained or a grading and drainage plan would be developed during project design and implemented to ensure no increase in offsite discharges would occur and no substantial increase in erosion or sedimentation would occur. Impacts would be less than significant with mitigation.

MM **HYD-10** would require CBP projects at existing well sites to remain within disturbed areas wherever feasible to minimize the potential for further ground disturbance at these sites, which may result in substantial siltation or erosion. MM **HYD-11** would require all disturbed areas that are not covered in hardscape or vegetation would be revegetated or landscaped at future CBP facility sites to minimize the potential for erosion on- or off-site to an insignificant level.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Concurrent construction of cumulative development within the Chino Basin area could result in temporary impacts to drainage patterns that may result in erosion or siltation, flooding, or insufficient capacity of drainage systems. All related projects within the service area would be subject to the same federal, State, and local regulations regarding implementation of BMPs under the CGP, SWPPP, and Riverside and San Bernardino Counties MS4 Permits. Therefore, cumulative development would not result in significant impacts related to drainage during construction.

However, cumulative projects could result in significant impacts to local drainage systems after rapid development of structures. The proposed CBP projects could result in potentially significant impacts associated with the alteration of drainage patterns that result in erosion or siltation. Since

the project could result in potential significant impacts, the project's contribution to cumulative impacts is considered cumulatively considerable, and therefore, would require mitigation as identified above, which would reduce the project's contribution to less than cumulatively considerable, therefore reducing the project's contribution to cumulative impacts under this issue to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

c(ii). Would the project 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The proposed wells could alter the existing drainage patterns at each project site. It is not known whether the wells will be installed within developed sites or within sites that are vacant and undeveloped. However, given the small area (less than one half acre) within which the proposed wells will be installed, it is not anticipated that substantial changes in drainage would occur. The construction of proposed facilities would require activities such as pavement breaking, ditching, drilling, excavation and demolition, which would temporarily alter each site's existing ground surface and drainage patterns, and could ultimately provide flooding on- or off-site without preventative measures in place. Compliance with the construction general permit (CGP), Stormwater Pollution Prevention Plan (SWPPP), or San Bernardino and Riverside Counties MS4 Permits (Water Quality Management Plan, WQMP) where applicable would be required; these plans would ensure that drainage and stormwater will not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

However, as stated under question c(i) above, given the small size of the site in which the wells would be developed, mitigation to enforce best management practices (BMPs) is provided below to minimize impacts at sites that are less than an acre and are therefore not subject to the CGP or SWPPP. Each of these permits and plans would require the implementation of BMPs that manage overland runoff from construction sites and establish permanent drainage pathways to stabilized outlets. With implementation of such BMPs, compliance with conditions of required permits governing storm water runoff from construction sites, and retention of runoff on site where feasible, the potential for on- or off-site flooding would be reduced to less than significant levels and discharges from construction sites would not exceed the capacity of existing storm water drainage systems. Impacts would be less than significant with mitigation incorporated.

During operation of the proposed wells, the presence of new facilities at each project site and changes in the extent of permeable or impermeable surfaces could alter the direction and volume of overland flows during both wet and dry periods. Implementation of drainage improvements within future CBP project sites during construction will ensure that, during operation, on- and off-site flooding is minimized to a less than significant level. Mitigation is required to minimize the potential for significant changes to the drainage patterns on- and off-site.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of up to 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the same as those identified under Project Category 1; however, it is anticipated that the majority of the facilities proposed as part of Project Category 2 would be more than one acre in size and as such would be subject to a CGP or SWPPP for development of each individual project. Mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce impacts to a level of less than significant during construction. Development of conveyance facilities within roadways would result in minimal changes in the roadway drainage pattern once installed as the roadways will be returned to their original or better condition, which would minimize the potential for flooding on- or off-site. Operational impacts would be less than significant.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, it is not anticipated that this expansion would substantially alter the existing drainage pattern of the Chino Basin, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding onsite or offsite. Impacts related to the facilities that would facilitate this safe storage capacity expansion are discussed throughout this document, and impacts related to the hydrology of the Chino Basin as a result of this expansion are discussed under question (b) above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be the same as those identified under Project Category 1 and 2. As stated under Project Category 2, it is anticipated that the majority of the facilities proposed as part of Project Category 4 would be more than one acre in size and as such would be subject to a CGP or SWPPP for development of each individual project. Mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce on- and off-site flooding impacts to a level of less than significant.

Combined Project Categories

The construction of proposed facilities would require activities that would temporarily alter each project site's existing ground surface and drainage patterns. Compliance with the CGP, SWPPP, County MS4 Permits, and BMPs enforced through mitigation provided below would minimize all construction impacts below significance thresholds to a level of less than significant.

The presence of new facilities at each project site could change permeable and impermeable surfaces and alter the direction and volume of overland flows. As such, mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce potential on- and off-site impacts to a level of less than significant.

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures **HYD-8** through **HYD-11** are required to minimize potential on- and off-site flooding impacts in addition to the mitigation provided below.*

Level of Significance After Mitigation: Less Than Significant

MM **HYD-8** would require implementation of BMPs for projects of less than one acre in size that would be comparable to the requirements of the CGP and SWPPP, which are required for larger projects. This measure would control urban runoff and thereby reduce potential on- and off-site flooding.

During project design, overland flows and drainage at each CBP project site would be assessed and drainage facilities would be designed such that no net increase in runoff would occur, in accordance with the Riverside and San Bernardino County MS4 Permits. As required by MM **HYD-9**, either surface runoff shall be collected and retained or a grading and drainage plan would be developed during project design and implemented to ensure no increase in offsite discharges would occur and no substantial increased potential on- or off-site flooding would occur. Impacts would be less than significant with mitigation.

MM **HYD-10** would require CBP projects at existing well sites to remain within disturbed areas wherever feasible to minimize the potential for further ground disturbance at these sites, which may result in on- or off-site flooding. MM **HYD-11** would require all disturbed areas that are not covered in hardscape or vegetation would be revegetated or landscaped at future CBP facility sites to minimize the potential for on- or off-site flooding to an insignificant level.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Concurrent construction of cumulative development within the Chino Basin area could result in temporary impacts to drainage patterns that may result in erosion or siltation, flooding, or insufficient capacity of drainage systems. All related projects within the service area would be subject to the same federal, State, and local regulations regarding implementation of BMPs under the CGP, SWPPP, and Riverside and San Bernardino Counties MS4 Permits. Therefore, cumulative development would not result in significant impacts related to drainage during construction.

However, cumulative projects could experience significant impacts to local drainage systems after rapid development of structures. The proposed CBP projects could result in potentially significant impacts associated with the alteration of drainage patterns that result in flooding on- or off-site. Since the project could result in potential significant impacts, the project's contribution to cumulative impacts is considered cumulatively considerable, and therefore, would require mitigation as identified above, which would reduce the project's contribution to less than

cumulatively considerable, therefore reducing cumulative impacts under this issue to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

c(iii). Would the project 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 create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the same as those discussed under questions c(i) and c(ii) above. Mitigation is required to address the potential for CBP facilities to create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Project Category 2: Conveyance Facilities and Ancillary Facilities
This Project Category includes the construction of up to 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the same as those discussed under questions c(i) and c(ii) above. Mitigation is required to address the potential for CBP facilities to create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Development of conveyance facilities within roadways would result in minimal changes in the roadway drainage pattern once installed as the roadways will be returned to their original or better condition, which would minimize the potential for exceeding the capacity of local stormwater drainage systems.

Project Category 3: Groundwater Storage Increase
This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, it is not anticipated that this expansion would substantially alter the existing drainage pattern of the Chino Basin, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater

drainage systems or provide substantial additional sources of polluted runoff. Impacts related to the facilities that would facilitate this safe storage capacity expansion are discussed throughout this document, and impacts related to the hydrology of the Chino Basin as a result of this expansion are discussed under question (b) above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be the same as those discussed under questions c(i) and c(ii) above. However, this Project Category includes the development of water treatment facilities that will require brine disposal. As such, mitigation is provided to ensure that any brine generated by the new groundwater treatment facilities or expansion thereof will be disposed of in a manner that would not provide an additional source of polluted runoff. Additionally, as with facilities proposed as part of Project Categories 1 and 2, mitigation is required to address the potential for CBP facilities to create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Following implementation of required mitigation measures, impacts would be less than significant.

Combined Project Categories

The construction of proposed facilities would require activities that would temporarily alter each project site's existing ground surface and drainage patterns, which could result in excess runoff. Compliance with the CGP, SWPPP, County MS4 Permits, and BMPs enforced through mitigation provided below would minimize all construction impacts such that a significant impact would not occur.

The presence of all new facilities at each project site could change permeable and impermeable surfaces and alter the direction and volume of overland flows. As such, mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce potential for CBP facilities to create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff and reduce impacts to a less than significant level.

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures **HYD-8** and **HYD-9** are required to minimize potential for CBP facilities to create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. In addition, MM **HYD-12** is required to address potential impacts associated with brine disposal.*

HYD-12: ***All new and expanded water treatment facilities associated with the CBP shall ensure that any brine generated from the water treatment process that cannot be otherwise treated on-site is disposed of in accordance with state and local regulations—such as through disposal to a brine line (Non-Reclaimable Wastewater System, Etiwanda Wastewater Line, and Inland Empire Brine Line, etc.)—to prevent brine from being discharged into the local stormwater collection system.***

Level of Significance After Mitigation: Less Than Significant

MM **HYD-8** would require implementation of BMPs for projects of less than one acre in size that

would be comparable to the requirements of the CGP and SWPPP, which are required for larger projects. This measure would control urban runoff and thereby reduce potential for substantial polluted runoff.

During project design, overland flows and drainage at each CBP project site would be assessed and drainage facilities would be designed such that no net increase in runoff would occur, in accordance with the Riverside and San Bernardino County MS4 Permits. As required by MM **HYD-9**, either surface runoff shall be collected and retained or a grading and drainage plan would be developed during project design and implemented to ensure no increase in offsite discharges would occur and no substantial contribution of runoff to area drainage systems would occur. Impacts would be less than significant with mitigation.

MM **HYD-12** is provided to ensure that brine generated by water treatment systems would be disposed of in a manner that would minimize the potential for release of polluted runoff.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Concurrent construction of cumulative development within the Chino Basin area could result in temporary impacts to drainage patterns that may result in insufficient capacity of drainage systems. All related projects within the service area would be subject to the same federal, State, and local regulations regarding implementation of BMPs under the CGP, SWPPP, and Riverside and San Bernardino Counties MS4 Permits. Therefore, cumulative development would not result in significant impacts related to drainage during construction.

However, cumulative projects could result in significant impacts to local drainage systems after rapid development of structures. The proposed CBP projects could result in potentially significant impacts associated with the alteration of drainage patterns that result in substantial contribution of runoff to area drainage systems. Since the project could result in potential significant impacts, the project's contribution to cumulative impacts is considered cumulatively considerable, and therefore, would require mitigation as identified above, which would reduce the project's contribution to less than cumulatively considerable, therefore reducing the project's contribution to cumulative impacts to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

c(iv). Would the project 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 impede or redirect flood flows?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the mostly the same as those discussed under questions c(i), c(ii), and c(iii) above.

Mitigation is required to address the potential for CBP facilities to ensure that adequate drainage is developed within future CBP sites, which would minimize the potential for the project to impede or redirect flows as drainage within a new site will be managed efficiently.

CBP facilities, including wells may have the potential to impact flows if placed above ground within 100-year floodplains, of which several are located in the large expanse of the Chino Basin. Because the location of future CBP facilities is not presently known, it is not possible to evaluate all of the potential impacts related to an individual CBP project's potential to impede or redirect flows, particularly within known flood hazard areas. Direct impacts to related to flood flows will be assessed through site review and evaluation on a project-by-project basis, after project specifics are known. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) maps provided in the technical appendices will facilitate evaluation of future projects proposed under CBP as they are considered. With this in mind, to reduce potential impacts to a less than significant level, mitigation is outlined, with specific performance standards, which can be implemented to offset or compensate for both the temporal and permanent impacts that might impede or redirect flood flows as a result of future projects associated with the CBP.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of up to 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The construction activities associated with subsurface facilities, such as pipelines, could temporarily impact flows and would require coordination with County Flood Control and other applicable regulatory agencies before implementation if proposed facilities cross or are within jurisdictional waters or adjacent to flood control channels and easements. However, all other impacts would be the same as those discussed under questions c(i), c(ii), and c(iii) and as those discussed under Project Category 1 above. Given development of conveyance facilities within roadways would result in minimal changes in the roadway drainage pattern once installed as the roadways will be returned to their original or better condition, the potential for a given project to impede or redirect flows would be minimized to a level of insignificance.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, it is not anticipated that this expansion would substantially alter the existing drainage pattern of the Chino Basin, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. Impacts related to the facilities that would facilitate this safe storage capacity expansion are discussed throughout this document, and impacts related to the hydrology of the Chino Basin as a result of this expansion are discussed under question (b) above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be both the same as those discussed under questions c(i), c(ii), and c(iii) and as those discussed under Project Categories 1 and 2 above.

Combined Project Categories

The construction of proposed facilities would require activities that would temporarily alter each project site's existing ground surface and drainage patterns, which could result in impeding or redirecting flood flows. Compliance with the CGP, SWPPP, county MS4 Permits, and BMPs enforced through mitigation provided below would minimize all construction impacts to less than significant levels.

The presence of all new facilities at each project site could change permeable and impermeable surfaces and alter the direction and volume of overland flows. As such, mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce potential for CBP facilities to impede or redirect flood flows. Furthermore, given that the Chino Basin contains areas that are located within flood hazard zones, the development of several facilities in a given area may, when combined, result in a substantial potential to impede or redirect flows; as such, mitigation is required to minimize impacts thereof.

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures **HYD-9** is required to minimize the potential for CBP facilities to impede or redirect flows in addition to MM **HYD-13** provided below.*

HYD-13: ***IEUA shall verify that any given CBP facility (excepting those located at existing facilities [wells, water treatment plants, etc.] and pipelines and turnouts located belowground) is located outside of the 100-year floodplain by utilizing the FEMA FIRM panels for the selected area prior to project implementation. If a given project is located outside of the 100-year floodplain, then no subsequent CEQA documentation specific to floodplains are required. However, if a project is located within the 100-year floodplain either (1) a new location outside of the 100-year floodplain shall be selected, or (2) a second tier CEQA evaluation shall be completed that would address the given project's location within the 100-year floodplain.***

Level of Significance After Mitigation: Less Than Significant

During project design, overland flows and drainage at each CBP project site would be assessed and drainage facilities would be designed such that no net increase in runoff would occur, in accordance with the Riverside and San Bernardino County MS4 Permits. As required by Mitigation Measure **HYD-9**, either surface runoff shall be collected and retained or a grading and drainage plan would be developed during project design and implemented to ensure no increase in offsite discharges would occur and no substantial increased potential for impeding or redirecting flood flows would occur. Impacts would be less than significant with mitigation.

The Chino Basin contains several areas in the 100-year floodplain, particularly given the creeks, channels, and Santa Ana River that are within or along the boundaries of the Chino Basin. As

such, mitigation measure **HYD-13** would ensure that future CBP projects located within a floodplain would be further evaluated to determine their potential to impede or redirect flood flows.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Concurrent construction of cumulative development within the Chino Basin area could result in temporary impacts to drainage patterns that may result in erosion or siltation, flooding, or insufficient capacity of drainage systems. All related projects within the service area would be subject to the same federal, State, and local regulations regarding implementation of BMPs under the CGP, SWPPP, and Riverside and San Bernardino County MS4 Permits. Therefore, cumulative development would not result in significant impacts related to drainage during construction.

However, cumulative projects could result in significant impacts to local drainage systems after rapid development of structures. The proposed CBP could result in potentially significant impacts associated with the alteration of drainage patterns that result in flooding that may be impeded or redirected by future projects. Since the project could result in potential significant impacts, the project's contribution to cumulative impacts is considered cumulatively considerable, and therefore, would require mitigation as identified above, which would reduce the project's contribution to less than cumulatively considerable, therefore reducing cumulative impacts under this issue to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the mostly the same as those discussed under issue c(iii) and c(iv) above.

As stated under question c(iv) above, CBP facilities, including wells may have the potential to be located within a 100-year floodplain, of which several are located within the large expanse of the Chino Basin, or within an area that could be impacted due to dam failure. The San Bernardino Countywide Plan EIR analyzed inundation potential in the County, including from the San Antonio Dam located north of the Chino Basin. The Countywide Plan EIR concluded that the potential for dam inundation would be less than significant in the Valley region. Furthermore, should the Dam fail, most pollutants, including hazardous materials, would be stored inside of structures and the potential for pollutants or contaminants to be incorporated and transported due to inundation is considered to be a less than significant impact.

Due to the distance between the Chino Basin and the Pacific Ocean—a distance of more than 25 miles separated by mountains—the risk for tsunami within the Chino Basin is minimal.

Furthermore, no large bodies of water are located within the Chino Basin, and as such, there would be no seiche risk to proposed CBP facilities. Because the location of future CBP facilities is not presently known, it is not possible to evaluate all of the potential impacts related to an individual CBP project's potential to risk release of pollutants due to project inundation, particularly within known flood hazard zones. Direct impacts to related to flood flows will be assessed through site review and evaluation on a project-by-project basis, after project specifics are known; which will be enforced through MM **HYD-13**. The FEMA FIRM maps provided in the technical appendices will facilitate evaluation of future projects proposed under CBP as they are considered. With this in mind, to reduce potential impacts to a less than significant level, mitigation is outlined, with specific performance standards, which can be implemented to offset or compensate for both the temporal and permanent impacts that might impede or redirect flood flows as a result of future projects associated with the CBP. Additionally, mitigation that will ensure adequate onsite drainage management is developed is required to address the potential for CBP facilities to release pollutants due to project inundation.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of up to 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts would be the mostly the same as those discussed under questions c(iii) and c(iv) above and the same as those identified under Project Category 1.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, it is not anticipated that this expansion would, in flood hazard zones, risk release of pollutants due to project inundation. Impacts related to the facilities that would facilitate this safe storage capacity expansion are discussed throughout this document, and impacts related to the hydrology of the Chino Basin as a result of this expansion are discussed under question (b) above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be the same as those discussed under questions c(iii) and c(iv) above, and as those discussed under Project Categories 1 and 2 above. However, this Project Category includes the development of water treatment facilities that are anticipated to require brine disposal, as such MM **HYD-13** is provided to ensure that any brine generated by the new groundwater treatment

facilities or expansion thereof will be disposed of in a manner that would minimize the potential for CBP facilities to release pollutants due to project inundation.

Combined Project Categories

The presence of all new facilities at each project site could create a new risk for pollutants within a given site to be released as a result of inundation. As such, mitigation to address implementation of a drainage management plan or otherwise retain runoff onsite for each project is required to reduce potential for CBP facilities to risk release of pollutants from inundation. Furthermore, given that the Chino Basin contains areas that are located within flood hazard zones, the development of several facilities in a given area may, when combined, result in a substantial potential to release pollutants as a result of inundation; as such, mitigation is required to minimize impacts thereof.

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: MMs **HYD-9**, **HYD-12**, and **HYD-13** are required to minimize the potential for CBP facilities to release pollutants as a result of inundation.*

Level of Significance After Mitigation: Less Than Significant

As required by MM **HYD-9**, either surface runoff shall be collected and retained or a grading and drainage plan would be developed during project design and implemented to ensure that pollutants are managed on site and the potential for risk of release thereof due to inundation is minimized. Impacts would be less than significant with mitigation.

MM **HYD-12** is provided to ensure that brine generated by water treatment systems would be disposed of in a manner that would minimize the potential to release pollutants as a result of inundation. The Chino Basin contains several areas in the 100-year floodplain, particularly given the creeks, channels, and Santa Ana River that are within or along the boundaries of the Chino Basin. As such, MM **HYD-13** would ensure that future CBP projects located within a floodplain would be further evaluated to determine their potential to result in significant impacts related to flood inundation.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Concurrent construction of cumulative development within the Chino Basin area could result in temporary impacts to drainage patterns that may result in flooding. All related projects within the service area would be subject to the same federal, State, and local regulations regarding implementation of BMPs under the CGP, SWPPP, and Riverside and San Bernardino Counties MS4 Permits. Therefore, cumulative development would not result in significant impacts related to flooding or inundation.

However, cumulative projects could experience significant impacts related to release of pollutants due to flooding and inundation. Since the project could result in potential significant impacts, the project's contribution to cumulative impacts is considered cumulatively considerable, and therefore, would require mitigation as identified above, which would reduce the project's contribution to less than cumulatively considerable, therefore reducing the project's contribution to cumulative impacts under this issue to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

e. Does the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Watermaster and the IEUA are co-permittees for the Chino Basin maximum-benefit SNMP incorporated in the Basin Plan (see Section 3.4.3.7). The maximum-benefit SNMP was developed pursuant to the OBMP to enable the recharge and reuse of recycled water in the Basin. It defines the management actions that the Watermaster and IEUA must take to manage total dissolved solids (TDS) and nitrate concentrations in Chino Basin groundwater and in the IEUA's recycled water and the TDS and nitrate concentration limitations for recycled water reuse activities. The CBP will be operated such that there is no conflict with or obstruction of the Basin Plan.

As discussed earlier in this section, the planning and operations of the CBP must be carried out in coordination with the Watermaster. The Watermaster administers the Chino Basin Judgment to ensure the sustainable management of the Chino Basin. By implementing any of the mitigation actions that the Watermaster may require to conduct the CBP, the IEUA will ensure that the CBP will not conflict with or obstruct implementation of the Chino Basin stipulated Judgment. Impacts would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: MM **HYD-1** through **HYD-7** are required to minimize impacts under this issue.*

Level of Significance After Mitigation: Less Than Significant

As stated above, by implementing the mitigation actions that Watermaster may require to conduct the CBP, which are enforceable via MMs **HYD-1** through **HYD-7**, the IEUA will ensure that the CBP will not conflict with or obstruct implementation of the Chino Basin Judgment. These measures would require the Watermaster to continue monitoring efforts to manage the Chino Basin, and to respond to the data gathered through these monitoring efforts with mitigation that would protect MPI and other constraints from occurring to the Chino Basin. As such, with implementation of the above mitigation, the Watermaster would be able to respond to any adverse changes in the Basin with mitigation that would minimize impacts to the Basin. Therefore, implementation of the CBP would have a less than significant potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

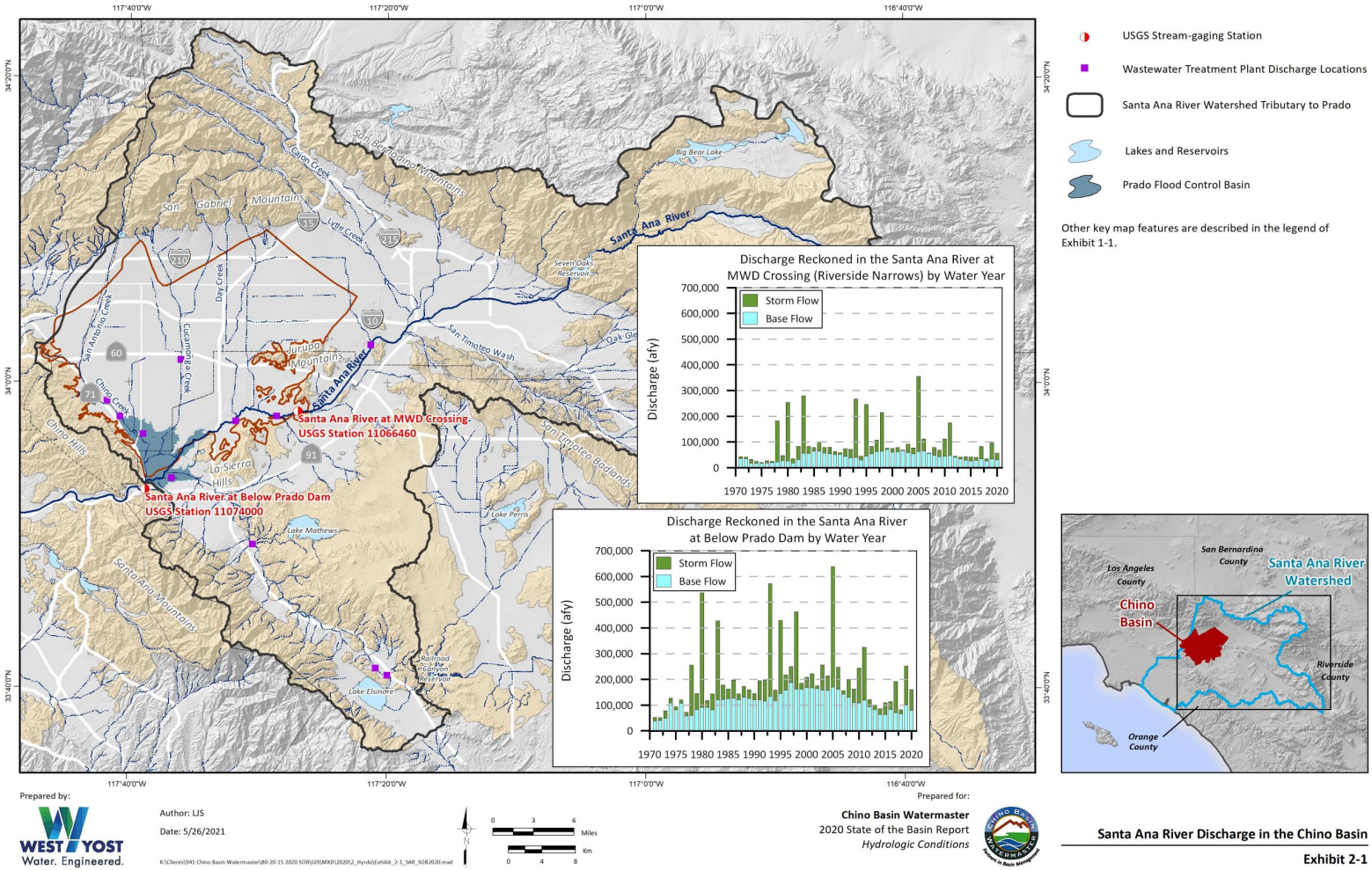
Cumulative impacts that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan would result from cumulative development and water management in the Chino Basin. Since the proposed project only has the potential to impact the Chino Basin, which, as stated above, is an adjudicated basin, the impacts discussion under this issue are inherently cumulative. Therefore, by implementing the mitigation actions that Watermaster may require to conduct the CBP, which are enforceable via MMs **HYD-1** through **HYD-7**, the IEUA will ensure that the CBP will not contribute to cumulatively considerable impacts on the Basin resulting in the obstruction of implementation of the Chino Basin Judgment. As such,

with the implementation of MMs **HYD-1** through **HYD-7**, the proposed project would not result in a cumulatively considerable contribution to cumulative impacts under this issue.

Level of Significance After Mitigation: Less Than Significant

4.2.6 Significant and Unavoidable Impacts

As determined in the preceding evaluation, with the implementation of mitigation, the proposed project would have no potential to result in significant and unavoidable hydrology and water quality impacts in the Chino Basin.

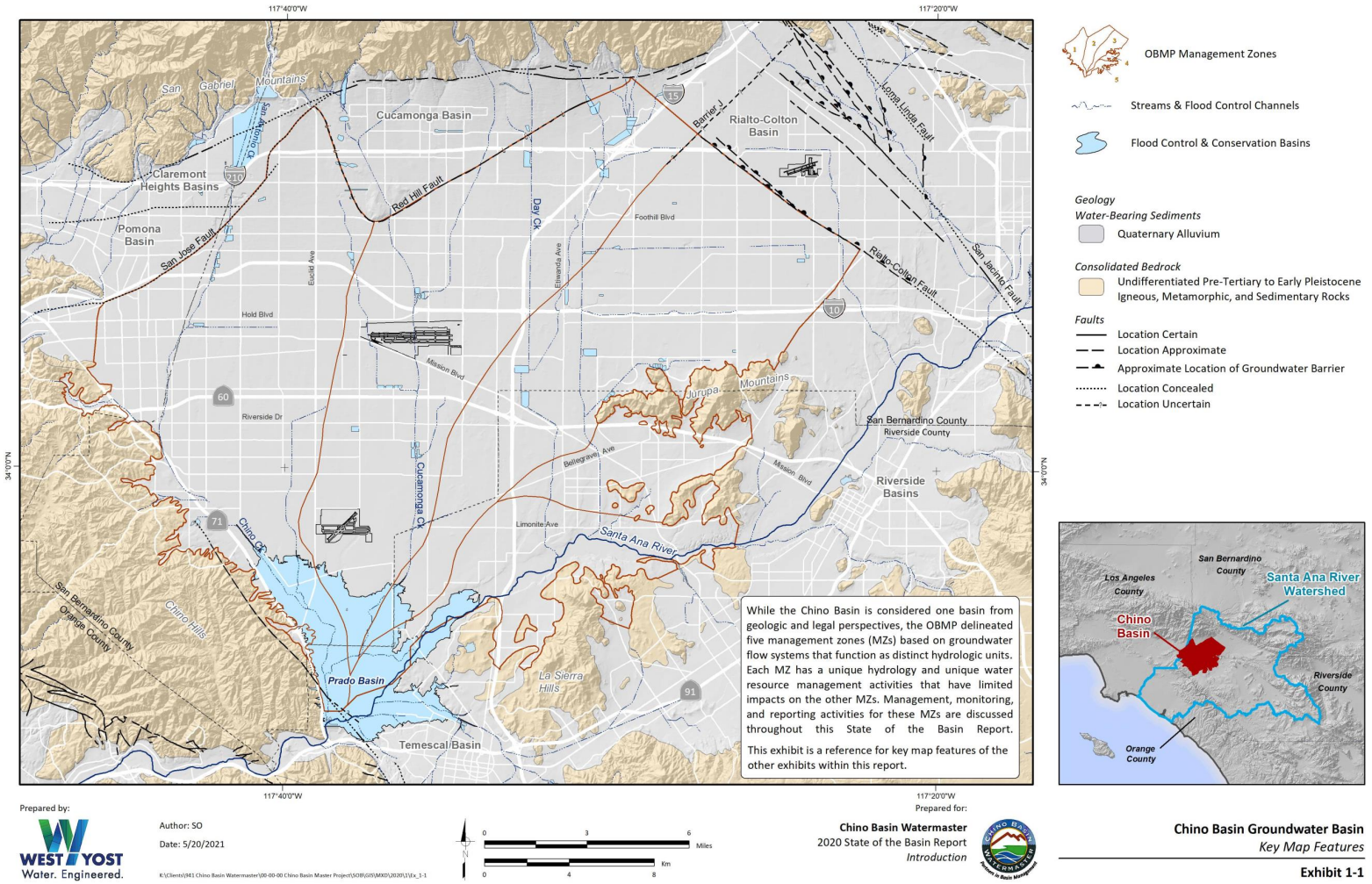


SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-1

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Santa Ana River Discharge in the Chino Basin

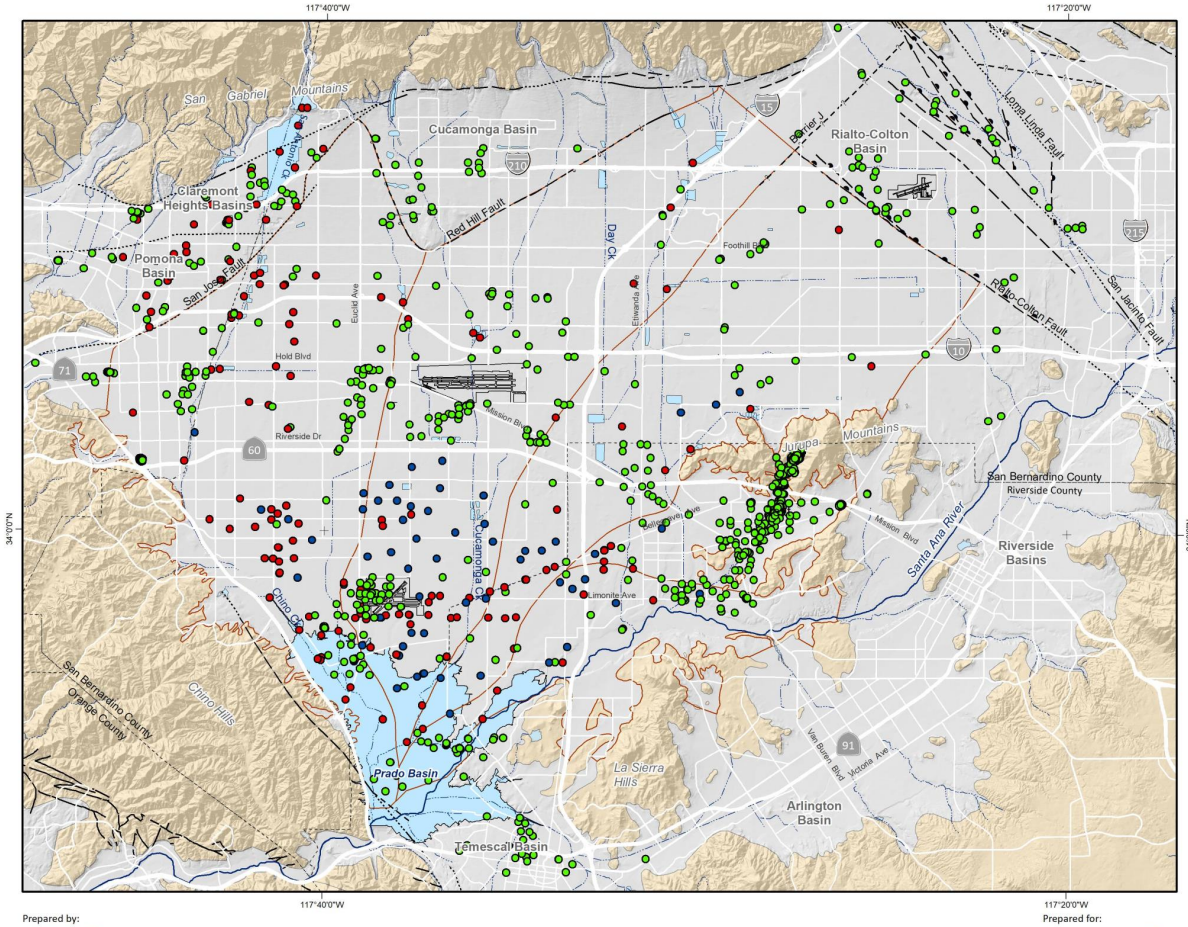


SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-2

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Chino Basin Groundwater Basin – Key Map Features



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Date: 6/20/2021

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0 3 6 Miles

0 4 8 Km

Prepared for:

Chino Basin Watermaster
2020 State of the Basin Report
Groundwater Levels

Basin-Wide Groundwater-Level Monitoring Program
Wells symbolized by Measurement Frequency

- Monthly Measurement by Watermaster Staff (61 wells)
- Measurement by Transducer - Every 15 Minutes (185 wells)
- Measurement by Owner at Various Frequencies (1,179 wells)

Other key map features are described in the legend of Exhibit 1-1.

To support OBMP implementation, Watermaster conducts a comprehensive groundwater-level monitoring program. In FY 2019/2020, about 1,400 wells comprised Watermaster's groundwater-level monitoring program. At about 1,200 of these wells, well owners measure water levels and provide the data to Watermaster. These well owners include municipal water agencies, private water companies, the California Department of Toxic Substance Control (DTSC), the County of San Bernardino, and various private consulting firms. The remaining 200 wells are private or dedicated monitoring wells that are mostly located in the southern portion of the Basin. Watermaster staff measures water levels at these wells once a month or with pressure transducers that record water levels once every 15 minutes. These wells were preferentially selected to support Watermaster's monitoring programs for Hydraulic Control, Prado Basin habitat sustainability, land subsidence, and others. All groundwater-level data are collected, compiled, and checked by Watermaster staff, and uploaded to a centralized relational database that can be accessed online through HydroDaVE^{SM}.

Groundwater-Level Monitoring Network
Well Location and Measurement Frequency
During Fiscal Year 2019/2020

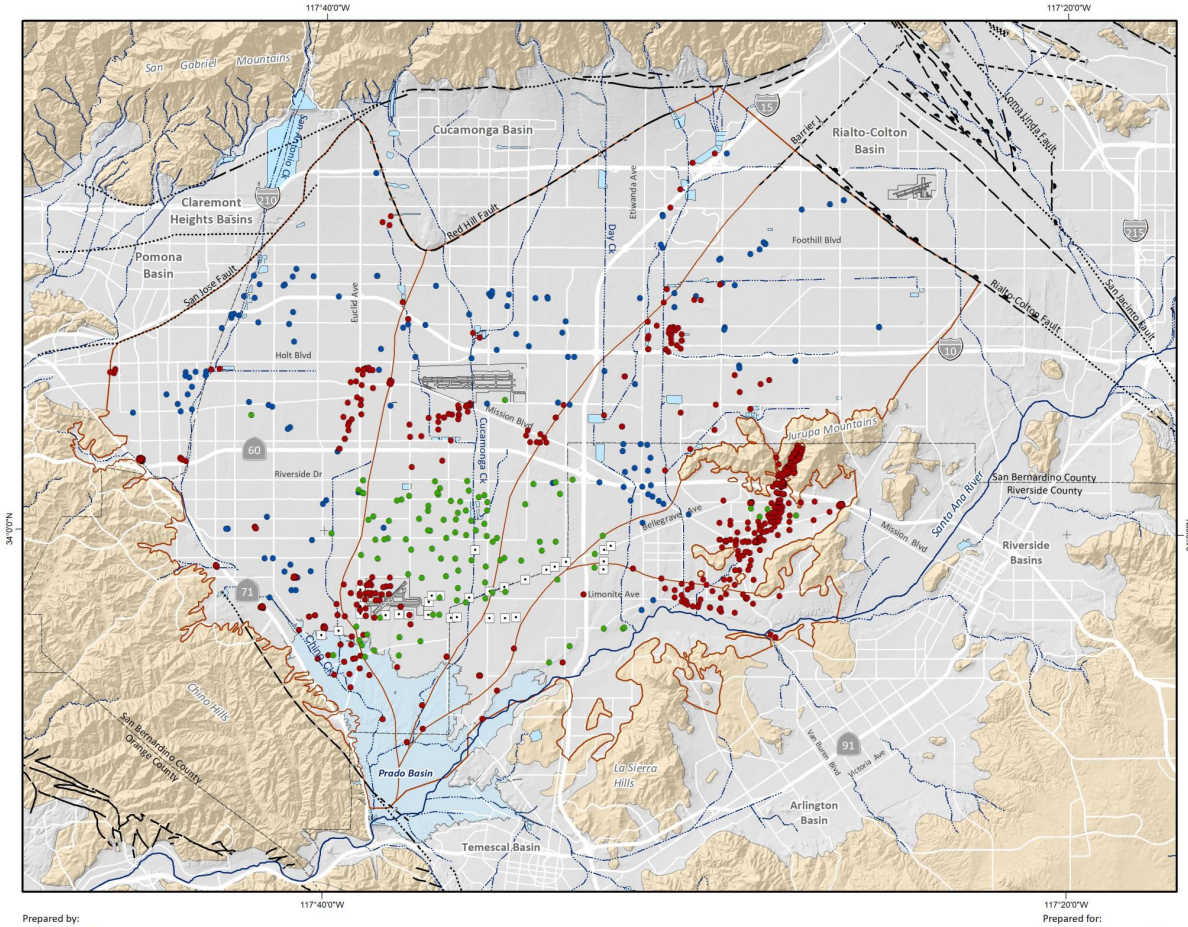
Exhibit 4-1

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-3

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Groundwater-Level Monitoring Network



Wells with Groundwater Quality Monitoring Data
Between July 2015 and June 2020

- Monitoring (926 wells)
- Municipal (140 wells)
- Private (104 wells)
- Chino Basin Desalter Well (29 wells)

Other key map features are described in the legend of Exhibit 1-1.

Watermaster's current water quality monitoring program relies on municipal producers, government agencies, and others to supply groundwater-quality data on a cooperative basis. Watermaster supplements these data through its own sampling and analysis of private wells and monitoring wells in the area generally south of Highway 60. All groundwater quality data are collected and checked for QA/QC by Watermaster staff and uploaded to a centralized data management system that can be accessed online through HydroDaVE℠. For the July 2015 to June 2020 period, water quality data were available for a total of 1,199 wells within the Chino Basin. Of those, 890 wells were sampled in FY 2019/2020.

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Date: 6/1/2021
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Groundwater Quality

Wells with Groundwater Quality Data
July 2015 - June 2020

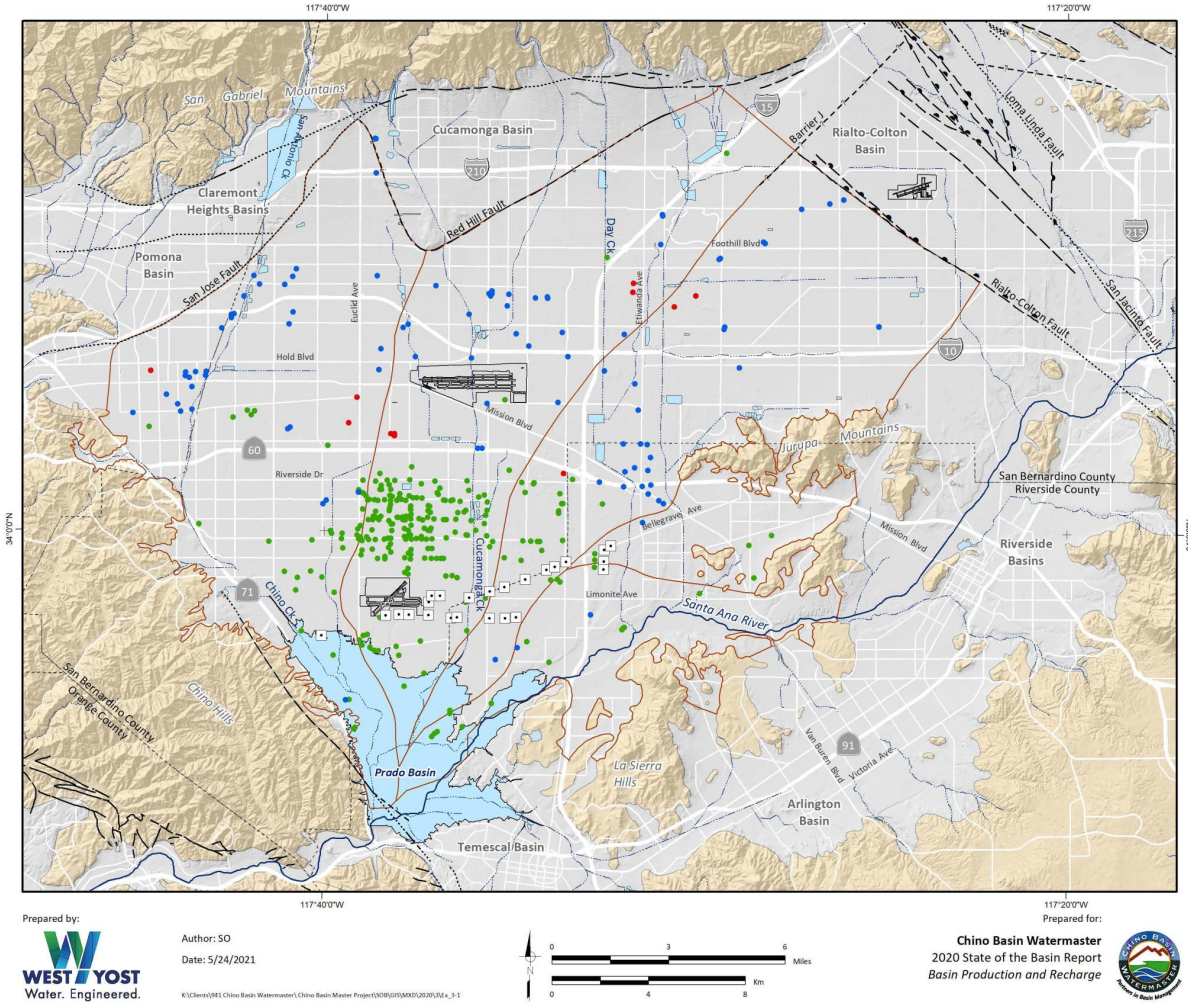
Exhibit 5-1

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-4

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Wells with Groundwater Quality Data



Active Groundwater Production Wells in Fiscal Year 2019/2020 by Pool

- Agricultural Pool (Pool 1 - 245 Wells)
- Overlying Non-Agricultural Pool (Pool 2 - 11 Wells)
- Appropriative Pool (Pool 3 - 96 Wells)
- Chino Basin Desalter Authority (24 Wells)

Other key map features are described in the legend of Exhibit 1-1.

During FY 2019/2020, 376 production wells were active in the Chino Basin. Total production was about 149,000 af and was divided as follows:

Agricultural Pool:
15,700 af, 10 percent of total production

Overlying Non-Agricultural Pool:
2,300 af, two percent of total production

Appropriative Pool:
95,400 af, 64 percent of total production

Chino Basin Desalters:
35,600 af, 24 percent of total production

Exhibits 3-2 and 3-3 characterize how production has changed over time across the Chino Basin.

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Author: SO
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0 3 6 Miles
0 4 8 Km

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2020 State of the Basin Report
Basin Production and Recharge

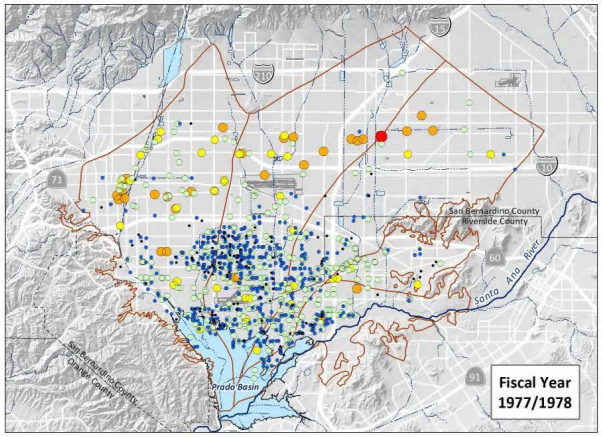
Active Production Wells in the Chino Basin
Fiscal Year 2019/2020
Exhibit 3-1

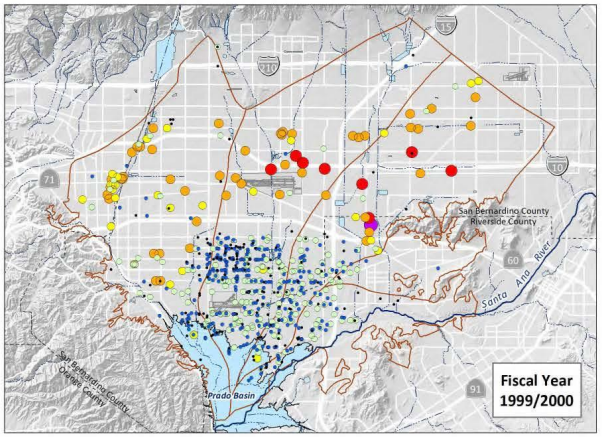
SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

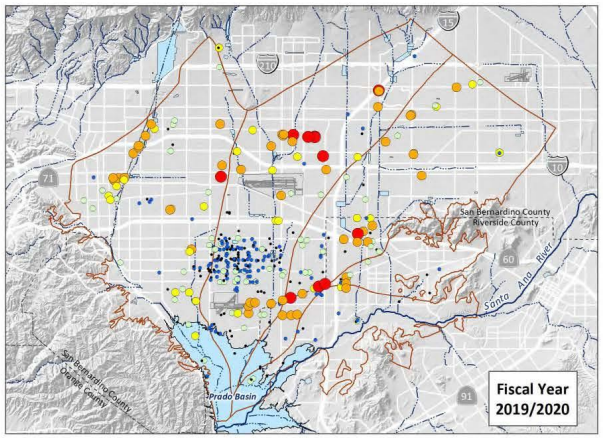
FIGURE 4.11-5

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Active Production Wells in the Chino Basin







Groundwater Production (af)

- < 10
- 10 - 100
- 100 - 500
- 500 - 1,000
- 1,000 - 2,500
- 2,500 - 5,000
- > 5,000

Other key map features are described in the legend of Exhibit 1-1.

In FY 1977/1978, production located south of Highway 60 in the Chino Basin was about 93,500 af and production located north of Highway 60 was about 65,300 af, accounting for 59 and 41 percent of total production, respectively. The agricultural production estimate for FY 1977/1978 from the Safe Yield recalculation effort in 2015 was greater than the reported production and primarily occurred south of Highway 60.

Between FY 1977/1978 and FY 1999/2000, groundwater production shifted north, with groundwater production south of Highway 60 declining from 59 to 31 percent of total production. North of Highway 60, production increased from 41 to 69 percent of total production. This shift in production was a result of land use transitions: south of Highway 60, irrigated agricultural land had been largely replaced by dairies, which have lower water use requirements; and north of Highway 60, Appropriative Pool production increased concurrent with urbanization. In FY 1999/2000, after the CDA wells were constructed and came online south of Highway 60 (see Exhibit 3-4), the spatial distribution of pumping began to shift again, south of Highway 60.

The number of wells producing greater than 1,000 afy began to increase from FY 1977/1978 through the present period. This was due to the increase in urbanization, which tends to concentrate production over fewer wells, compared to agricultural production. The construction and operation of the Chino Desalter wells, most of which produce more than 1,000 afy, also contributed to this increase. Despite this increase, the total groundwater production has been declining since 2007 due to the drought conditions, state-mandated water conservation measures, a trend towards greater water conservation, and the economic downturn that occurred in 2008.

Pool	FY 1977/1978 Production		FY 1999/2000 Production		FY 2019/2020 Production	
	af	percentage	af	percentage	af	percentage
Agricultural	87,800	55	44,200	25	15,700	11
Overlying Non-Agricultural	10,100	6	5,600	3	2,300	2
Appropriative	62,400	39	128,900	72	95,400	64
CDA	0	0	0	0	35,600	24
Total	**160,300**	**100**	**178,700**	**100**	**149,000**	**100**

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Author: SO
Date: 6/1/2021

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2020 State of the Basin Report
Basin Production and Recharge

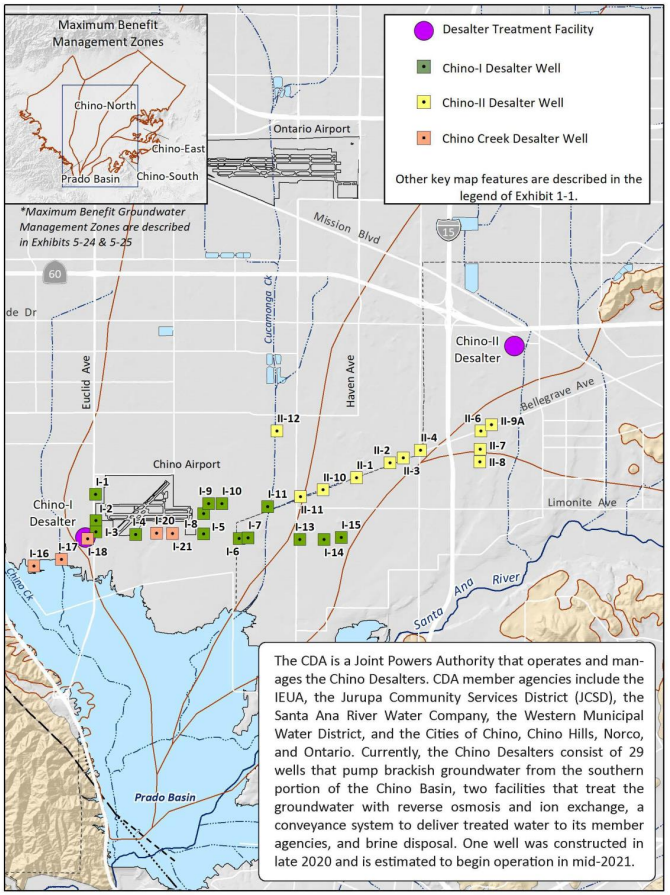
Groundwater Production by Well
Fiscal Year 1977/1978, 1999/2000, and 2019/2020
Exhibit 3-3

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-6

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Groundwater Production by Well



The need for the Chino Desalters was described in the OBMP Phase 1 Report. Throughout the 20th century, land uses in the southern portion of the Chino Basin were primarily agricultural. Over time, groundwater quality degraded in this area, and it is not suitable for municipal use unless it is treated to reduce TDS, nitrate, and other contaminant concentrations. The OBMP recognized that urban land uses would ultimately replace agriculture and that if municipal pumping did not replace agricultural pumping, groundwater levels would rise and discharge to the Santa Ana River. The potential consequences would be the loss of Safe Yield in the Chino Basin and the degradation of the quality of the Santa Ana River—the latter of which could impair downstream beneficial uses in Orange County. Mitigating the lost yield and the subsequent degradation of water quality would come with high costs to the Chino Basin parties.

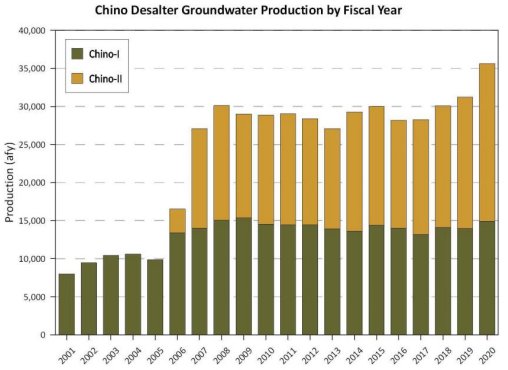
The Chino Desalters were designed to replace the expected decrease in agricultural production and accomplish the following objectives: meet emerging municipal demands in the Chino Basin, maintain or enhance Safe Yield, remove groundwater contaminants, and protect the beneficial uses of the Santa Ana River. Pursuant to the OBMP and the Peace Agreement, Watermaster's goal for desalter production was set at 40,000 afy.

The Chino Desalters also became a fundamental component of the salt and nutrient management plan for the Chino Basin, which was written into the 2004 Water Quality Control Plan for the Santa Ana River Basin ([Basin Plan], Regional Board, 2004)). The Basin Plan adopted maximum-benefit based water quality objectives in the Chino Basin, enabling the implementation of large-scale recycled-water reuse projects in the Chino Basin for direct reuse an indirect potable reuse. Watermaster and the IEUA made nine "maximum-benefit commitments," ensuring that beneficial uses in the Chino Basin will not be impaired by TDS and nitrate, and groundwater management in the Chino Basin will not contribute to the impairment of beneficial uses of the Santa Ana River. The operation of the Chino Desalters is necessary to attain "Hydraulic Control" in the southern portion of Chino Basin. Hydraulic Control is achieved when groundwater discharge from the Chino-North Management Zone to the Santa Ana River is eliminated or reduced to de minimis levels by pumping at the Chino Desalter wells. Hydraulic Control is necessary to maximize the Safe Yield and to prevent degraded groundwater from discharging from the Chino Basin to the Santa Ana River. Four of the nine maximum-benefit commitments are related to the Chino Desalters and Hydraulic Control.

The Chino-I Desalter began operating in 2000 with a design capacity of 8 million gallons per day (mgd) (about 9,000 afy). In 2005, the Chino-I Desalter was expanded to 14 mgd (about 16,000 afy). The Chino-II Desalter began operating in June 2006 at a capacity of 15 mgd (about 17,000 afy). In 2012, the CDA completed construction of the Chino Creek Well Field (CCWF). Production at some of the CCWF wells began in mid-2014, and production at the other CCWF wells began in early 2016, reaching the level of production required to achieve Hydraulic Control. In 2015, the CDA completed the construction of two more wells (I-10 and I-11), and production at these wells started in mid-2018.

In 2020, the CDA completed the construction of the last planned well (II-12) and pumping at this well is expected to begin in late 2021. I n FY 2019/2020, the Chino Desalters pumped about 35,000 afy of groundwater. In June 2020, the Chino Desalters reached the pumping capacity of 40,000 afy, thus, achieving the OBMP production goal. The chart below shows annual groundwater production by the Chino Desalters.

Pursuant to the Peace II Agreement, Watermaster initiated additional controlled overdraft, referred to as "Re-operation." Re-operation is the controlled overdraft of 400,000 af through 2030, allocated specifically to meet the replenishment obligation of the Chino Desalters (WEI, 2009b). An investigation conducted to evaluate the Peace II Agreement and desalter expansion concluded that Re-operation was required to ensure the attainment of Hydraulic Control (WEI, 2007).



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Date: 5/24/2021

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0 3 Miles

0 4 Km

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2020 State of the Basin Report
Basin Production and Recharge

Chino Basin Dessalter Well Production

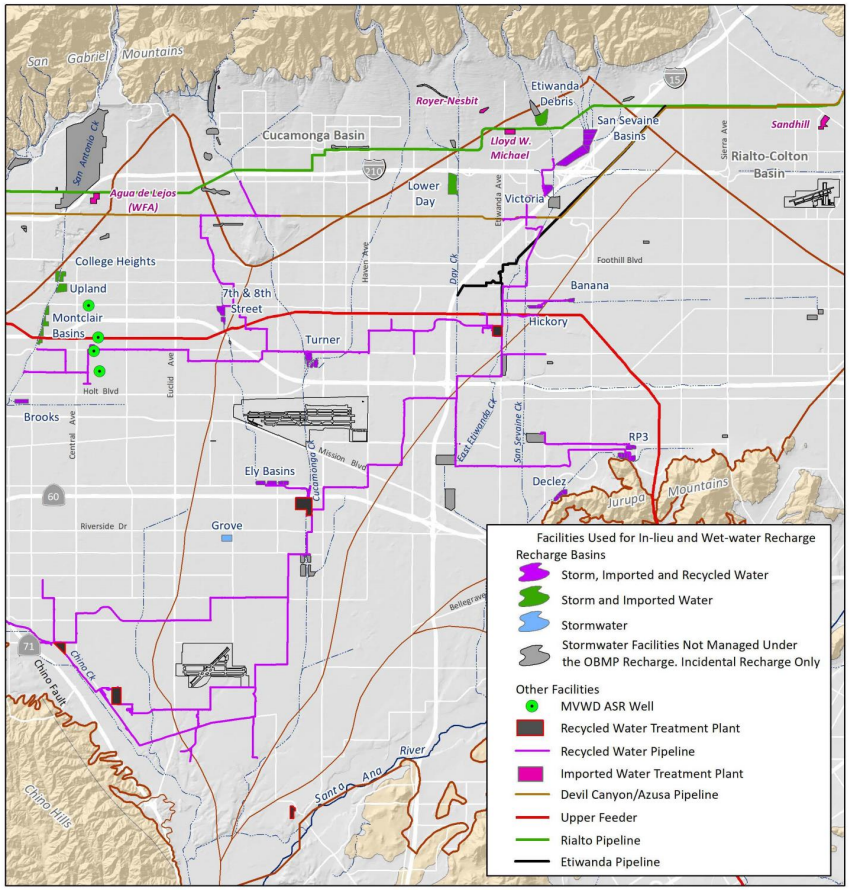
Exhibit 3-4

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-7

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Chino Basin Desalter Well Production



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Author: SO

Date: 6/1/2021

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0 3 6 Miles

0 4 8 Km

Increasing groundwater recharge is an integral part of the OBMP's goals to enhance water supplies and improve water quality, and it is essential for compliance with the maximum-commitments in the Basin Plan. The IEUA, Watermaster, the Chino Basin Water Conservation District, and the San Bernardino County Flood Control District are partners in the planning and implementation of groundwater recharge projects in the Chino Basin. Existing and planned recharge facilities are shown in the map to the left and include recharge basins and Aquifer Storage and Recovery (ASR) wells, not shown on the map are the municipal separate storm sewer system (MS4) facilities.

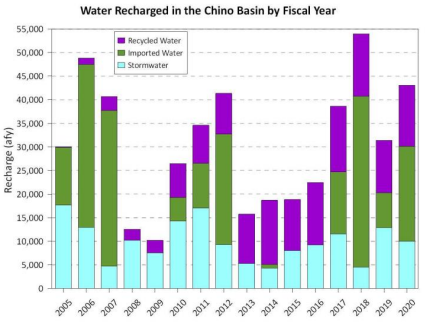
Recharge basins. Imported water, stormwater, dry-weather flow, and recycled water are recharged at 17 recharge basins. Watermaster has permits from the State Water Resources Control Board (State Water Board) to divert stormwater and dry-weather flow to the basins for recharge and storage, and subsequently recover it for beneficial use. Since about 2004, water-level sensors have been installed at most of the recharge basins. These sensors are used to estimate recharge and measure infiltration rates. The estimated recharge is then used in Sustainable Groundwater Management Act (SGMA) reporting, in determining compliance with maximum benefit commitments and recharge permits, in Safe Yield calculations, and for scheduling maintenance.

ASR wells. ASR wells are used to inject treated imported water into the Basin and to pump groundwater. The Monte Vista Water District (MVWD) owns and operates four ASR wells in the Chino Basin.

In-lie u recharge. In-lieu recharge can occur when a Chino Basin Party with pumping rights in the Chino Basin elects to use supplemental water directly in lieu of pumping some or all its rights in the Chino Basin for the specific purpose of recharging supplemental water.

MS4 facilities. The 2013 RMPU implementation included a process to create and update a database of all known runoff management projects implemented through the MS4 permits in the Chino Basin. This was done to create the data necessary to evaluate the significance of new stormwater recharge created by MS4 projects. As of FY 2016/2017, a total of 114 MS4 projects were identified as complying with the MS4 permit through infiltration features. These 114 projects have an aggregate drainage area of 1,733 acres.

Watermaster maintains a database of monthly recharge volumes by water type and recharge location. The chart below shows annual wet-water recharge at recharge basins and ASR wells by water type since the initiation of the recharge program in FY 2004/2005 (dry-weather flow is included with stormwater). With OBMP implementation, recycled water has become a significant portion of annual recharge, totaling around 13,000 af in FY 2019/2020 and averaging about 12,900 afy over the past five years. Recycled water recharge reduces the need for and dependence on imported water for replenishment.



The annual magnitude of imported water recharge at recharge basins fluctuates based on the need for replenishment water, conjunctive-use operations, imported water availability, and other factors. In years where imported water has been recharged in basins for conjunctive-use operations, it has ranged from about 2,400 to 35,000 afy. And in the other non-conjunctive-use influenced years, imported water recharge has varied from 0 to about 35,000 afy.

Prepared for:

Chino Basin Watermaster
2020 State of the Basin Report
Basin Production and Recharge

Groundwater Recharge in the Chino Basin

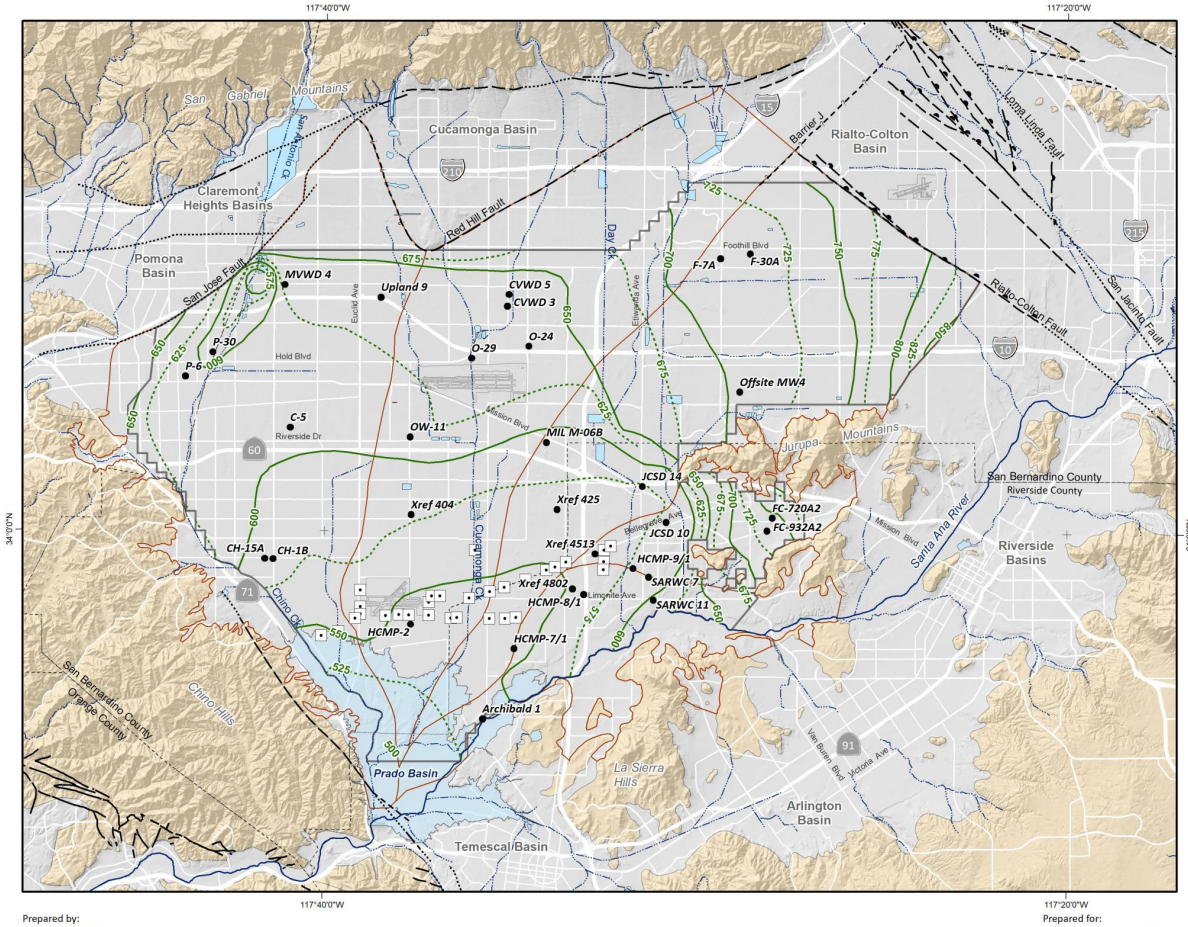
Exhibit 3-5

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-8

Tom Dodson & Associates
Environmental Consultants

Groundwater Recharge in the Chino Basin



Groundwater-Elevation Contours (feet above mean sea-level)

Boundary of Contoured Area (contours are not shown outside of this boundary due to lack of groundwater-level data)

Well With a Groundwater-Level Time History Plotted on Exhibits 4-10 through 4-14

Chino Desalter Wells

Other key map features are described in the legend of Exhibit 1-1.

This map displays contours of equal groundwater elevation across the Chino Basin during the spring of 2020, showing the effects of about 20 years of OBMP implementation. The contours are generally consistent with the groundwater-elevation contours for spring 2018, indicating regional groundwater flow in a south-southwest direction from the primary areas of recharge in the northern parts of the Basin toward the Prado Basin in the south. There continued to be a discernible depression in groundwater levels around the eastern portion of the Chino Basin Desalter well field, which demonstrates the achievement of Hydraulic Control in this area. This depression merged with the pumping depression around the JCSD well field to the east and increased the hydraulic gradient from the Santa Ana River toward the desalter well field. As was the case in 2000 and 2018, there continues to be a notable pumping depression in the groundwater-level surface in the northern portion of MZ1 (Montclair and Pomona areas).

Prepared by:
WEST YOST
Water. Engineered.

Author: TA
Date: 6/21/2021
K:\Clients\941 Chino Basin Watermaster\ Chino Basin Master Project\SOB\GIS\MXD\2020\[U]ex_3-1

0 3 6 Miles
0 4 8 Km

Prepared for:
Chino Basin Watermaster
2020 State of the Basin Report
Groundwater Levels

Groundwater-Elevation Contours for Spring 2020
Shallow Aquifer System

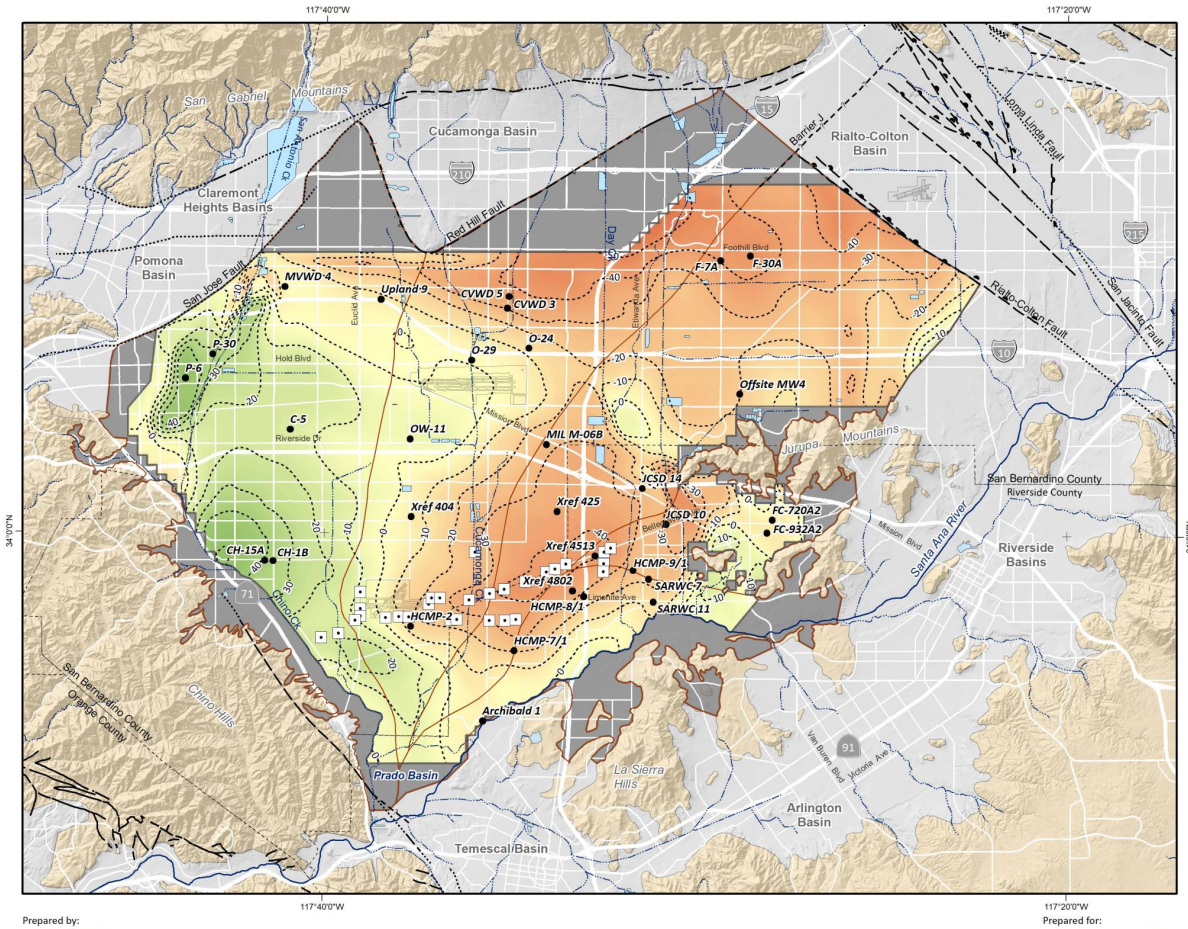
Exhibit 4-4

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-9

Tom Dodson & Associates
Environmental Consultants

Groundwater-Elevation Contours for Spring 2020



Contour of Groundwater-Level Change (foot)
Spring 2000 to Spring 2020

Groundwater-Level Change (foot)
Spring 2000 to Spring 2020

+100 Increase

-100 Decrease

Area Not Included in the Change Calculation Due to Lack a of Groundwater-level Data

Well With a Groundwater-Level Time History Plotted on Exhibits 4-10 through 4-14

Chino Desalter Well

Other key map features are described in the legend of Exhibit 1-1.

This map shows the change in groundwater elevation during the 20-year period of OBMP implementation: spring 2000 to spring 2020. This map was created by subtracting a rasterized grid created from the groundwater elevations for spring 2000 (Exhibit 4-2) from a rasterized grid created from the groundwater elevations for spring 2020 (Exhibit 4-4).

Groundwater levels have increased in the western portion of the Basin. Groundwater levels have decreased in the central and eastern portions of the Basin and around the eastern portion of the Chino Desalter well field in the south. The changes in groundwater elevation shown here are consistent with projections from Watermaster's groundwater modeling efforts (WEI, 2003a; 2007c; 2015d; 2020) that simulated changes in the groundwater levels and flow patterns from the production and recharge strategies described in the Judgment, OBMP, Peace Agreement, and Peace II Agreement. These strategies include: desalter production in the southern portion of the Basin; controlled overdraft through Basin Re-operation to achieve Hydraulic Control; subsidence management in MZ1; mandatory recharge of Supplemental Water in MZ1 to improve the balance of recharge and discharge; and facilities improvements to enhance the recharge of storm, recycled, and imported waters.

Prepared by:
WEST YOST
Water. Engineered.

Author: TA
Date: 6/23/2021
K:\Clients\941 Chino Basin Watermaster\ Chino Basin Master Project\SOB\GIS\MXD\2020\Fig_3-1

0 3 6 Miles
0 4 8 Km

Prepared for:
Chino Basin Watermaster
2020 State of the Basin Report
Groundwater Levels

Groundwater-Level Change from Spring 2000 to Spring 2020
Shallow Aquifer System

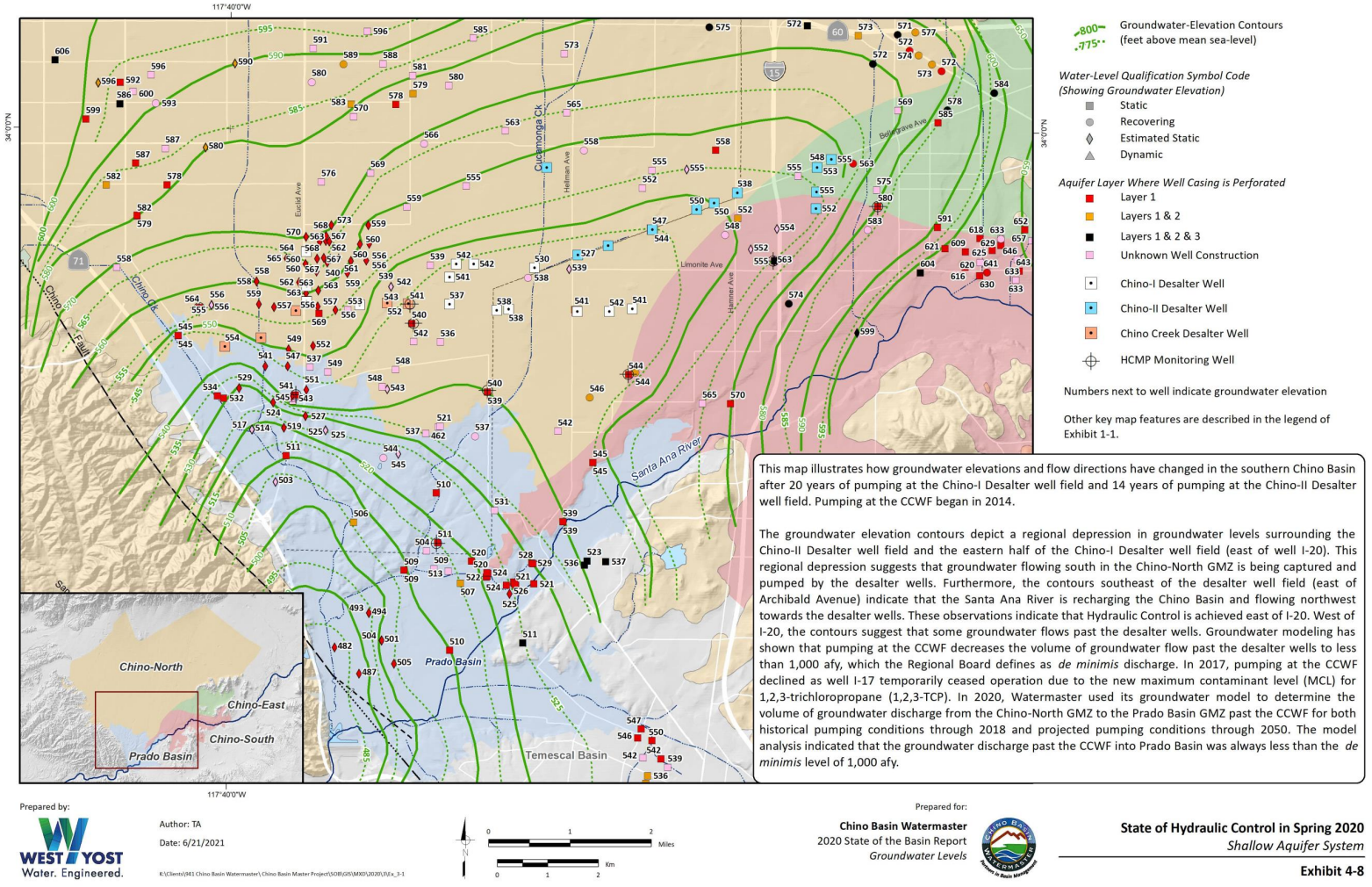
Exhibit 4-5

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-10

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Groundwater-Level Change from Spring 200 to Spring 2020

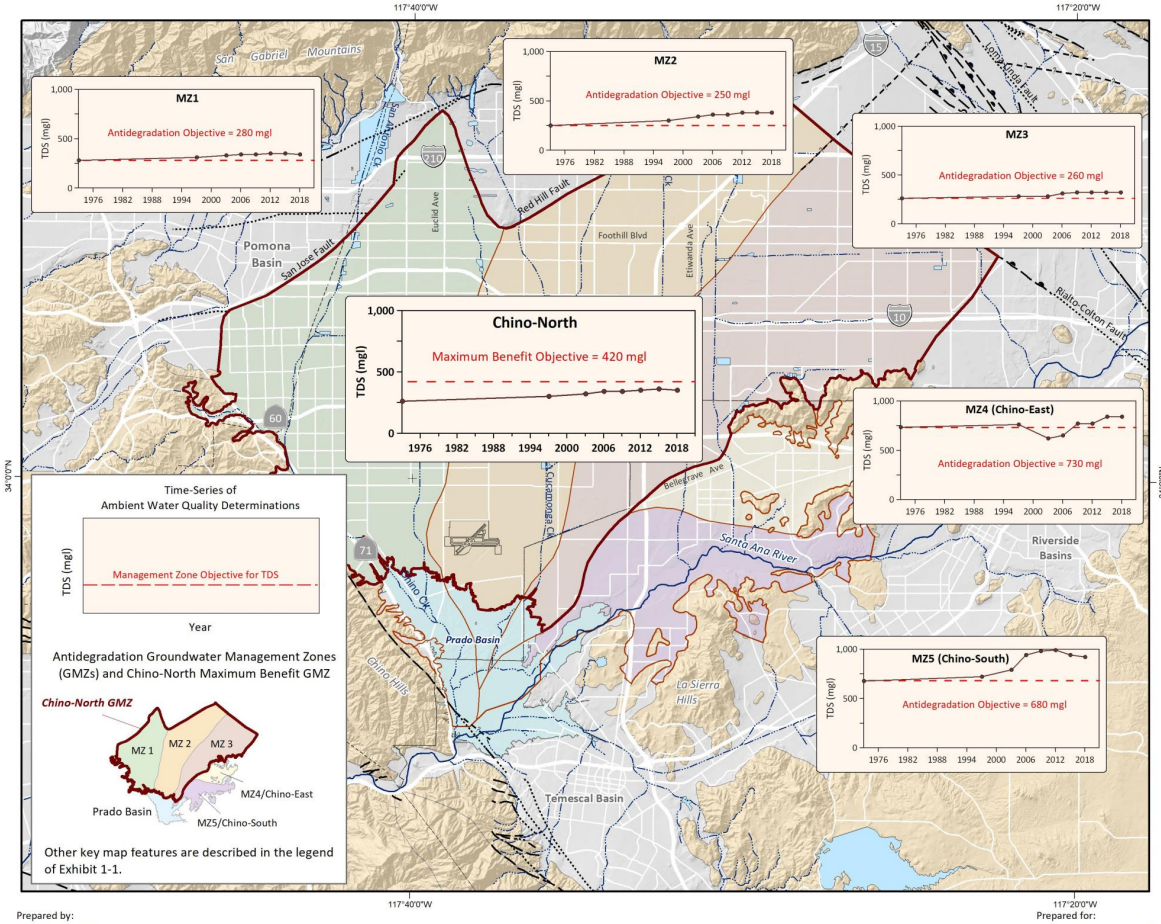


SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-11

Tom Dodson & Associates
Environmental Consultants

State of Hydraulic Control in Spring 2020



The ambient water quality (AWQ) of GMZs in the Santa Ana Watershed are computed on a triennial basis and compared with the groundwater-quality objectives defined in the Basin Plan to determine assimilative capacity for TDS and nitrate, and to assess if waste discharge requirements are protective of groundwater quality. AWQ represents the volume-weighted average concentration for a GMZ, and is derived from water quality statistics computed at wells based on a 20-year time-history of sample results.

In the Chino Basin, the Chino-North GMZ maximum-benefit objective is used as the measure of compliance to permit recycled water discharge and reuse. The Chino-North GMZ is the combined extent of MZ1, MZ2, and MZ3 up-gradient of the Prado Basin. The Chino-North maximum-benefit objective is numerically higher than the individual anti-degradation objectives set for MZ1, MZ2, and MZ3. If Watermaster and the IEUA do not implement the specific projects and programs described in the Chino Basin maximum-benefit commitments in the Basin Plan (Table 5-8), the anti-degradation objectives will apply, and Watermaster and the IEUA will be required to mitigate TDS and nitrate loading from recycled water discharge and reuse above the anti-degradation objectives.

AWQ determinations have been made for eight 20-year periods: 1954-1973, 1978-1997, 1984-2003, 1987-2006, 1990-2009, 1993-2012 (WEI, 2000; 2005b; 2008a; 2011b; and 2014), 1996-2015 (DBS&A, 2017), and 1999-2018 (WSC, 2020). From 1973 to 2018, the ambient TDS concentration for Chino-North increased from 260 to 350 mgl, but remains below the maximum-benefit objective of 420 mgl, and 70 mgl of assimilative capacity remains. When the current ambient TDS exceeds the maximum-benefit objective, there will be a mitigation requirement for the recharge and direct use of recycled water.

In the Chino-East and Chino-South GMZs, the current ambient TDS concentrations are greater than the objectives. Because the TDS concentration of the recycled water reused by the Chino Basin parties in these GMZs is less than the antidegradation objectives of 730 and 680 mgl, there are no regulatory compliance challenges.

Trends in Ambient Water Quality Determinations for Total Dissolved Solids By Groundwater Management Zone

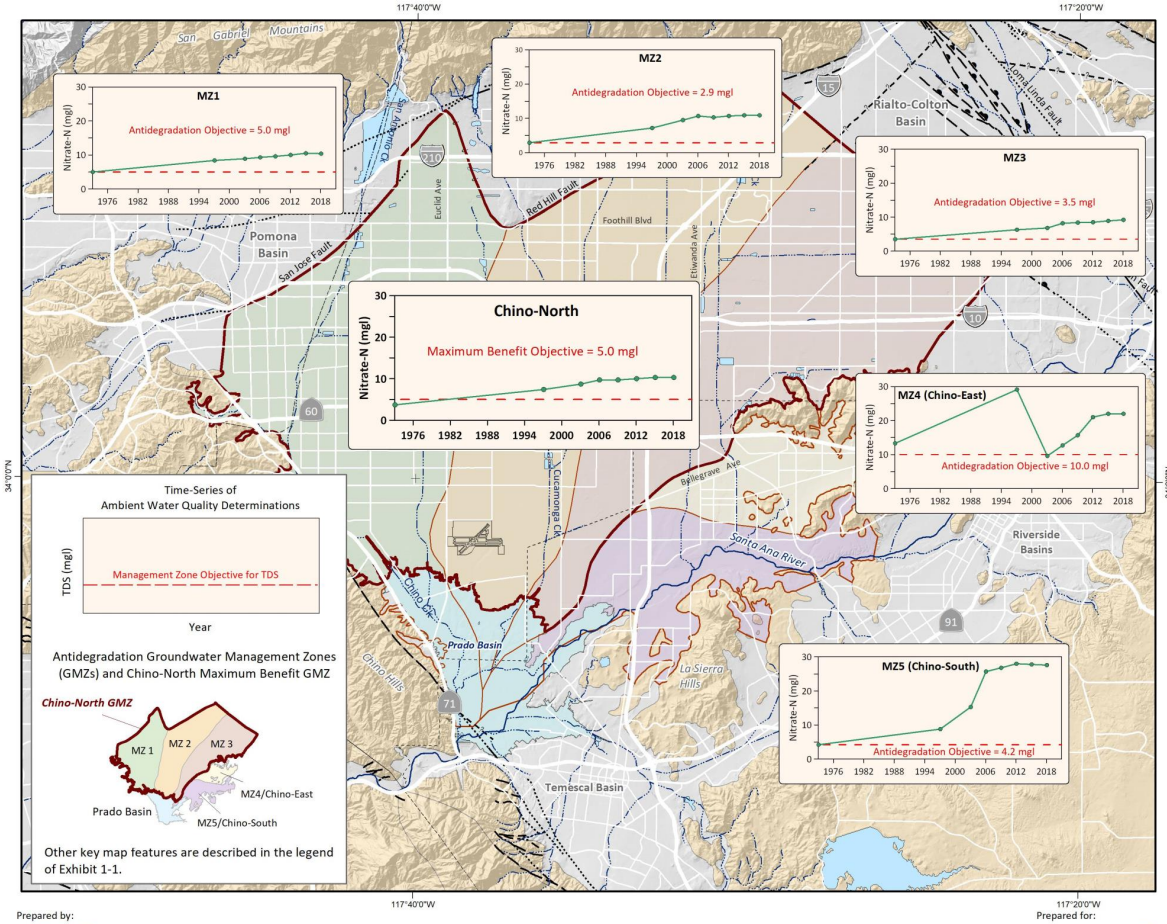
Exhibit 5-24

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-12

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Trends in Ambient Water Quality Determinations for Total Dissolved Solids by Groundwater Management Zone



From 1973 to 2018, the ambient nitrate in Chino-North increased from 3.7 to 10.3 mgl, and is currently above the maximum benefit objective of 5.0 mgl. To ensure recycled water recharge in the Chino-North GMZ is in compliance with the maximum benefit objective, Watermaster and the IEUA must recharge low-nitrate imported water and storm waters such that the 12-month, volume-weighted concentration of the all recharge sources (storm water, recycled water, and imported water) is less than or equal to the maximum-benefit objective of 5.0 mgl.

In the Chino-East GMZ, the current ambient nitrate concentration is about two to three times greater than the antidegradation objective of 10 mgl, and has been increasing since 1973.

In the Chino-South GMZ, the current ambient nitrate concentration is about six times greater than the antidegradation objective of 4.2 mgl, and has also been increasing since 1973.

For all GMZs, the increase in ambient concentrations is likely related to an increase in the data available to perform the calculations since the implementation of the OBMP monitoring programs, opposed to actual the degradation of water quality.

Trends in Ambient Water Quality Determinations for Nitrate as Nitrogen By Groundwater Management Zone

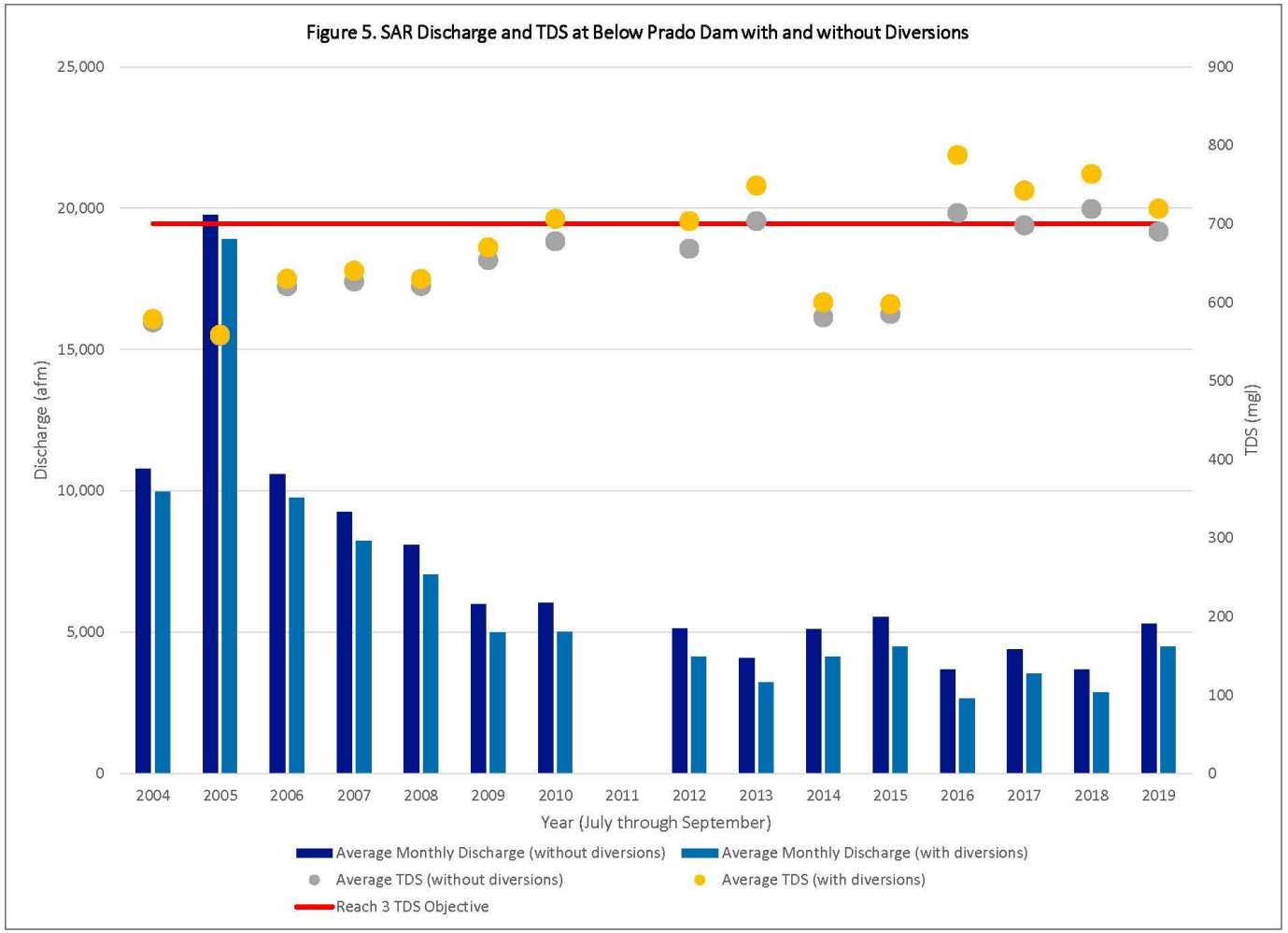
Exhibit 5-25

SOURCE: Chino Basin Watermaster 2020 State of the Basin Report prepared by West Yost dated June 2021

FIGURE 4.11-13

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Trends in Ambient Water Quality Determinations for Nitrate as Nitrogen by Groundwater Management Zone

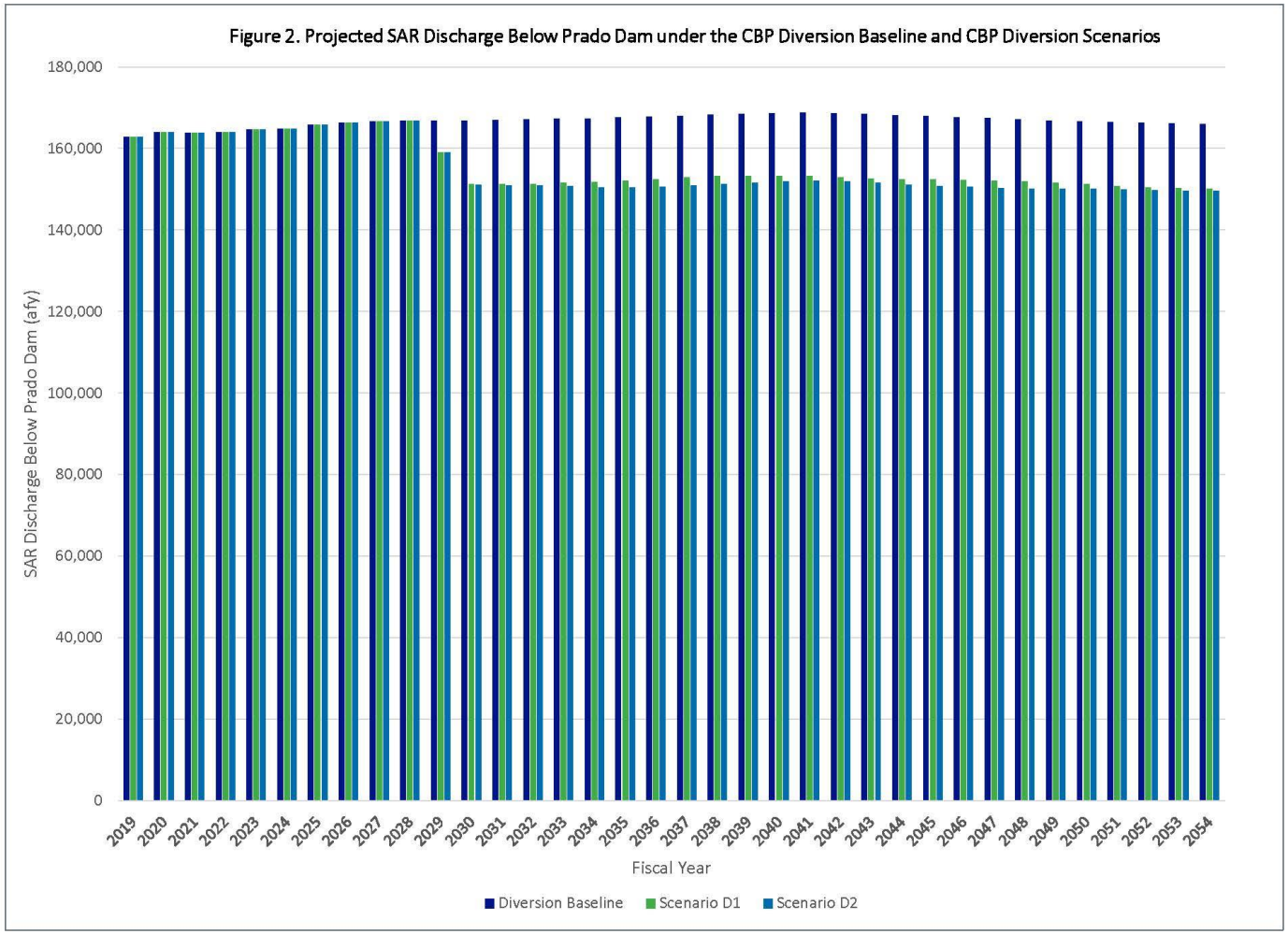


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-14

Tom Dodson & Associates
Environmental Consultants

SAR Discharge and TDA at Below Prado Dam With and Without Diversions

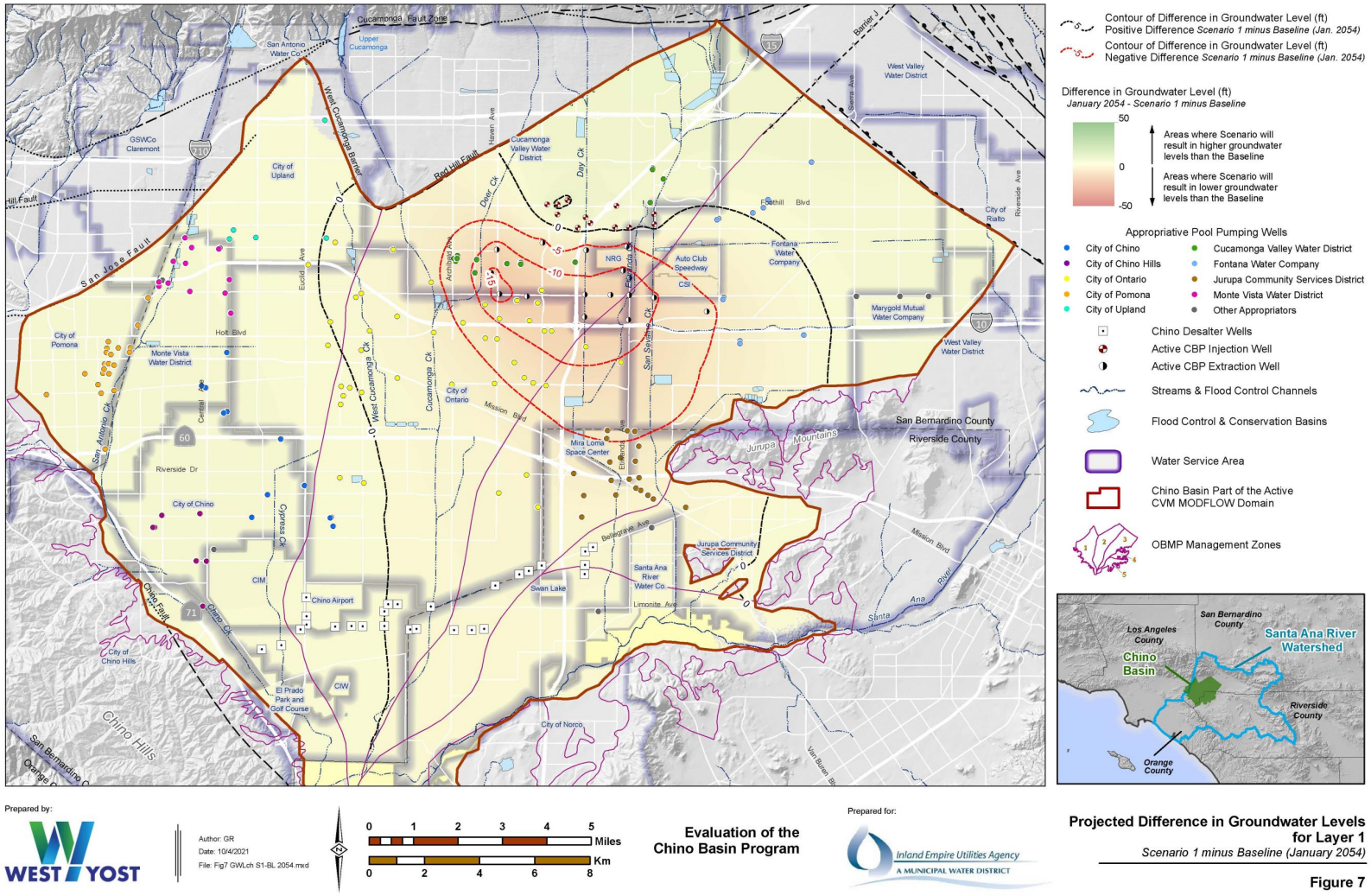


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-15

Tom Dodson & Associates
Environmental Consultants

Project SAR Discharge Below Prado Dam Under the CBP Diversion Baseline and CBP Diversion Scenarios

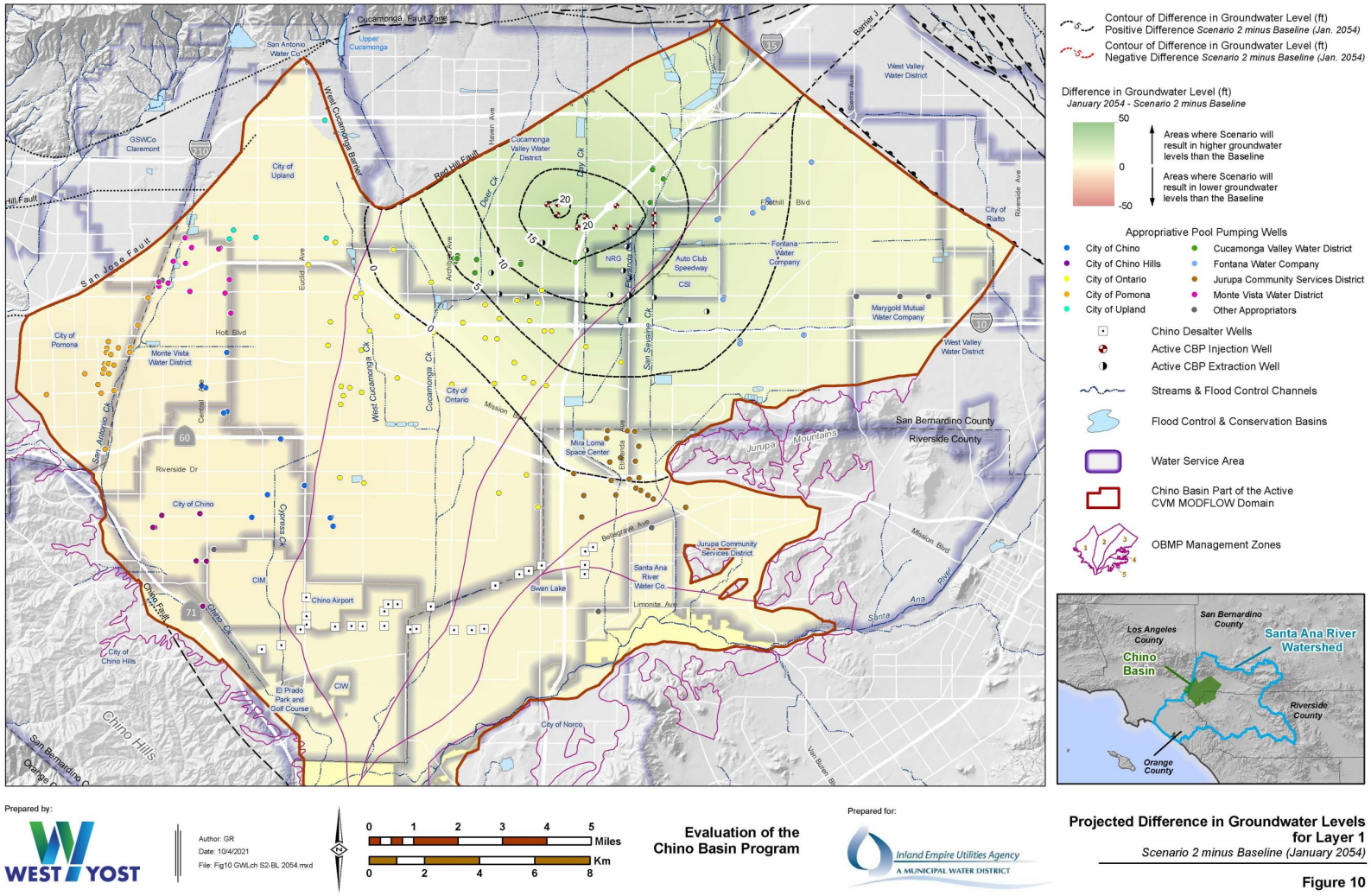


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-16

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Projected Difference in Groundwater Levels for Layer 1 – Scenario 1

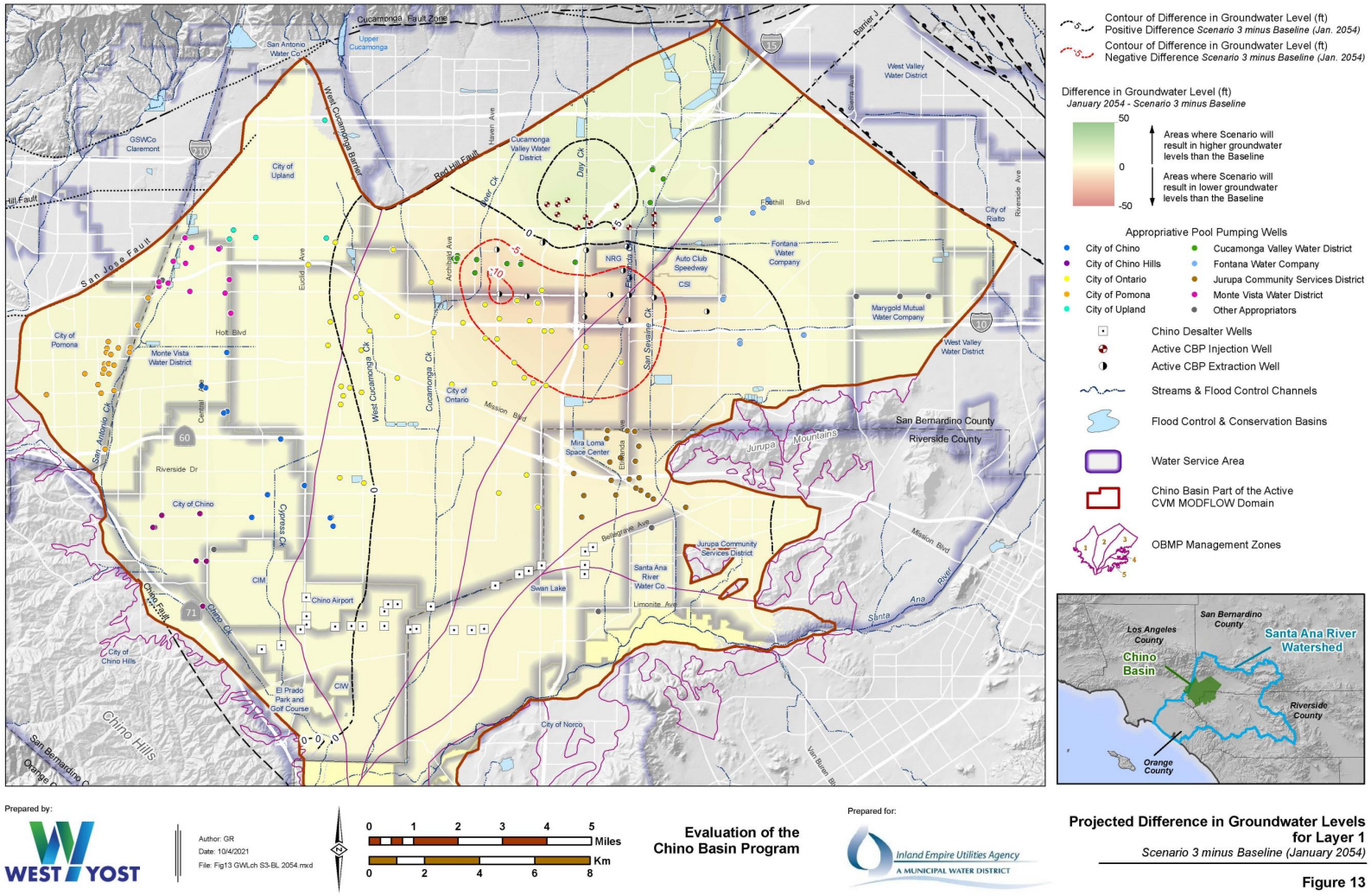


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-17

Tom Dodson & Associates
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Projected Difference in Groundwater Levels for Layer 1 – Scenario 2

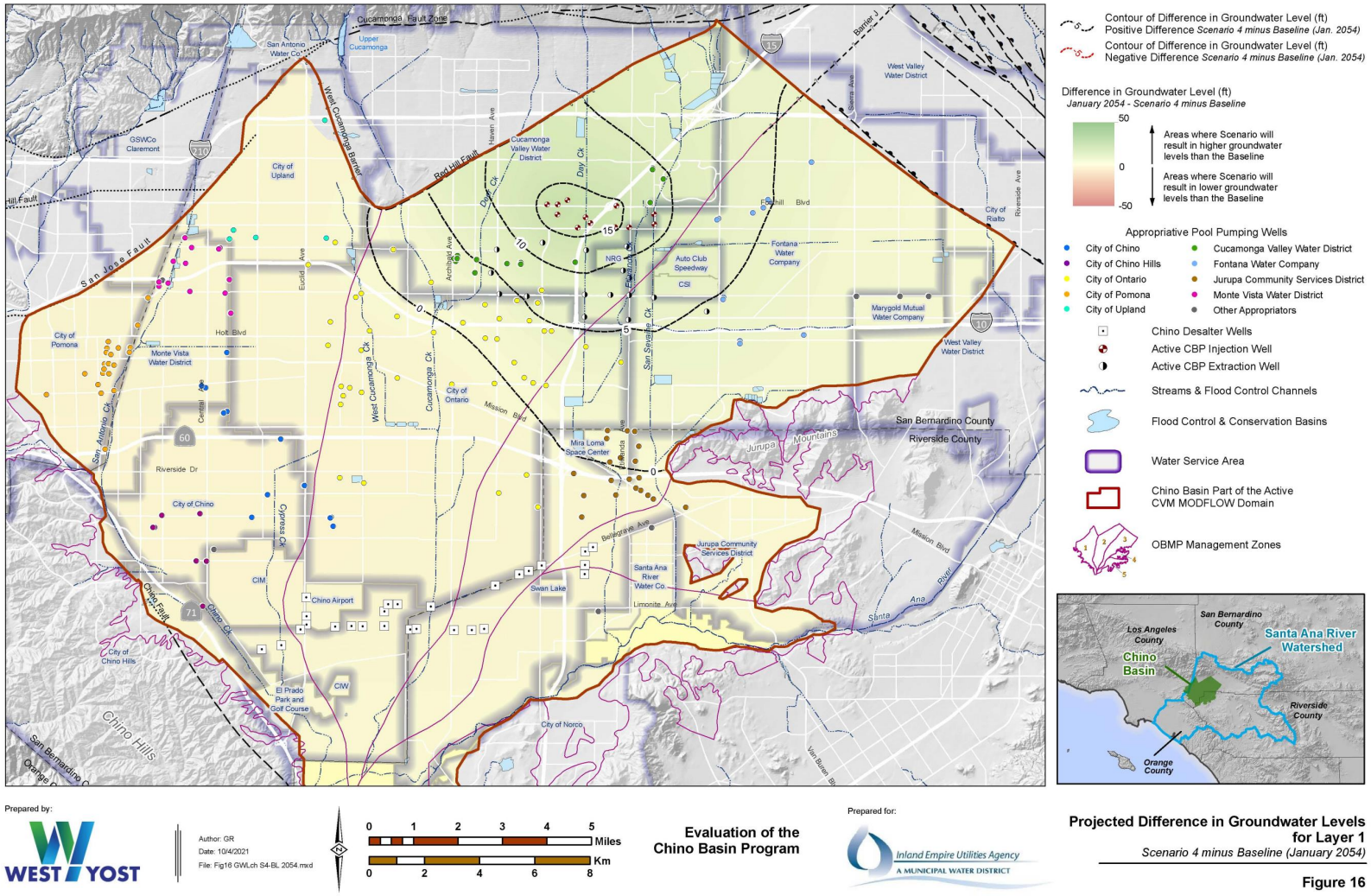


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-18

Tom Dodson & Associates
Environmental Consultants

Projected Difference in Groundwater Levels for Layer 1 – Scenario 3

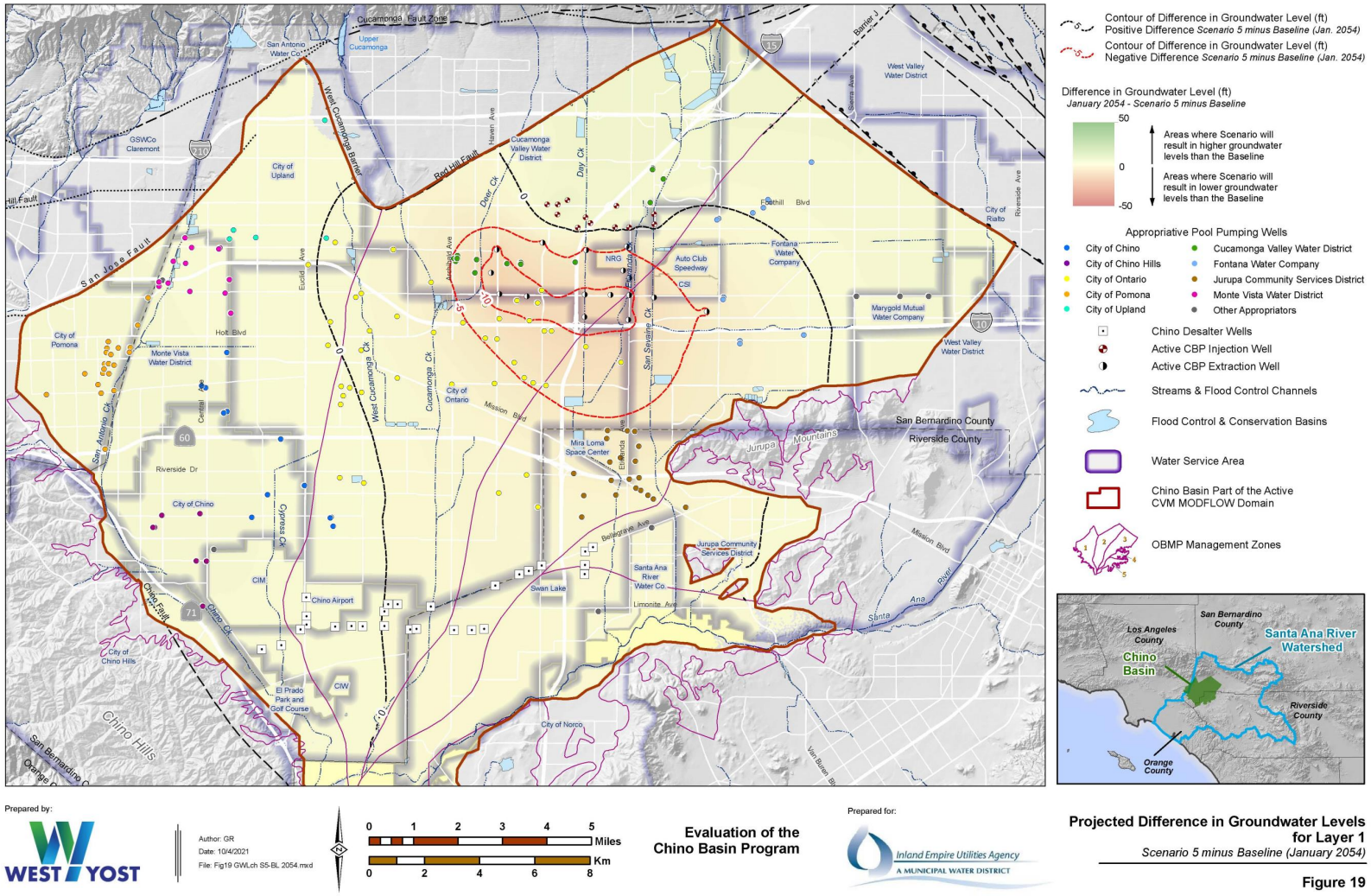


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-19

Tom Dodson & Associates
Environmental Consultants

Projected Difference in Groundwater Levels for Layer 1 – Scenario 4

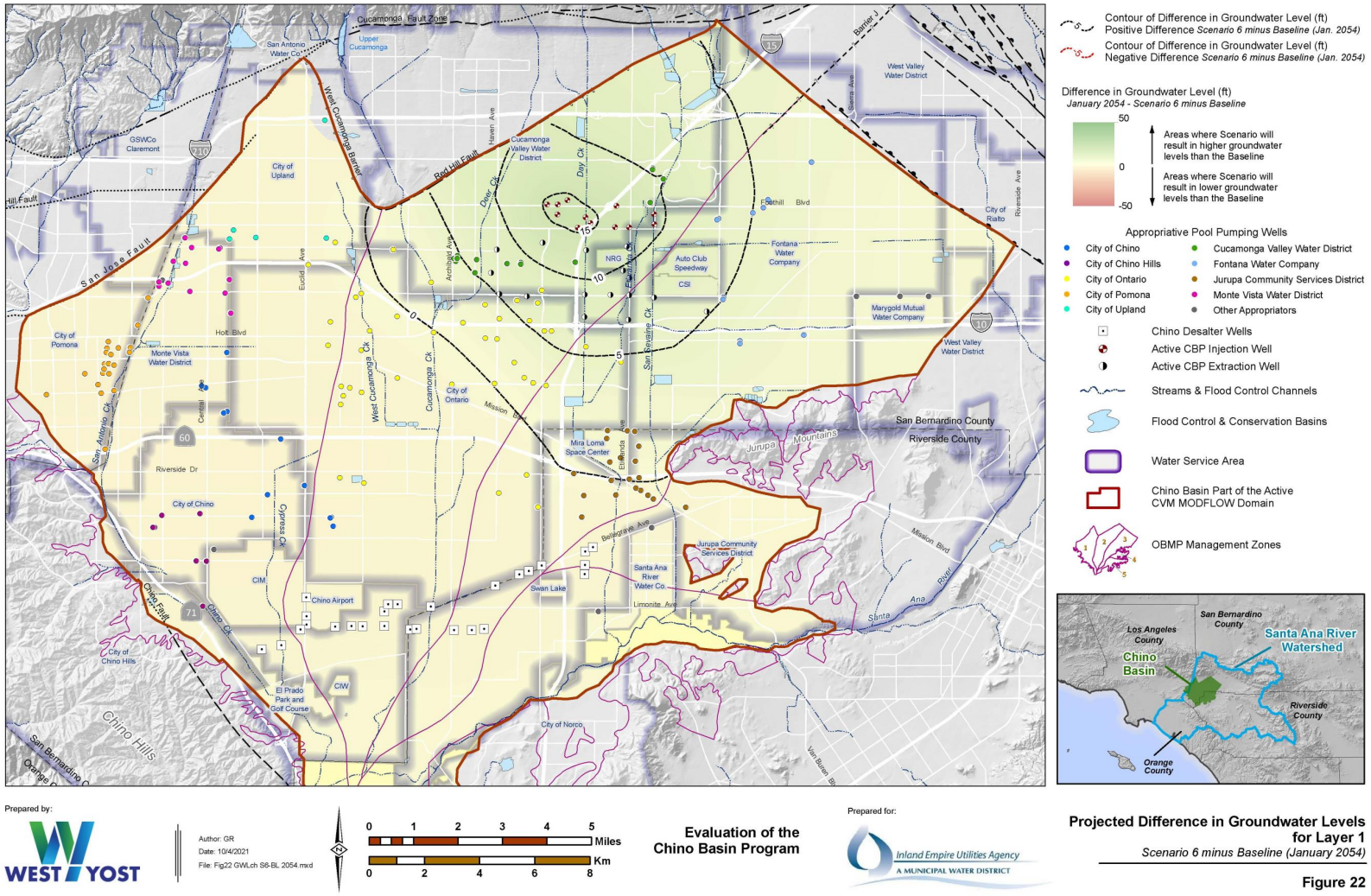


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-20

Tom Dodson & Associates
Environmental Consultants

Projected Difference in Groundwater Levels for Layer 1 – Scenario 5

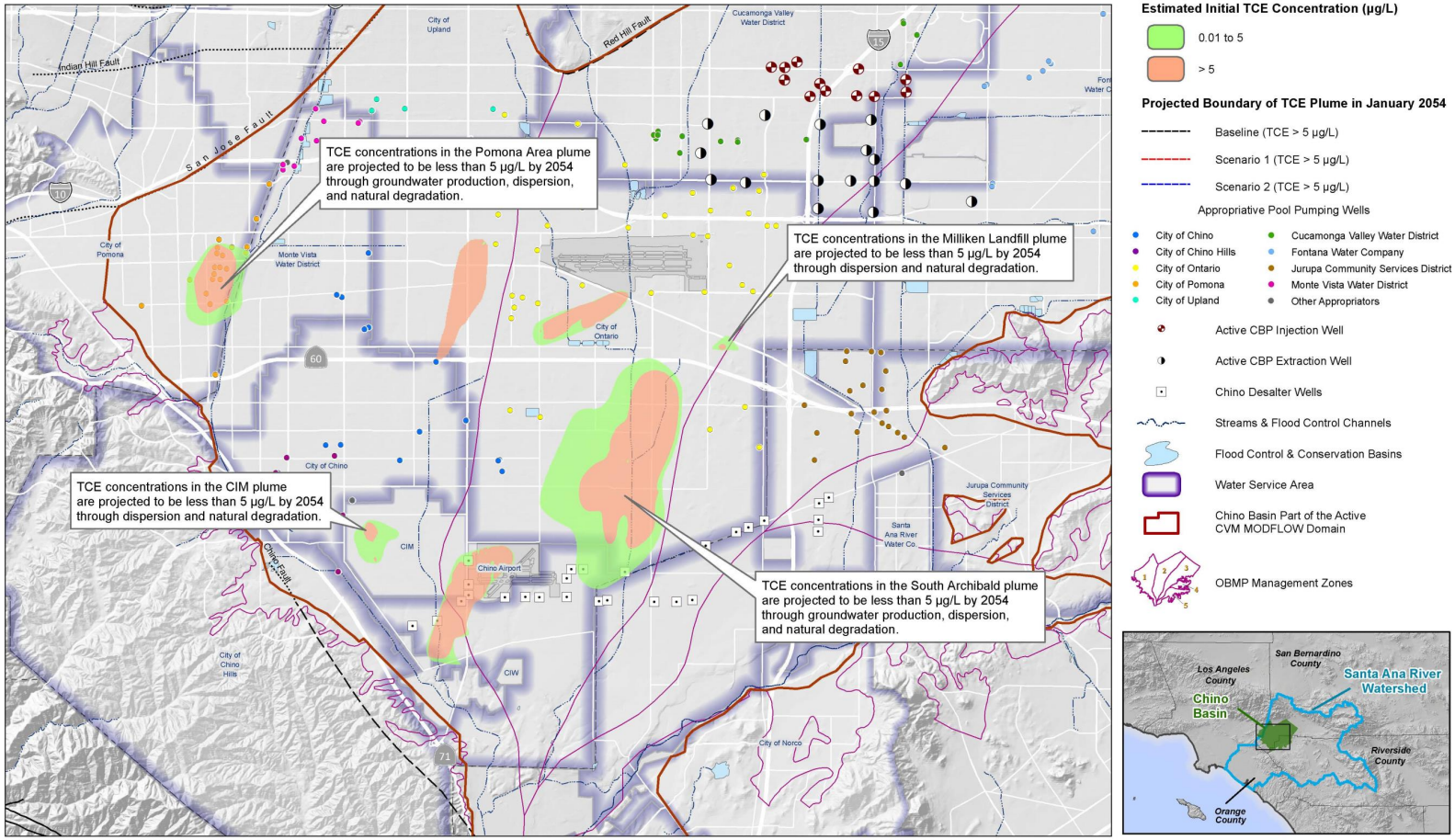


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-21

Tom Dodson & Associates
Environmental Consultants

Projected Difference in Groundwater Levels for Layer 1 – Scenario 6

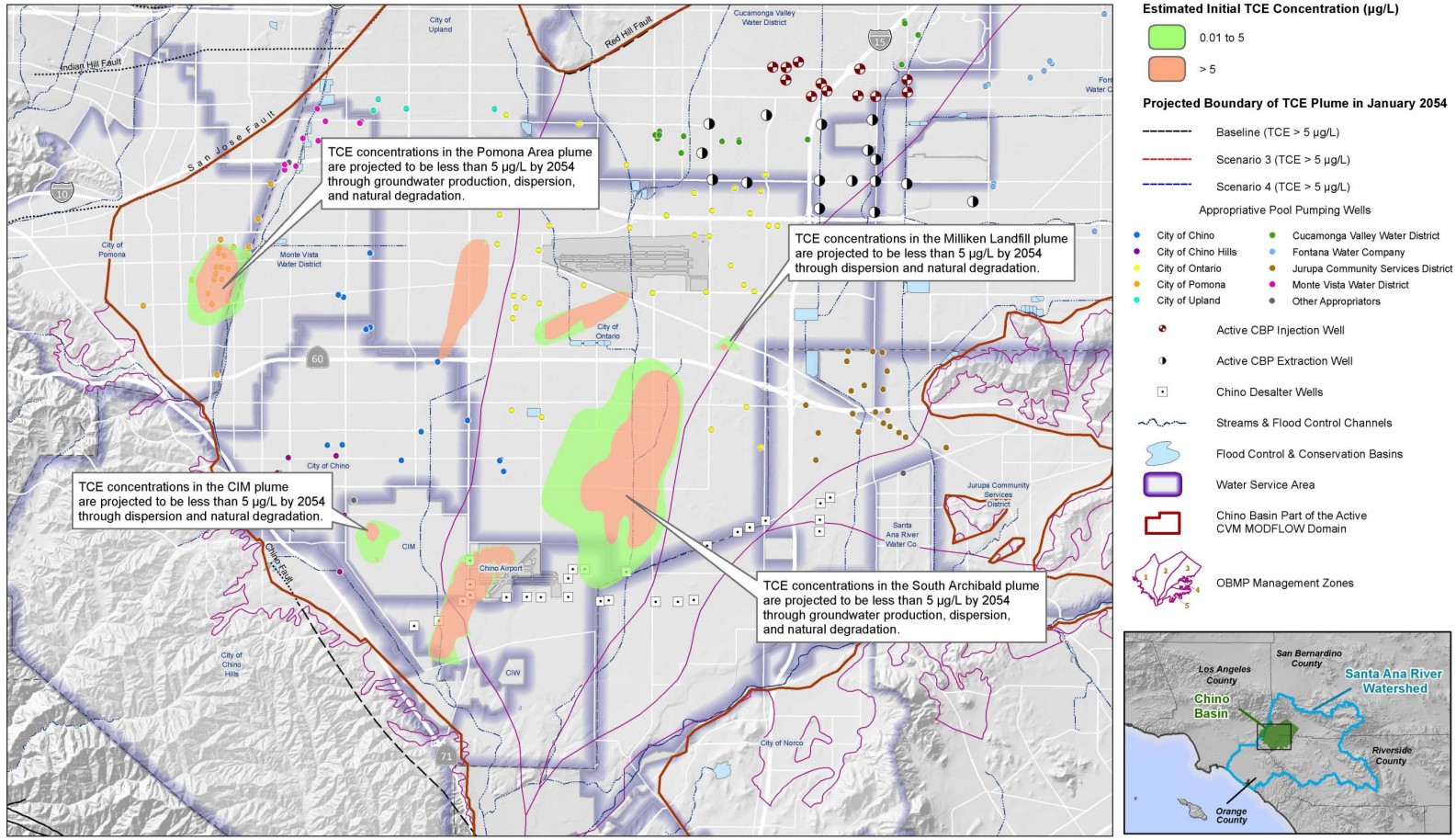


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-22

Tom Dodson & Associates
Environmental Consultants

Estimated Location of Water Quality Anomalies, Baseline and CBP Scenarios 1 & 2

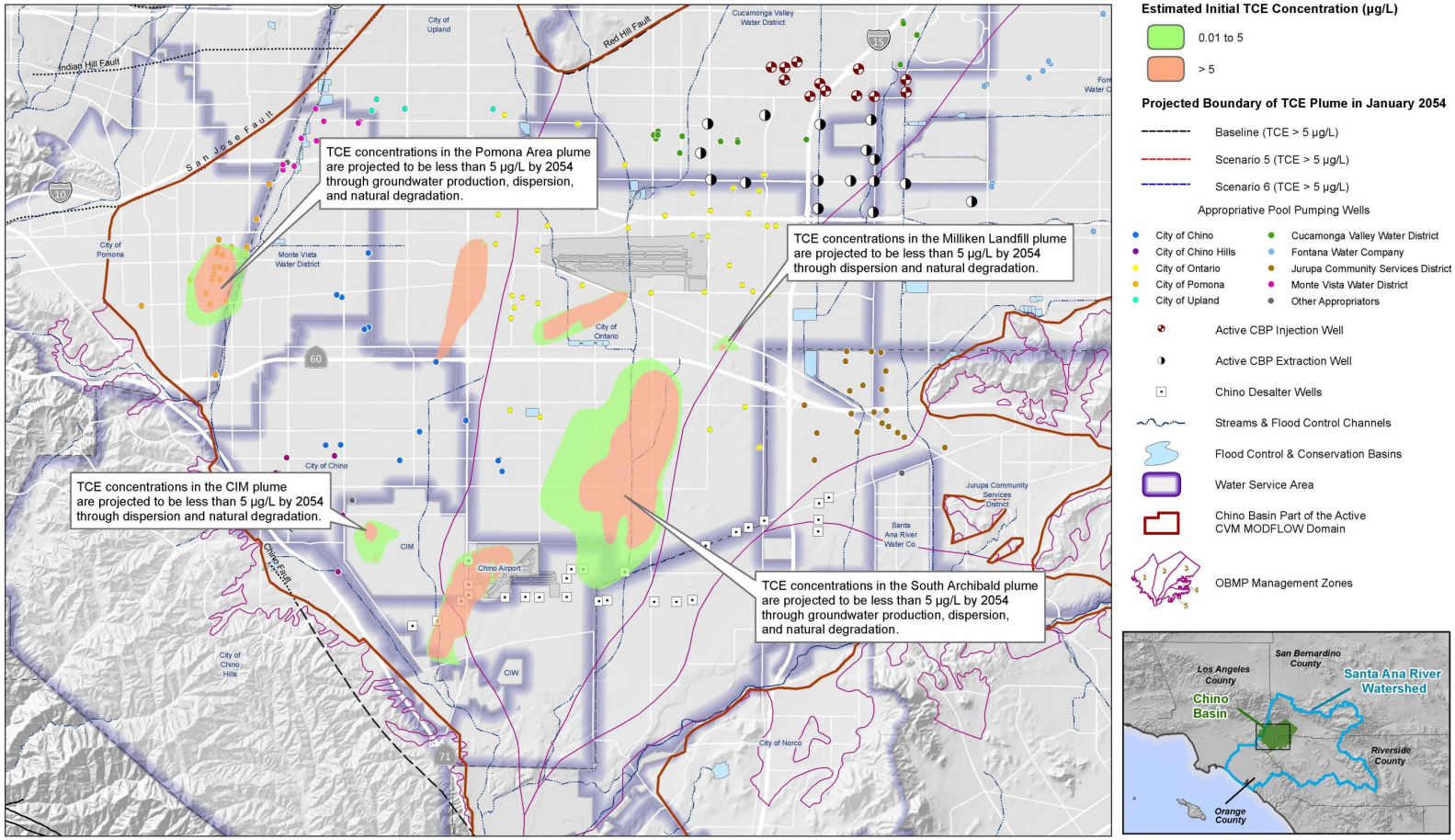


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-23

Tom Dodson & Associates
Environmental Consultants

Estimated Location of Water Quality Anomalies, Baseline and CBP Scenarios 3 & 4

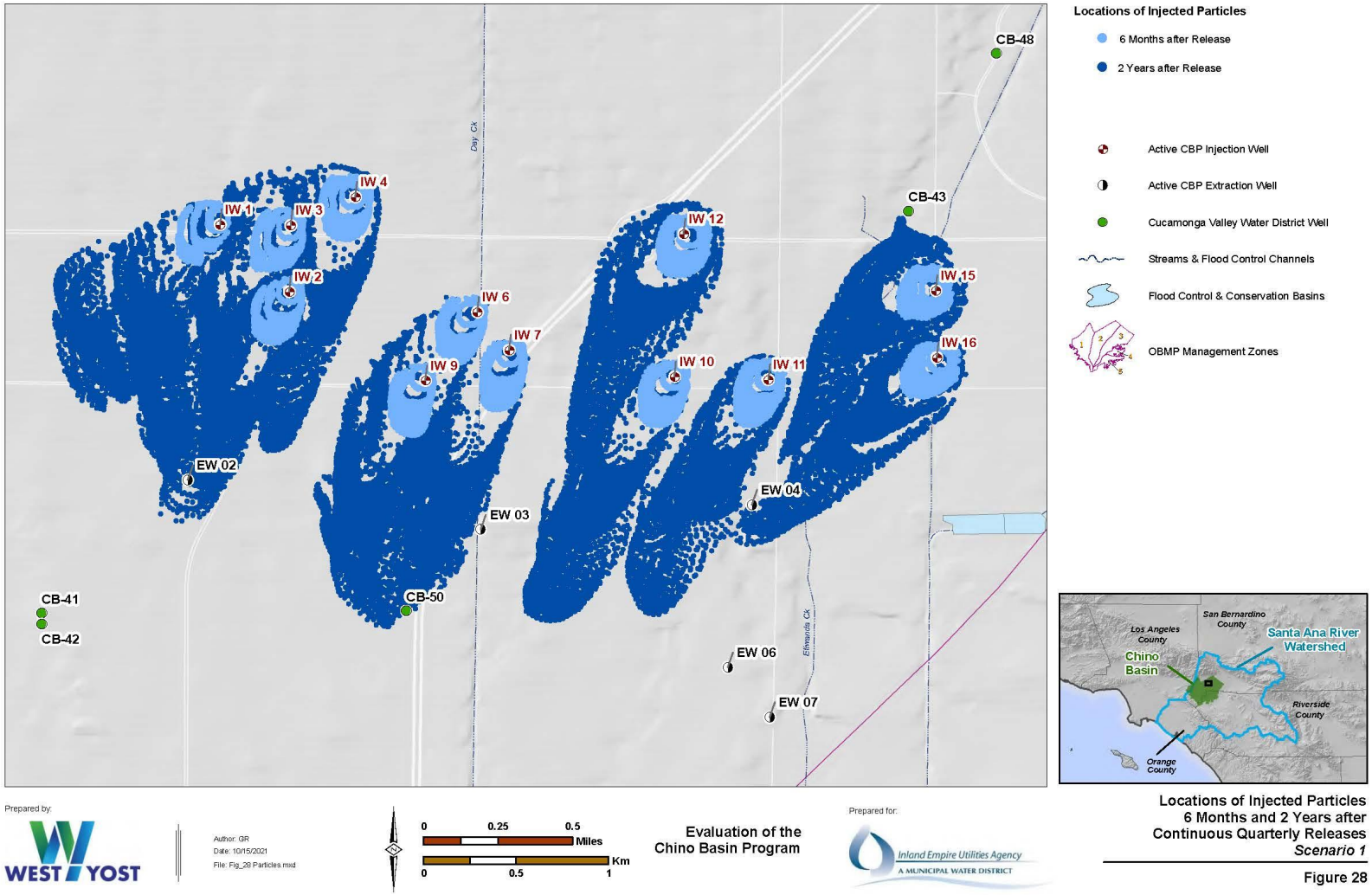


SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-24

Tom Dodson & Associates
Environmental Consultants

Estimated Location of Water Quality Anomalies, Baseline and CBP Scenarios 5 & 6



Locations of Injected Particles
6 Months and 2 Years after
Continuous Quarterly Releases
Scenario 1

Figure 28

SOURCE: Prepared by West Yost for IEUA CBP

FIGURE 4.11-25

Tom Dodson & Associates
Environmental Consultants

Location of Injected Particles 6 Months and 2 Years After Continuous Quarterly Releases

4.20 UTILITIES AND SERVICE SYSTEMS

4.20.1 Introduction

This Subchapter evaluates the environmental impacts to the issue area of utilities and service systems from implementation of the CBP. Utilities within the Chino Basin are provided by a mix of public agencies, such as IEUA—the lead agency for this project, IEUA member agencies, and other private companies, such as Southern California Edison (SCE).

These issues will be discussed below as set in the following framework:

- Introduction
- Environmental Setting: Utilities and Service Systems
- Regulatory Setting
- Thresholds of Significance
- Potential Impacts
- Cumulative Impacts
- Unavoidable Adverse Impacts

The following references were used in preparing this Subchapter of the RDPEIR.

- Administration, U.S. Energy Information. California State Profile and Energy Estimates. Accessed 10/1/21 at: https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures
- California Energy Commission. Transportation Energy Demand Forecast 2018-2030. 2018.
- Alternate Fuels Data Center. U.S. Department of Energy. Accessed 10/1/21 at: https://afdc.energy.gov/states/ca
- U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates. Accessed 10/1/21 at: https://www.eia.gov/state/?sid=CA#tabs-2.
- Jet fuel consumption, price, and expenditure estimates, 2017. U.S. Energy Information Administration. Accessed 10/1/21 at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_jf.html.
- State Profile Data: California. U.S. Energy and Information Administration. Accessed 10/1/21 at: https://www.eia.gov/state/data.php?sid=CA.
- City of Chino Hills, 2020 Urban Water Management Program, 2021
- City of Ontario, 2020 Urban Water Management Program, 2021
- City of Pomona, 2020 Urban Water Management Program, 2021
- City of Upland, 2020 Urban Water Management Program, 2021
- Cucamonga Valley Water District, 2020 Urban Water Management Program, 2021
- Fontana Water Company, 2020 Urban Water Management Program, 2021
- IEUA, FMP PEIR, 2017
- IEUA, Draft Optimum Basin Management Program Update EIR, 2020
- Monte Vista Water District, 2020 Urban Water Management Program, 2021
- Jurupa Community Services District, 2020 Urban Water Management Program, 2021
- Water Systems Consulting, Inc. [West Valley Water District et. al.], 2020 San Bernardino Valley Regional Urban Water Management Program, 2021
- IEUA, 2020 Urban Water Management Program, 2021
- Water Facilities Authority Website, Accessed 10/1/21 at: http://www.wfajpa.org/
- 2020 Draft Optimum Basin Management Program Update EIR
- WEI on behalf of Chino Basin Watermaster, Final 2020 Storage Management Plan. December 2019.
- City of Riverside, Riverside Water Quality Control Plant Website. Accessed 10/1/21 at: https://www.riversideca.gov/publicworks/sewer/wqcp.asp

- Jurupa Community Services District, Sewer and Wastewater Website. Accessed 10/1/21 at: https://www.jcsd.us/customers/sewer-wastewater
- Western Riverside County Regional Wastewater Authority, Treatment Plant Overview Website. Accessed 10/1/21 at: https://www.wrcrwa.org/152/Treatment-Plant-Overview
- California Department of Resources Recycling and Recovery, Solid Waste Information System (SWIS), 2021
- California Energy Commission, 2018 Total System Electrical Generation Website. Accessed 10/1/21 at: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

No comments specific to this topic were received in response to the Notice of Preparation. No comments were received at the scoping meeting held for the proposed project.

Information contained in this Subchapter is supported by the "Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program" and the "Addendum to the Evaluation of the Chino Basin Program/ Water Storage Investment Program," both dated October 15, 2021 and prepared by West Yost (West Yost TM). The West Yost TM and Addendum are provided as Appendix 4, Volume 2 to the ~~is~~ 2022 CBP ~~D~~ FPEIR.

4.20.2 Environmental Setting: Utilities & Service Systems

4.20.2.1 Water

Please refer to the discussion under Hydrology and Water Quality provided as Subchapter 4.11.

Chino Basin Watermaster

As stated in the Project Description, the 1978 Judgment adjudicated the groundwater rights of the Chino Basin, and established the Watermaster—a Court-created entity—to administer the Judgment, and contains a Physical Solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. Growth is one of the drivers shaping water and basin management. As urban land uses replace agricultural uses and vacant land, the water demands of the Chino Basin Parties[1] are expected to increase. The table below summarizes the actual (2015) and projected water demands, water supply plans, and population through 2040. Total water demand is projected to grow from about 290,000 acre-feet per year (AFY) in 2015 to about 420,000 AFY by 2040, an increase of about 130,000 AFY. The projected growth in water demand through 2040 is driven by the Appropriative Pool Parties, some of which will serve new urban water demands created by the conversion of agricultural uses and vacant land to urban uses.

Table 4.20-1
AGGREGATE WATER SUPPLY PLAN FOR WATERMASTER PARTIES: 2015 TO 2040

Water source	2015 (Actual)	2020	2025	2030	2035	2040
Volume (af)						
Chino Basin Groundwater	148,467	139,236	144,314	151,525	164,317	173,522
Non-Chino Basin Groundwater	51,398	55,722	61,741	63,299	64,991	66,783
Local Surface Water	8,108	19,653	19,653	19,653	19,653	19,653
Imported Water from Metropolitan	53,784	90,444	97,657	103,684	105,152	111,036
Other Imported Water	8,861	9,484	10,095	10,975	11,000	11,000

[1] The Chino Basin Watermaster functions as a unique entity that has been created by the court. Basin Watermaster is composed of a Board that consists of member agencies from three groups: an Appropriative Pool, Non-Appropriative Pool, and Agricultural Pool, and four other public agencies (see below), effectively the water producers in the Chino Basin. These entities are collectively known as the Chino Basin Parties or stakeholders.

Water source	2015 (Actual)	2020	2025	2030	2035	2040
Recycled Water for Direct Reuse	17,554	23,678	24,323	26,910	30,451	33,953
Total	**288,171**	**338,218**	**357,782**	**376,046**	**395,564**	**415,947**
Percentage						
Chino Basin Groundwater	52%	41%	40%	40%	42%	42%
Non-Chino Basin Groundwater	18%	16%	17%	17%	16%	16%
Local Surface Water	3%	6%	5%	5%	5%	5%
Imported Water from Metropolitan	19%	27%	27%	28%	27%	27%
Other Imported Water	3%	3%	3%	3%	3%	3%
Recycled Water for Direct Reuse	6%	7%	7%	7%	8%	8%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Population (million)*	1.95	2.07	2.21	2.38	2.57	2.73

Source: *Final 2020 Storage Management Plan*. December 2019.
*The population projection is based on the service area population of all Chino Basin Appropriative Pool agencies. For some Appropriative Pool agencies, the service areas expand outside of the Chino Basin.

Water Agencies

Inland Empire Utilities Agency

IEUA is a regional wholesale water supplier, providing imported water from Metropolitan Water District of Southern California (MWD) and a regional wastewater treatment agency. As described in the Project Description, IEUA provides the 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. IEUA served approximately 906,046 people in 2020, over 242 square miles in western San Bernardino County.

As stated in the Project Description, approximately 25 percent of the water used in the region is imported from MWD through the State Water Project (SWP). Due to water quality limitations (salinity, total dissolved solids [TDS]) and operation of the regional recycled water program, IEUA only takes water from the SWP.

A diverse portfolio of water supply sources has been developed within IEUA's service area. The region relies on groundwater from the Chino Basin and other basins (Cucamonga, Rialto, Lytle Creek, Colton, and the Six Basins groundwater basins), local surface water from creeks originating in the San Gabriel Mountains, recycled water produced locally, and imported water from the SWP via MWD. **Table 2** (extracted from the Project Description) below provides the current and projected recycled water supplies in AFY through 2040.

Table 2
CURRENT AND PROJECTED RECYCLED WATER SUPPLIES (AFY)

Recycled Water Supply	2020	2025	2030	2035	2040
	55,074[1]	60,150	63,530	64,500	67,140
NOTES: For 2020, this amount is the actual supply. For 2025 to 2040, supply projections are from IEUA 2021 Wastewater and Recycled Water Demand Forecasts based on land use.					

Current and projected recycled water demands through 2040 are provided in **Table 3** (extracted from the Project Description) below. Recycled water demands include direct use, groundwater recharge, and Santa Ana River discharge obligations.

Table 3
CURRENT AND PROJECTED RECYCLED WATER DEMAND (AFY)

	2020	2025	2030	2035	2040
Direct Use Demands[1]	16,278	20,870	23,275	24,704	27,855
Groundwater Recharge[2]	16,900	16,420	16,420	16,420	16,420
Total	33,178	37,290	39,965	41,124	44,275
NOTES: (1) Minimum discharge required by Santa Ana River Obligation is 16,850 AFY at Prado. For planning purposes, assume 17,000 AFY; (2) From IEUA 2021 Wastewater and Recycled Water Demand Forecasts					

As a wholesaler, IEUA supplies untreated imported water that is purchased from MWD and supplied to its retail agencies. In fiscal year 2019-2020, 66,438 AF of untreated imported water was supplied to its retail agencies.

Cucamonga Valley Water District
CVWD provides treated potable water and wastewater services to the City of Rancho Cucamonga, portions of the cities of Upland, Ontario and Fontana, and some unincorporated areas of San Bernardino County. It serves an area with a current population of approximately 198,979 with approximately 48,293 water connections to meet an average demand of 48,276 AFY.

Fontana Water Company
FWC serves most of the City of Fontana, portions of the cities of Rialto and Rancho Cucamonga, and unincorporated areas of San Bernardino County. FWC serves a population of more than 237,000 within its 52-square miles service area. FWC has the following existing water supplies:

- Surface water diverted from Lytle Creek, treated at the Summit Plant
- Untreated SWP surface water purchased from IEUA and San Bernardino Valley Municipal Water District (SBVMWD), treated at the Summit Plant
- Recycled water purchased from IEUA
- Groundwater pumped from FWC-owned and operated wells from the underlying Chino Basin, Rialto-Colton/No Man's Land Basins, and Lytle Basin

In 2020, FWC had 48,202 municipal connections, with a volume of water supplied at 39,782 AF.

Monte Vista Water District
MVWD provides retail water service to an area with a 2020 population of 57,787. MVWD also has a wholesale service, of which the service population was 82,409 in 2020. The MVWD's service area covers approximately 9.56 square miles encompassing the City of Montclair and a portion of the City of Chino, as well as unincorporated areas of San Bernardino County. The MVWD receives wholesale water supplies from IEUA and Water Facilities Authority (WFA). It serves the communities of Montclair, Chino Hills, portions of Chino, as well as the unincorporated areas lying between the cities of Pomona, Chino Hills, Chino and Ontario. In 2020, MVWD had 11,856 municipal connections, with a volume of water supplied at 10,366 AF.

City of Chino Hills Water Department
The City of Chino Hills Water Department has multiple sources of water supply: groundwater, MVWD, WFA, Chino Desalter Authority (CDA), and IEUA. These five sources provide the City of Chino Hills with over 41 million gallons per day (MGD) capacity. The city's service area is largely coextensive with the its boundaries, and provides water service to an area with a current population of 82,409 persons. In 2020, Chino Hills had 21,743 municipal connections, with a volume of water supplied at 13,949 AF.

City of Chino Utilities Department
The City of Chino is a retail water supplier that serves customers in the City of Chino and a small portion of the City of Ontario, as well as unincorporated areas of San Bernardino County, and portions of a California State correctional facility located within the city's municipal boundaries. The city's service area covers approximately 28.3 square miles, and provides water service to an area with a current population of 80,808 persons. The city is a sub-agency of IEUA, which is a wholesale water agency, and is also a member of the CDA and the WFA, which are also wholesale water agencies. The demand within the city's service area is met primarily from groundwater produced from city-owned wells in the Chino Basin and from CDA. The city also purchases imported surface water from MWD through IEUA which is treated by WFA. Recycled water is also provided by IEUA. In 2020, Chino had 21,126 municipal connections, with a volume of water supplied at 20,101 AF.

City of Ontario Municipal Utilities Company
The City of Ontario's service area covers approximately 49 square miles, encompassing most of the city, and provides water service to an area with a current population of 178,409. The city is a member agency of various wholesale agencies including the CDA, IEUA, and WFA. Commercial and industrial use accounts for approximately 7,508 acres. Additionally, agricultural use comprises of 6,740 acres. The city's water supply sources include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported water purchased from MWD through WFA; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from IEUA. The city's main source of water supply is groundwater pumped from the Chino Basin. In 2020, Ontario had 36,514 municipal connections, with a volume of water supplied at 39,921 AF.

City of Upland Water Department
The City of Upland serves potable water to a population of 78,383 people through 19,487 connections. The city's current water supply portfolio consists of several sources: imported water from MWD purchased through IEUA for treatment at WFA (the city is a member agency); groundwater pumped from city-owned wells and West End Consolidated Water Company (WECWC) (the city is shareholder); groundwater purchased from San Antonio Water Company (SAWCo) (the city is shareholder); surface water purchased from SAWCo (City is shareholder) and treated by the city; and recycled water purchased from IEUA. In 2020, Upland supplied customers a volume of water at 19,134 AF.

City of Pomona
The City of Pomona provides water service to an area with a current population of 153,988, and the city's water service area encompasses an area of approximately 22.9 square miles. The city's total water demands (including potable and recycled water) over the past 10 years have ranged from 19,782 AFY to 24,801 AFY, with an average of 21,957 AFY. The 2020 demand was 21,174 AF. The City's water supply sources include: groundwater pumped from the Chino Basin, Spadra Basin, and Six Basins; treated, imported surface water purchased from MWD through Three

Valleys Municipal Water District; local surface water from San Antonio Creek; and recycled water purchased from the Los Angeles County Sanitation Districts. In 2020, Pomona had 30,041 municipal connections, with a volume of water supplied at 21,174 AF.

Jurupa Community Services District
The Jurupa Community Services District (JCSD) service area covers 40.8 square miles of northwest Riverside County and includes all of the City of Eastvale, approximately 65 percent of the City of Jurupa Valley, and small portions of the City of Norco and unincorporated Riverside County. The service area population in 2020 population was 130,546 persons. In 2020, JCSD had 33,146 municipal connections, with a volume of water supplied at 28,505 AF. JCSD primarily relies on groundwater pumped from the Chino Basin; however, they also obtain water from the Chino Desalter Authority and may obtain water from WMWD in the future.

West Valley Water District
WVWD served a population of 80,161 persons in 2015. WVWD utilizes water from five groundwater basins and treats surface water from Lytle Creek and SWP water at its 14.4-MGD Oliver P. Roemer Water Filtration Facility to serve over 20,000 water service connections. Water demands were approximately 17,131 AFY in 2015 with a projected demand of 27,312 AF by 2040.

Water Facilities Authority
The Water Facilities Authority (WFA) is a Joint Powers Authority governed by its member agencies: Chino, Chino Hills, MVWD, Ontario, and Upland. Its service area covers approximately 135 square miles within the upper Santa Ana River watershed. The Authority owns and operates a surface water treatment plant called Agua de Lejos 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 to supplement local groundwater supplies. The treatment plant, located on 16 acres in northern Upland, has the capacity to treat and disinfect 81 MGD. However, recent historical flows through the treatment plant are normally 40 to 50 MGD during the peak summer months and can be as low as 9 to 12 MGD. Agua de Lejos Treatment Plant receives imported surface water supplies from the SWP from MWD through IEUA. Through its members, the Authority indirectly serves more than 450,000 people in the west-end of San Bernardino County.[2]

There are other private and mutual water companies in the Chino Basin, such as San Antonio Water Company, that also supply drinking water to residents within the Chino Basin.

4.20.2.2 Wastewater

As a regional wastewater treatment agency, IEUA provides sewage utility services to seven contracting agencies under the Chino Basin Regional Sewage Service Contract: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and the City of Rancho Cucamonga (via the Cucamonga Valley Water District). The contracting cities and water districts are responsible for wastewater collection within their individual service areas. A system of regional trunk and interceptor sewers that convey sewage to regional wastewater treatment plants is owned and operated by IEUA. IEUA's wastewater collection system is divided into two major service areas: the Northern Service Area and the Southern Service Area.

[2] Water Facilities Authority: http://www.wfajpa.org/

IEUA receives approximately 50 MGD of wastewater annually at four wastewater treatment and water recycling plants: Regional Water Recycling Plant No. 1 (RP-1), Regional Water Recycling Plant No. 4 (RP-4), Regional Water Recycling Plant No. 5 (RP-5) and Carbon Canyon Water Recycling Facility (CCWRF). Regional Water Recycling Plant No. 2 (RP-2) no longer operates its liquid treatment sections as of 2002, and only treats solid waste. Recycled water from the plants is treated to Title 22 California Code of Regulations, overseen by the State Water Resources Control Board's Division of Drinking Water (DDW), and distributed throughout the service area.

In addition to IEUA, there are several other wastewater treatment providers in Chino Basin. For instance, the Water Facilities Authority (Authority) is a Joint Powers Authority governed by its member agencies: Chino, Chino Hills, MVWD, Ontario, and Upland; its service area covers approximately 135 square miles within the upper Santa Ana River watershed. The City of Riverside, Inland Empire Brine Line owned by the Orange County Sanitation District, and the Western Riverside County Regional Wastewater Authority (WRCRWA) each treat a portion of the wastewater generated within the JCSD. Finally, the Sanitation Districts of Los Angeles County operates a treatment plant that collects wastewater from the City of Pomona. The respective operational treatment plants are described below.

Wastewater Treatment Plants and Systems

RP-1 is located at 2662 East Walnut Street in the City of Ontario and has been in operation since 1948. The plant has undergone several expansions to increase the design hydraulic domestic sewage (wastewater) treatment capacity to 44 MGD. The plant serves areas of Chino, Fontana, Montclair, Ontario, Rancho Cucamonga, and Upland, and treats solids removed from RP-4, located in Rancho Cucamonga. The plant treats an average influent wastewater flow of approximately 28 MGD. RP-1 includes both liquid and solid treatment processes.

RP-2 is located at 16400 El Prado Road in Chino and has been in operation since 1960. The plant operated both liquids and solids treatment sections until 2002, when RP-5 was constructed to handle the liquids treatment section portion of RP-2. Accordingly, solids are now removed from CCWRF and RP-5 and treated at RP-2. The solids treatment section begins with thickening the solids removed from the RP-5 and CCWRF primary and secondary clarification processes. After dewatering, the biosolids are hauled to the Inland Empire Regional Composting Facility (IERCF) in the City of Rancho Cucamonga for further treatment to produce Class A compost.

RP-4 is located at 12811 6th Street in the City of Rancho Cucamonga and has been in operation since 1997. The plant has undergone an expansion to increase the design hydraulic domestic wastewater treatment capacity to 14 MGD. The plant serves areas of Fontana, Rancho Cucamonga, and unincorporated San Bernardino County. The plant treats the liquid portion of an average influent wastewater flow of approximately 10 MGD.

RP-5 is located at 6063 Kimball Avenue, Building C in the City of Chino and has been in operation since 2004. The design hydraulic domestic wastewater treatment capacity is 16.3 MGD, which includes 1.3 MGD of solids processing returned from RP-2. The plant serves areas of Chino, Chino Hills, and Ontario. The plant treats the liquid portion of an average influent wastewater flow, including RP-2 returned flow, of approximately 9 MGD.

CCWRF is located at 14950 Telephone Avenue in the City of Chino and has been in operation since 1992. The design hydraulic domestic wastewater treatment capacity is 11.4 MGD. The plant

serves areas of Chino, Chino Hills, Montclair, and Upland. The plant treats the liquid portion of an average influent wastewater flow of approximately 7 MGD.

Chino I Desalter plant is located at 6905 Kimball Avenue in the City of Chino and commenced operation in 2001. The plant was expanded in 2005 from an 8.4 MGD facility to a 14 MGD facility. Groundwater is pumped from supply wells throughout the Chino Basin area to the Chino I Desalter. The treatment processes include reverse osmosis and ion-exchange for removal of nitrate and total dissolved solids. Approximately 2 MGD of brine, a byproduct of the reverse osmosis and ion exchange processes is transported by the Santa Ana River Inceptor (SARI line) to Orange County and is subsequently discharged to the ocean. The high-quality water is then pumped into the municipal water supply systems for the cities of Chino and Chino Hills, and into the JCSD water system.

Chino II Desalter plant is located at 11202 Harrell Street in Mira Loma and was initiated by the CDA to provide water deliveries to the cities of Norco and Ontario, JCSD, and Santa Ana River Water Company. The treatment processes include reverse osmosis and ion-exchange. The Chino II Desalter became operational in 2006 and was expanded in 2010. It produced an average of 10.6 MGD of drinking water in 2012 and a little more than 1 MGD of brine that is transported by the SARI line to Orange County and subsequently discharged to the ocean.

WFA Agua de Lejos Treatment Plant is located at 1775 N Benson Avenue in the City of Upland, CA 91784. The WFA is a Joint Powers Authority governed by its member agencies: Chino, Chino Hills, MVWD, Ontario, and Upland. Its service area covers approximately 135 square miles within the upper Santa Ana River watershed. The Authority owns and operates a surface water treatment plant called Agua de Lejos 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 Water Project water, purchased from MWD to supplement local groundwater supplies. Through its members, the Authority indirectly serves more than 450,000 people in the west-end of San Bernardino County. Agua de Lejos Treatment Plant receives imported surface water supplies from the SWP from MWD through IEUA. The treatment plant, located on 16 acres in the northern portion of Upland, has the capacity to treat and disinfect 81 MGD. However, recent historical flows through the treatment plant is normally 40 to 50 MGD during the peak summer months and can be as low as 9 to 12 MGD during the slower winter months.[3]

Riverside Water Quality Control Plant (RWQCP) is located at 5950 Acorn Street Riverside, CA 92504. The RWQCP is being expanded; however, it currently consists of two separate treatment plants and one common tertiary filtration plant. These provide preliminary, primary, secondary, and tertiary treatment for a rated capacity of 40 MGD.[4] The JCSD discharges wastewater to three different treatment plants from three independent sewer systems.[5]

WRCRWA has the capacity to treat 14 MGD of wastewater.[6] The Eastvale area (within the JCSD) discharges to the River Road Lift Station, which pumps the wastewater to another regional treatment plant, operated by a joint powers authority known as the WRCRWA. The JCSD proactively operates and maintains its sewer system to convey the wastewater to the treatment plants in a reliable and cost-effective manner in accordance with the recently adopted Sewer Management Plan.

[3] http://www.wfajpa.org/#Facilities
[4] https://www.riversideca.gov/publicworks/sewer/wqcp.asp
[5] https://www.jcsd.us/customers/sewer-wastewater
[6] https://www.wrcrwa.org/152/Treatment-Plant-Overview

Pomona Water Reclamation Plant is located at 295 Humane Way in the City of Pomona and is managed by the Sanitation Districts of Los Angeles County. The plant occupies 14 acres northeast of the intersection of State Route (SR)-60 and SR-57. The Pomona Water Reclamation Plant (WRP) provides primary, secondary, and tertiary treatment for 15 MGD of wastewater. The plant serves a population of approximately 130,000 people. Approximately 8 MGD 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; 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 in the unlined portions of the San Gabriel River before flowing into the ocean.

Brine Disposal Agencies

Non-Reclaimable Wastewater System (NRWS) is operated by IEUA. It is infrastructure for disposal of high-salinity wastewater (brine) and other non-reclaimable high-strength wastewater. The NRWS is comprised of three pipelines shown on Figure 3: the NRWS pipeline, the Etiwanda Wastewater Line (EWL), and the Inland Empire Brine Line (IEBL). The NRWS is split into two service areas within IEUA's jurisdiction. The North NRWS is comprised of the NRWS pipeline and EWL, while the South NRWS is comprised of the IEBL. The NRWS pipeline and the EWL ultimately convey flow to the Sanitation Districts of Los Angeles County (LACSD) through the Joint Outfall System (JOS). The IEBL directly conveys flow to the Orange County Sanitation District (OCSD) by gravity.

4.20.2.3 Stormwater

Each of the cities within the Chino Basin maintain storm water drainage infrastructure within their respective city limits. The County of San Bernardino and County Riverside each manage the storm drain system within their respective unincorporated areas of the Chino Basin and the regional stormwater runoff conveyance infrastructure.

Flood Control Agencies and IEUA Partners

San Bernardino County Flood Control District
The San Bernardino County Flood Control District (SBCFCD) is partnering with IEUA, Chino Basin Watermaster (CBWM), and Chino Basin Water Conservation District (CBWCD) in implementation of the Chino Basin Groundwater Recharge Master Plan. The implementation is known as Chino Basin Facilities Improvement Program (CBFIP). The CBFIP includes modifications to several SBCFCD basins and flood control channels including the installation of five rubber dams and three drop inlet diversion structures to divert imported, storm, and recycled water to 16 groundwater recharge sites.

The following District Comprehensive Storm Drain Plans (CSDP) and Master Plans of Drainage (MPD) apply to the project area: CSDP 1: Rancho Cucamonga MPD, Chino Airport Master Storm Drain Plan (MSDP), Chino Hills MPD, Chino Hills Area MPD, and W. Cucamonga MPD, CSDP 2: Upland MPD, Ontario MPD, Montclair MPD, Fontana MPD, and Chino MPD.

4.20.2.4 Solid Waste

The California Department of Resources Recycling and Recovery (CalRecycle) maintains a Solid Waste Information System (SWIS) that lists disposal sites in San Bernardino County by disposal

facility activity, regulatory status, and operational status. According to SWIS, there are two active Class III landfills[7] within a 20-mile radius of the Chino Basin that conduct solid waste disposal activities and accept construction and demolition material. These landfills are the El Sobrante and Mid-Valley Sanitary Landfills. **Table 4.20-2** lists the closure dates, daily permitted capacities, and remaining permitted capacities of the local Class III solid waste landfills.

Waste Management of Inland Empire is the local division of Waste Management, Inc. that provides collection, disposal, recycling, and environmental services to the Inland Empire. It serves over 220,000 residents and disposes over 17,000 tons of waste weekly in the Inland Empire. It operates the El Sobrante Landfill in Corona, which processes about 43 percent of San Bernardino County's annual solid waste and can currently receive up to 16,054 tons of waste per day. The County of San Bernardino operates the Mid-Valley Sanitary Landfill in Rialto.

In addition to Waste Management Inc., Burrtec Waste Management Services provides solid waste disposal sites and other services such as: trash and recycling facilities; retail waste disposal containers; construction waste facilities including portable restrooms for wastewater; and other private facilities for customized services. Burrtec facilities in proximity to the Chino Basin may be utilized during project construction and operation in addition to the Mid-Valley and El Sobrante landfills; these include: the Agua Mansa Materials Recovery Facility (MRF)/Transfer Station; the West Valley MRF/Transfer Station and the East Valley Transfer Recycling Facility, all located within 10 miles of the Chino Basin area.

Table 4.21-2
LANDFILLS IN PROXIMITY TO THE CHINO BASIN

Facility Name	Address	Closure Date	Daily Permitted Capacity (tons/day)	Remaining Permitted Capacity (cubic yards)
Mid-Valley Sanitary Landfill	2390 Alder Ave, Rialto, CA 92377	4/1/2045	7,500	61,219,377 as of 06/2019
El Sobrante Landfill	10910 Dawson Canyon Rd, Corona, CA 92883	1/1/2051	16,054	143,977,170 as of 4/2018
SOURCE: California Department of Resources Recycling and Recovery, *Solid Waste Information System (SWIS)*, 2021 https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2280?siteID=2402 https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1880?siteID=2662				

4.20.2.5 Electricity and Natural Gas

The most recent data for California's estimated total energy consumption is from 2018, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates, which indicates that:

- Approximately 7,900 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 3,444 trillion BTU of petroleum;
- Approximately 2,210 trillion BTU of natural gas; and
- Approximately 33.3 trillion BTU 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 its projections of

[7] Class III landfills are only permitted to accept nonhazardous solid waste.

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
- 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
    - Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.1% of energy demand derives from the transportation sector;
- Approximately 23.5% of energy demand derives from the industrial sector;
- Approximately 18.3% of energy demand derives from the residential sector; and
- Approximately 19.2% of energy demand derives from the commercial sector.

In 2020, total system electric generation for California was 277,704 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 200,475 GWh which accounted for approximately 72.2% of the electricity it uses; the rest was imported from the Pacific Northwest (8.6%) and the U.S. Southwest (19.2%). Natural gas is the main source for electricity generation at 34.23% of the total in-state electric generation system power as shown in **Table 4.20-3**. Renewables account for 31.7% of the total electrical system power in California.

Table 4.20-3
TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Oil	36	0.02%	0	0	36	0.01%
Other	411	0.20%	0	11	422	0.15%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Unspecified	0	0.00%	6,609	13,767	20,376	7.34%
Non-Renewables and Unspecified Totals	136,139	67.91%	13,315	40,218	189,672	68.30%
Biomass	5,851	2.92%	903	33	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	5,646	2.03%
Solar	28,513	14.22%	282	5,295	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	28,249	10.17%
Renewables Totals	64,336	32.09%	10,615	13,081	88,032	31.70%
Total	200,475	100.00%	23,930	53,299	277,704	100.00%

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts," which is excerpted below:

- 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% of California's net electricity generation.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient.

SCE is the primary provider of electricity to the Chino Basin area, except within a select area of the southeastern proximity of the City of Rancho Cucamonga, where the Rancho Cucamonga Municipal Utility is the electricity provider. Natural gas services in the Chino Basin are provided by the Southern California Gas Company.

4.20.2.6 Telecommunication

The Chino Basin area is served by several telecommunication providers including Verizon, California Telecom, AT&T, Frontier, Spectrum, and others.

4.20.3 Regulatory Setting: Utilities & Service Systems

4.20.3.1 Water, Wastewater and Stormwater

Federal

Clean Water Act

The Federal Water Pollution Control Act or Clean Water Act (CWA) serves to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA was created in 1972, and then amended in 1977, and again in 1987 when the National Pollutant Discharge Elimination System (NPDES) program was created. NPDES requires a permit for discharge of pollutants from industrial sources and publicly owned treatment works into navigable waters. The discharge must meet applicable requirements, which are outlined in the CWA and which reflect the need to meet State effluent limitations and State water quality standards.

Section 303 (d) of the CWA 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 (see Subchapter 4.11, *Hydrology and Water Quality*, of this EIR).

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) is the federal law that protects drinking water supplies and applies to every public water system in the United States. The law requires many actions to protect drinking water including source water protection, treatment, distribution system integrity, and public information. Source water may include rivers, lakes, reservoirs, springs, and groundwater wells. The SDWA authorizes the U.S. EPA to set national health-based standards for drinking water to protect against both naturally-occurring and human-made contaminants that may be found in drinking water. The National Primary Drinking Water Regulations set enforceable maximum contaminant levels (MCLs) for particular contaminants in drinking water or required ways to treat water to remove contaminants. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved.

National Pollutant Discharge Elimination System (NPDES) Program

As stated above, the NPDES permit program is administered in the State of California by the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) under the authority of the USEPA to control water pollution by regulating point sources that discharge pollutants into Waters of the US. A general NPDES permit covers multiple facilities within a specific activity category such as construction activities. A general permit applies with same or similar conditions to all dischargers covered under the general permit. The proposed program would be covered under the general permits discussed below.

General Dewatering Permit

The SWRCB has issued General Waste Discharge Requirements (WDRs) under Order No. R8-2003-0061, NPDES No. CAG 998001 (Dewatering General Permit) governing non-stormwater construction-related discharges from activities such as dewatering, water line testing, and sprinkler system testing. The discharge requirements include provisions mandating notification, testing, and reporting of dewatering and testing-related discharges. The General WDRs authorize such construction-related discharges so long as all conditions of the permit are fulfilled. This permit would apply to the proposed program for the testing of the effluent pipelines and in the event that shallow perched groundwater is encountered during construction that requires dewatering.

Construction General Permit

The Construction General Permit NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit) regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects (LUP), including installation of water pipelines and other utility lines.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving offsite into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring

program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Industrial General Permit

The Industrial General Permit (IGP) became effective July 1, 2015 (Order No. 2014-0057-DWQ). The IGP covers ten broad categories of industrial activities, including sewage or wastewater treatment works that store, treat, recycle, and reclaim municipal or domestic sewage with a design flow of one million gallons per day or more, or are required to have an approved pretreatment program under 40 Code of Federal Regulations Part 403. For a sewage treatment facility, the IGP covers both the municipal or domestic sewage being sent to the facility for treatment, and rainwater falling on the facility that must be managed as stormwater. This is because rainwater falling on the facility is routed to the onsite treatment system to prevent contaminants from migrating offsite from the treatment facility.

Municipal Stormwater Permitting (MS4)

The State's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. As part of the Phase II, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes. The permit also requires permittees to develop Comprehensive Bacteria Reduction Plans (CBRP).

State

State Water Resources Control Board Division of Drinking Water

The U.S. EPA has granted the State of California the authority to implement SDWA within its jurisdiction. The SWRCB *Division of Drinking Water* regulates public drinking water systems and is responsible for making sure water systems test for contaminants, reviewing plans for water system improvements, conducting on-site inspections and sanitary surveys, providing training and technical assistance, and taking action against water systems not meeting standards.

The SWRCB's *Safe Drinking Water Plan* provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The plan, which is updated every five years, represents the SWRCB's assessment of the overall quality of the State's drinking water, the identification of specific water quality problems, an analysis of the known and potential health risks that may be associated with drinking water contamination in California, and recommendations to improve drinking water quality. The plan also identifies and evaluates existing and proposed statewide water demand management and water supply augmentation programs and projects to address the State's water needs. The plan provides resource management strategies and recommendations to strengthen integrated regional water management. These strategies can reduce water demand, improve operational efficiency, increase water supply, improve water quality, practice resource stewardship, and improve flood management.

Protection of Underground Infrastructure

The California Government Code Sections 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations.

Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Southern California.

Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

California Health and Safety Code

California Health and Safety Code Section 116815 requires all pipes carrying recycled water to be colored purple or wrapped in purple tape. This requirement stems from a concern in cross-contamination and potential public health risks similar to those discussed for Title 17, Sections 7583-7586 and 7601-7605 of the California Code of Regulations. It is also discussed in the California Health Laws Related to Recycled Water.

Regional Water Quality Control Board (RWQCB)

The primary responsibility for the protection of water quality in California rests with the SWRCB and the nine RWQCBs. The SWRCB sets statewide policy for the implementation of State and Federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans) which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The program area is within the jurisdiction of the Santa Ana Region.

California Department of Water Resources (DWR)

The California DWR is a department within the California Resources Agency. The DWR is responsible for the State's management and regulation of water usage.

Senate Bills 610 (Chapter 643, Statutes of 2001) and 221 (Chapter 642, Statutes of 2001)

Senate Bill 610 and Senate Bill 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in five-year increments for a 20-year projection.

Local

The Chino Basin area encompasses multiple jurisdictions, including unincorporated areas of San Bernardino County and seven incorporated cities. Each of these cities and the county has its own General Plan and municipal code that identify goals and policies regarding utilities.

San Bernardino County Flood Control District (SBCFCD)

Any encroachments on the SBCFD's right-of-way or facilities, including but not limited to access, fencing and grading, utility crossings, landscaping, new and/or alteration to drainage connections will require a permit from the SBCFCD prior to start of construction.

4.20.3.2 Solid Waste

Federal

Resource Conservation and Recovery Act
The Resource Conservation and Recovery Act (RCRA) (40 CFR, Part 258 Subtitle D) establishes minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the U.S. EPA has delegated the enforcement responsibility to the State of California.

Title 40 of the Code of Federal Regulations Part 503
The federal biosolids regulations are contained in Title 40 of the Code of Federal Regulations Part 503 (40 CFR Part 503) as Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, or Part 503, these regulations govern the use and disposal of biosolids. Part 503 established requirements for the final use or disposal of biosolids when biosolids are:

- Applied to land to condition the soil or fertilize crops or other vegetation;
- Placed on a surface disposal site for final disposal; or
- Fired in a biosolids incinerator

Part 503 permits are issued by the U.S. EPA and are required for all biosolids generators. Part 503 requirements can be incorporated into the NPDES permits that also are issued to publicly-owned treatment works.

State

California Code of Regulations (CCR)
Pursuant to CCR Title 23, Division 3, Article 2 (Waste Classification and Management), and Article 3 (Waste Unit Classification and Siting), Class III (municipal solid waste) landfills are sited in accordance with criteria that are similar to those found in Subtitle D of RCRA. CCR Title 27 includes various regulations pertaining to siting, design, construction, and operation of solid waste landfills.

CCR Title 22, Division 4, Sections 60301 through 60355 (Articles 1 through 9), include descriptions of overall allowable sources of and uses for recycled water, as well as specific use descriptions depending on treatments. Title 22 also includes specific treatment pathways including disinfection procedures, oxidation, soils, and bed filter media, and requirements for impoundments. It covers use area requirements, water testing and analysis, and plant design and operational requirements.

California Department of Resources Recycling and Recovery (CalRecycle) Formerly California Integrated Waste Management Board (CIWMB)
CalRecycle is the State agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle develops laws and regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. CalRecycle works jointly with local governments to implement regulations and fund programs.

The Integrated Waste Management Act of 1989 (Public Resources Code [PRC] Section 40050 et seq. or Assembly Bill [AB] 939, codified in PRC Section 40000), administered by CalRecycle,

requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and Recycling Access Act of 1991 requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

California Integrated Waste Management Act of 1989 (AB 939)
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. The act 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 landfilled 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.

California Solid Waste Reuse and Recycling Act of 1991 (AB 1327)
Other State statutes pertaining to solid waste include compliance with the California Solid Waste Reuse and Recycling Act of 1991 (AB 1327), which requires the local jurisdiction to require adequate areas for collecting and loading recyclable materials within a development project for commercial, institutional, marina, and residential buildings with 5 units or more.

Local

The IEUA service area encompasses multiple jurisdictions including unincorporated areas of San Bernardino County and seven incorporated cities. Each of these cities and the county has its own General Plan and municipal code that identify goals and policies regarding utilities.

San Bernardino County Construction and Demolition Solid Waste Management Plan
San Bernardino County requires the preparation of construction and demolition solid waste management plans (waste management plans) for all new construction projects. The waste management plan's goal is to ensure a minimum of 50 percent diversion of construction building materials and demolition debris from landfills and compliance with State law which states that 50 percent of non-hazardous construction and demolition debris be recycled and/or salvaged for reuse in order to extend the life of landfills. Information provided in the waste management plan includes how the waste will be managed, hauler identification, and anticipated material wastes.

4.20.3.3 Electricity and Natural Gas

State

California Energy Action Plan II
The California Energy Action Plan II is the State's principal energy planning and policy document (California Energy Commission, 2005, 2008). The plan identifies statewide energy goals, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first priority actions to address

California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy and capacity needs, clean and efficient fossil-fired generation is supported.

In 2002, California established its Renewable Portfolio Standard program,[8] with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent by 2017. The California Energy Commission subsequently accelerated that goal to 2010, and further recommended increasing the target to 33 percent by 2020. Because much of electricity demand growth is expected to be met by increases in natural-gas-fired generation, reducing consumption of electricity and diversifying electricity generation resources are significant elements of plans to reduce natural gas demand.

California's Green Building Standards Code (CALGreen)

Effective January 1, 2011, California's Green Building Standards Code (CALGreen) requires the diversion of at least 50 percent of the construction waste generated during most "new construction" projects (CALGreen Sections 4.408 and 5.408). Subsequent amendments have expanded upon what types of construction are covered. In all jurisdictions, including those without a Construction and Debris (C&D) ordinance requiring the diversion of 50 percent of construction waste, the owners/builder of construction projects within the occupancies subject to this requirement must divert 50 percent of the construction waste materials generated during the project. The 50 percent C&D diversion rate can be met through three methods: 1) develop and submit a waste management plan to the jurisdiction's enforcement agency which identifies materials and facilities to be used and document diversion; 2) use a waste management company, approved by the enforcing agency, that can document 50 percent diversion; or 3) use the disposal reduction alternative, as appropriate for the type of project. If the waste management plan option is used, the plan should be developed before construction begins, and project managers should use the project's planning phase to estimate materials that will be generated and identify diversion strategies for those materials. All covered projects should be able to divert 50 percent non-hazardous waste.

California Assembly Bill 341

In 2012, AB 341 was signed into law in California to help reduce greenhouse gas emissions and set a statewide goal to recycle, compost, or source reduce 75 percent of all solid waste generated in California by 2020. This legislation requires businesses and multi-family residential dwellings of five units or more, that generate four or more cubic yards of commercial solid waste per week, to implement a recycling program.

Resource Conservation and Recovery Act

RCRA (40 CFR, Part 258 Subtitle D) establishes minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the U.S. EPA has delegated the enforcement responsibility to the State of California.

[8] The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country. By increasing the required minimum amount over time, the Renewable Portfolio Standard puts the electricity industry on a path toward increasing sustainability.

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 (PRC § 25301[a]). The California Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2018 Integrated Energy Policy Report (IEPR) was adopted February 20, 2019, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2018 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.

California Code Title 24, Part 6, Energy Efficiency Standards
CCR 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 the California Energy Commission (CEC) and went into effect on January 1, 2020. The 2019 Title 24 standards went into effect on January 1, 2020 and are applicable to building permit applications submitted on or after that date. 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 for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades.

Local

The Chino Basin area encompasses multiple jurisdictions including unincorporated areas of San Bernardino County and seven incorporated cities. Each of these cities and County has its own General Plan and municipal code that identify goals and policies regarding utilities.

4.20.4 Thresholds of Significance: Utilities & Service Systems

According to Appendix G, Section XIX, of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

a) 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 or relocation of which could cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
c) 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?
d) 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?
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

4.20.5 Project Impacts: Utilities & Service Systems

a) Would the project 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 or relocation of which could cause significant environmental effects?

4.20.5.1 Water

The CBP includes the construction of the following types of facilities: 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency well; 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size; an AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities; and expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The development of the above facilities constitutes the construction of new and expansion or modifications to existing water infrastructure facilities. The environmental effects associated with the proposed project are documented throughout this RDPEIR. As such, given that the proposed CBP is anticipated to result in a significant and unavoidable impact related to GHG from construction of the CBP facilities, the construction of the proposed water facilities associated with the CBP is anticipated to cause a significant impact. Therefore, impacts under this issue are considered significant and unavoidable.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures designed to reduce GHG emissions from construction (and operation) of CBP are identified in Subchapter 4.9, of this RDPEIR (MM **GHG-1** specifically applies to construction related emissions). No additional mitigation measures are recommended or required that would reduce significant and unavoidable impacts related to construction of new or expansion or modifications to existing water facilities. However, all mitigation measures identified throughout this RDPEIR would otherwise reduce impacts related to the construction of water facilities under all remaining issues set forth in Appendix G of the CEQA Guidelines.*

Level of Significance After Mitigation: Significant and Unavoidable

As stated above under Mitigation Measures, no feasible mitigation measure have been identified that would reduce impacts related to construction of the proposed water facilities as part of the CBP. As such, though MM **GHG-1** would reduce construction related GHG emissions to the greatest extent feasible, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. Thus, the proposed CBP would result in significant and unavoidable impacts related to construction of new or expansion or modifications to existing water facilities.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

As discussed throughout this RDPEIR, the proposed CBP would not result in any cumulative impacts from developing the proposed water facilities except those identified above in Subchapter 4.9, Greenhouse Gases / Global Climate Change. GHG impacts from both construction and operation of the CBP are mitigated to the greatest extent feasible, but the program will still contribute to global climate change through a cumulatively considerable contribution of greenhouse gases. As such, the proposed project would result in a cumulatively considerable/ significant adverse impact related to construction of new or expansion or modifications to existing water facilities.

Level of Significance After Mitigation: Cumulatively Significant Impact

4.20.5.2 Wastewater Treatment

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The proposed CBP includes construction of various types of wells. Construction workers would temporarily require use of portable sanitary units during construction of the proposed wells. Wastewater generated during construction of the proposed projects would be minimal and would not require the construction of new wastewater treatment facilities. Because construction of new or expanded facilities is not required to accommodate the Project Category 1 facilities, there would be no construction impacts associated with the provision of these facilities to serve the proposed CBP facilities.

During operation, the proposed wells would not require permanent staff, and as such would not require connection to the sewer system. Therefore, the proposed project would not require the expansion or construction of a new wastewater treatment facilities. Because construction of new or expanded facilities is not required to accommodate the CBP projects, there would be no operation impacts associated with the provision of these facilities to serve the CBP projects.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The development of the proposed 8,200 LF of brine conveyance associated with the disposal of brine generated from the water treatment processes would constitute "construction of wastewater treatment facilities," and its construction is not individually anticipated to result in significant impacts. Mitigation has been addressed through this RDPEIR to ensure that impacts under each of the 20 topics analyzed are minimized to the greatest extent feasible. This mitigation includes measures that would ensure appropriate site location, minimization of impacts from construction and operational practices, etc. While mitigation can minimize impacts for most of the issues analyzed in this RDPEIR, the construction of brine conveyance would contribute to the overall significant impacts identified above under Subchapter 4.9, Greenhouse Gases / Global Climate Change. As such, given that the proposed CBP is anticipated to result in a significant and unavoidable impact related to GHG from construction of the CBP facilities, the construction of the proposed facilities associated with the CBP is anticipated to cause a significant impact.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, the proposed expansion has no potential to require or result in the relocation or construction of new or expanded wastewater facilities.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

The development of the proposed AWPF would constitute "construction of wastewater treatment facilities," and its construction is not individually anticipated to result in significant impacts. Mitigation has been addressed through this RDPEIR to ensure that impacts under each of the 20 topics analyzed are minimized to the greatest extent feasible. These mitigation include measures that would ensure appropriate treatment of significant biological and cultural resources, minimization of impacts from construction and operational practices, etc. While mitigation can minimize impacts for most of the issues analyzed in this RDPEIR, the development of the AWPF would contribute to the CBP's overall significant construction- and operations-related GHG impacts. As such, a potentially significant impact may occur.

Similarly, new wellhead treatment facilities at or near well sites and at regionally located sites, and improvements to existing groundwater treatment facilities would constitute "construction of wastewater treatment facilities," because these facilities would discharge brine waste that would

result from treating groundwater. It is anticipated that, as stated above under Project Category 2, such facilities would require connection to the Inland Empire Brine Line or other brine line to treat this brine waste to be discharged in some form—for example treated effluent can be discharged to the Pacific Ocean. Impacts thereof would be similar to that which has been described for the AWPF above.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures designed to reduce GHG emissions from construction (and operation) of CBP are identified in Subchapter 4.9, of this RDPEIR (MM **GHG-1** specifically applies to construction related emissions). No additional mitigation measures are recommended or required that would reduce significant and unavoidable impacts related to construction of new or expansion or modifications to existing wastewater facilities. However, all mitigation measures identified throughout this RDPEIR would otherwise reduce impacts related to the construction of wastewater facilities under all remaining issues included in Appendix G of the CEQA Guidelines.*

Level of Significance After Mitigation: Significant and Unavoidable

As stated above under Mitigation Measures, no feasible mitigation measures have been identified that would reduce to a level of insignificance GHG impacts related to construction of the proposed facilities as part of the CBP. As such, though MM **GHG-1** would reduce construction-related GHG emissions to the greatest extent feasible, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. Thus, the proposed CBP would result in significant and unavoidable GG impacts related to construction of new or expansion or modifications to existing wastewater facilities.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

As discussed throughout this RDPEIR, the proposed CBP would not result in any cumulative impacts from developing the proposed wastewater facilities except those identified above under Subchapter 4.9, Greenhouse Gas / Global Climate Change. GHG impacts from both construction and operation of the CBP are mitigated to the greatest extent feasible, but the program will still contribute to global climate change through a cumulatively considerable contribution of greenhouse gases. As such, the proposed project would result in a cumulatively considerable/significant adverse impact related to construction of new or expansion or modifications to existing wastewater facilities.

Level of Significance After Mitigation: Cumulatively Significant Impact

4.20.5.3 Stormwater Drainage

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are

anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Implementation of the proposed wells would be housed aboveground. The proposed wells would be developed within sites that are anticipated to be less than one half acre in size. Well development would result in the addition of impervious surfaces that would increase stormwater runoff quantity. This increase 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. As such, mitigation that would require implementation of a drainage plan is provided below to ensure that impacts related to stormwater drainage facilities are minimized below significance thresholds.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Proposed pipelines would be underground and would not permanently alter existing site drainage patterns. The pipelines would not require the construction of new or expanded stormwater drainage facilities. Because there would be no requirement for the construction of new or expanded drainage facilities to serve the proposed project, there would be no construction impacts associated with the provision of these facilities to serve the proposed pipelines.

Development of proposed ancillary facilities would have the same impacts as those identified under Project Category 1.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, the proposed expansion has no potential to require or result in the relocation or construction of new or expanded stormwater facilities.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.
Impacts are the same as those identified under Project Categories 1 and 2.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

UTIL-1: ***Implementation of a Drainage Plan to Reduce Downstream Flows. Prior to issuance of permits for construction of project facilities, IEUA shall prepare a drainage plan that includes design features to reduce stormwater peak concentration flows exiting the above ground facility sites (consistent with MS4 requirements) so that the capacities of the existing downstream drainage facilities are not exceeded. These design features could include bio-retention, sand infiltration, return of stormwater for treatment within the treatment plant, and/or detention facilities.***

Level of Significance After Mitigation: Less Than Significant

Implementation of mitigation measure (MM) **UTIL-1** is sufficient to reduce the potential for impacts related to construction of stormwater facilities.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Cumulative stormwater and drainage infrastructure development in the region may be significant as the region continues to be developed with uses that require such facilities. The cumulative impact of the stormwater infrastructure required to implement the proposed CBP would not be cumulatively considerable given that mitigation would ensure that the CBP facilities would implement proper drainage to reduce downstream flows. This would minimize the program's demand for extension of such infrastructure to a less than cumulatively considerable level through implementation of mitigation. Thus, the contribution of the CBP to future stormwater infrastructure would not be cumulatively considerable, thus preventing a cumulatively considerable contribution to significant cumulative stormwater infrastructure.

Level of Significance After Mitigation: Less Than Significant

4.20.5.4 Energy and Natural Gas

The proposed CBP includes the development of various types of water infrastructure facilities, outlined above under **Water**. The development of the above facilities would result in the construction of new and expansion of existing energy infrastructure to serve the new CBP facilities; however, as discussed above under Subchapter 4.7, Energy, the proposed CBP would not cause or result in the need for additional energy producing facilities or energy delivery systems, which includes electricity and natural gas. Given that connection to the electrical power grid and connection to natural gas, where a connection to natural gas is required at future facilities, are minor components of the overall construction of CBP facilities and that the energy analysis concluded that impacts thereof would be less than significant, the provision of these facilities as part of the overall CBP would not cause a significant environmental effect.

For any specific CBP facility that would not have access to electrical connection or natural gas, and would require either extension of infrastructure or creation of new infrastructure to meet electricity and/or natural gas needs at an CBP facility site, mitigation will be required to examine the environmental impacts thereof.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

UTIL-2: For future CBP projects that do not have access to electrical or natural gas connections in the immediate vicinity (defined here as a 1,000-foot buffer from a given project site), and will require either extension of infrastructure or creation of new infrastructure to meet electricity and/or natural gas needs at a future CBP facility site, subsequent CEQA documentation shall be prepared that fully analyzes the impacts that would result from extension or development of electrical or natural gas infrastructure.

Level of Significance After Mitigation: Less Than Significant

Because it is not known where future CBP facilities will be installed, there may be locations in which energy and/or natural gas services are not available within the immediate vicinity of a given CBP site. As such, MM **UTIL-2** would ensure that a subsequent CEQA documentation is prepared for projects that require extension or development of such infrastructure, which will ensure that any impacts are appropriately assessed and mitigated.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Cumulative energy and natural gas infrastructure development in the region may be significant as the region continues to be developed with uses that require such connections. The cumulative impact of the connection to electricity and natural gas required to implement the proposed CBP would not be cumulatively considerable given that mitigation would ensure that the program's demand for extension of such infrastructure would be minimized through implementation of mitigation identified for specific projects that undergo subsequent CEQA documentation.

Level of Significance After Mitigation: Less Than Significant

4.20.5.5 Telecommunications

Combined Project Categories

The types of facilities proposed as part of the CBP typically would not require extension of telecommunication services. However, given that the facilities proposed as part the CBP have not been designed, there is a potential for certain facilities (such as facilities proposed that would require full-time personnel on site or otherwise require connection to telecommunication facilities) to require extension of telecommunication infrastructure as part of operation. As such, given that the location of most future CBP facilities is unknown, Mitigation Measure **UTIL-3** would be required to ensure that impacts related to extension of infrastructure are minimized for the proposed CBP projects that would require telecommunication services by requiring project-specific subsequent CEQA documentation for projects proposed at sites without immediate access to telecommunication connections.

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

UTIL-3: For future CBP projects that do not have access to telecommunication connections in the immediate vicinity (defined here as a 1,000-foot buffer from a given project site), and will require either extension of infrastructure or creation of new infrastructure to meet telecommunication needs at a future CBP facility site, subsequent CEQA documentation shall be prepared that fully analyzes the impacts that would result from extension or development of electrical or natural gas infrastructure

Level of Significance After Mitigation: Less Than Significant

Because it is not known where future CBP facilities will be installed, there may be locations in which telecommunication services are not available within the immediate vicinity of a given CBP site. As such, MM **UTIL-3** would ensure that a subsequent CEQA documentation is prepared for projects that require extension or development of such infrastructure, which will ensure that any impacts are appropriately assessed and mitigated.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Cumulative telecommunication infrastructure development in the region may be significant as the region continues to be developed with uses that require such connections. The cumulative impact of the connection to telecommunication required to implement the proposed CBP would be less than significant given that mitigation would ensure that the program's demand for extension of such infrastructure would be minimized to less than cumulatively considerable through implementation of mitigation identified for specific projects that undergo subsequent CEQA documentation. The contribution of the CBP to future telecommunication infrastructure is considered a benefit to the overall Chino Basin as it may enable expanded supply for other uses surrounding future CBP facilities.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Introduction: Overall Impacts from CBP Implementation

The CBP is proposed to be a ~~25-year~~ conjunctive use project that proposes to use advanced water purification to treat and store up to 15,000 AFY of recycled water in the Chino Basin and extract the water during call years, which will likely be in dry seasons. The proposed CBP is uniquely designed to deliver public benefits including a highly reliable, dedicated environmental water supply to benefit Bay Delta instream flows, as well as enhance water supply reliability and improve water quality for water users in southern California.

The CBP would increase additional available groundwater supplies in the adjudicated Chino Groundwater Basin through increased water recycling and storage, and then dedicate a like amount of water for environmental flow purposes, the CBP provides a compelling example of a conjunctive use storage project operating at both ends of the SWP. The reliability of the water designated for groundwater storage is based upon the development of new water supplies from treated wastewater secured from IEUA partner agencies. In the scope of the CBP, new water would be secured, transported, treated, and then deposited in the Chino Basin for ecological benefit in the Bay-Delta watershed while providing water supply reliability and improved water quality benefits to IEUA customers and partner agencies.

The CBP will provide for an exchange of new water supplies in the Chino Basin for SWP supplies in Lake Oroville in Northern California that would otherwise be delivered to Southern California. The additional Lake Oroville water would subsequently be released in the form of pulse flows in the Feather River to improve habitat conditions for native salmonids and achieve environmental benefits.

The CBP would produce 15,000 AFY of new water supply for a period of 25 years to provide for the State exchange, to be used in blocks of up to 50,000 AFY in hydrologically drier years when pulse flows in the Feather River would provide the most ecosystem benefit and other SWP operations would not be affected. The exchange would be administered through agreements with the DWR, the California Department of Fish and Wildlife (CDFW), MWD, and other project partners. Additionally, new water stored in the Chino Basin would also enhance emergency response water supply availability for IEUA and other participating agencies during crises such as flood or seismic events that disrupt imported water infrastructure.

As previously stated in Subchapter 1.1, Project Background, during the first 25 years of the project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled) locally produced CBP water supplies will directly replace a portion of imported supplies when an SWP water transfer is implemented by MWD and DWR and a pulse flow occurs in northern California. After fulfillment of the Proposition 1 WSIP exchange commitment, the facilities developed under the CBP by IEUA would continue to be operational as part of the overall project life cycle, and during this period the new water supply will be available for local use annually contributing to IEUA's available supply. This analysis and data contained herein focuses on the first 25-years of the CBP project life cycle (while the Proposition 1 WSIP water exchange commitment is fulfilled). This is because IEUA has concluded that it would be speculative to analyze the operation of the facilities proposed herein (refer to Chapter 3, Project Description) beyond this horizon. During the first 25 years of the CBP, operational put and take cycles are built into the program, with the intent of offsetting demand for SWP water. For the second 25 years (years 26-50), there is a lack of factual data regarding the operational characteristics of the Chino Basin, including water demand, available water supply resources, and the possible rules and regulatory environment for managing the Chino Basin water resources 25 years hence. For instance, it is not known whether the 15,000 AFY water supply generated by the AWPF proposed herein would offset local water purveyor's demand for imported water, or if it would meet a new demand in conjunction with the continued use of imported water. Further, as the 15,000 AFY water supply generated by the AWPF proposed herein would be needed, in whole, or in part, to provide water quality benefit to the Chino Basin in the collective effort to meet the water quality objectives set by the RWQCB as part of its Basin Plan. Thus, beyond that the facilities associated with the CBP would continue to be operational beyond the proposed 25-year conjunctive use project, to analyze the manner in which the facilities will be operated would be speculative to address at this time, and further would be evaluated as part of future master planning efforts.

The program would rely on water transfer agreements through MWD. For every acre-foot of water requested for north of the Delta ecosystem benefits, IEUA would pump locally stored groundwater and deliver it to MWD or use the water locally instead of taking raw imported water from MWD (referred to as "in lieu"). MWD would then leave behind an equivalent amount of water in Lake Oroville to be dedicated and released for the requested ecosystem benefit. The CBP can be operated in a way to provide up to 50,000 AFY of water for up to 7.5 years, with a consecutive draw of no more than 3 years, of the 25-year program (up to 375,000 AF total) as long as the groundwater extraction would not exceed the approved borrow amount. This would result in balancing the PUTs (the components to recharge purified water to the Chino Basin) and TAKEs

(the components to extract groundwater and convey potable water supply) to the Chino Basin at the end of the 25-year program, i.e., up to 375,000 AF would be recharged over 25 years and the same amount could be extracted over 25 years.

The CBP proposes the implementation of a variety of projects, as outlined in the Project Description, and listed above under question (a), Water. The CBP's proposed AWPF, new injection and extraction facilities, conveyance facilities, and water system interconnections would allow more optimal management of local water supplies, including meeting water quality requirements for the continued use of recycled water within the Chino Basin and improved storage and recovery operations, as well as redundancies in water delivery infrastructure that would facilitate future rehabilitation and replacement of existing infrastructure.

Growth is one of the drivers shaping water and basin management. As urban land uses replace agricultural and vacant land uses, the water demands within the Chino Basin are expected to increase. Total water demand is projected to grow from about 290,000 AFY in 2015 to about 416,000 AFY by 2040 (refer to **Table 4.20-1**, above), an increase of about 126,000 AFY. The projected growth in water demand through 2040 is driven by urban water demands created by a number of factors related to population growth within the region. The proposed CBP would contribute to addressing anticipated growth through the provision of facilities that would provide an additional source of water that can be used by stakeholders of the Chino Basin, managed by the Chino Basin Watermaster, which would contribute to meeting demand for potable water within the Basin.

The Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program prepared by West Yost, provided as Appendix 4 of Volume 2 to the ~~is~~ 2022 CBP ~~D~~ FPEIR, indicates that the proposed CBP would have the following potential impacts to the Chino Basin and the stakeholders of the Chino Basin from implementation of the CBP scenarios (**Table 4.20-4**):

Table 4.20-4
SUMMARY OF POTENTIAL MATERIAL PHYSICAL INJURY (MPI) AND ADVERSE IMPACTS

Potential Impact Category	Projected Impacts of the CBP Scenarios
Net recharge and Safe Yield	Net recharge is projected to decrease in the late call scenarios (Scenarios 1, 3, and 5) by an average of 260 to 410 AFY during the program period. Net recharge is projected to increase in the early call scenarios (Scenarios 2, 4, and 6) by an average of 680 to 840 AFY during the program period.
Pumping sustainability	Under the baseline scenario, 17 wells are projected to experience pumping sustainability challenges. One or more of the CBP scenarios are expected to cause pumping sustainability challenges at two additional wells and exacerbate the existing pumping sustainability challenges at several wells identified under the baseline scenario.
New land subsidence	New land subsidence is projected to be minor and only occur in areas already identified under the baseline scenario.
State of Hydraulic Control	Hydraulic Control is projected to be maintained through 2053.
Direction and speed of known plumes	Plume displacement is projected to be minor and is not projected to impact any previously unimpacted appropriator wells through 2053.

Potential Impact Category	Projected Impacts of the CBP Scenarios
Title 22 Compliance	No compliance challenges with minimum travel times are expected to occur with currently active wells and assumed locations for future wells.

As described above, and within Subchapter 4.11, Hydrology and Water Quality, implementation of the CBP requires mitigation to ensure adequate management of the Chino Basin as the individual CBP facilities are developed. This includes mitigation that addresses pumping sustainability, hydraulic control, and reduction in net recharge, which could, without mitigation, result in variability in available supply to Chino Basin stakeholders.

As such, and as stated above under Subchapter 4.11, Hydrology and Water Quality, question (b), the Watermaster will review IEUA's Storage and Recovery Program application and gathers the appropriate data to (1) determine whether future CBP projects would result in loss of pumping sustainability, result in potential reduction in net recharge and impacts to Safe Yield, and/or result in new subsidence, and (2) respond with appropriate mitigation to minimize the potential adverse hydrological impacts that may occur from a project. Additionally, IEUA will adhere to the plan of response prepared by the Watermaster should the Basin conditions to vary from the projections that have been modeled as part of the CBP (and all supporting documentation). The mitigation provided above under Subchapter 4.11, Hydrology and Water Quality, question (b), would enable the Watermaster to maintain sustainable management of the Basin, and thereby maintain sufficient water supply allocated to the Parties for the foreseeable future.

Based on this information, the project would have a less than significant potential to have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years, once mitigation is implemented. Mitigation measures **HYD-1, HYD-2, HYD-3, HYD-4, HYD-5, HYD-6,** and **HYD-7** are required to minimize impacts related to pumping sustainability, net recharge and safe yield, hydraulic control, and overall basin management. With the implementation of mitigation that would ensure sustainable management of the Basin, impacts under this issue would be less than significant.

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the Cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The development of wells would require minimal water usage for dust control activities should grading be required to install the wells. The installation of wells may require up to 60 days of construction to complete. Therefore, given the short period of construction, water demand during construction would not be substantial and would not require new or expanded water supply resources. Furthermore, the development of the proposed wells would not require expanded supply to operate beyond those created by the implementation of CBP Facilities as discussed above. Therefore, impacts would be less than significant.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout

the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Construction of the proposed pipelines and ancillary facilities would require minimal water usage for dust control and concrete washout activities. Pipeline construction would occur in phases and is expected to be relatively short, lasting from several months to a year. Therefore, water demand during construction would not be substantial and would not require new or expanded water supply resources.

The proposed pipeline and ancillary facilities would distribute water generated by the AWPF and at existing water treatment facilities throughout the Chino Basin. These facilities would not require additional water for operation. Conveyance and distribution of water and brine through the proposed pipelines and ancillary facilities would facilitate the creation of a reliable source of water supply within the Basin, specifically through injecting highly treated water into the Basin for use by stakeholders of the Basin. Therefore, impacts related to new or expanded water supply resources or entitlements would be less than significant beyond those created by the implementation of CBP facilities as discussed above.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity is discussed in the introduction above. The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, impacts related to new or expanded water supply resources or entitlements would be less than significant beyond those created by the implementation of CBP facilities as discussed above.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

Impacts would be the same as those discussed under Project Categories 1, 2, and 3 above.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

*Mitigation Measures: Mitigation measures **HYD-1** through **HYD-7** are required to minimize impacts related to pumping sustainability, net recharge and safe yield, hydraulic control, and overall basin management. These mitigation measures will ensure that sufficient water supplies are available to serve the Parties within the Chino Basin.*

Level of Significance After Mitigation: Less Than Significant

Please refer to the discussion under Mitigation Measures above. Mitigation Measures **HYD-1** through **HYD-7** would create a hierarchy of checks and balances as part of the sustainable management of the Chino Basin through continuous monitoring of known issues within the Basin and a comparable mitigative response to ensure that these issues do not result in a significant impact. No further mitigation is required to ensure that sufficient water supplies are available to serve the stakeholders within the Basin.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Future cumulative development within the Chino Basin is expected to require new or expanded water supply resources or entitlements to serve the increase in urban development. However, the goals of the CBP include meeting permit compliance for the continued use of recycled water within the Chino Basin, as the CBP would ensure that recycled water is available as a source of Basin recharge through minimizing the TDS of recycled water within the Basin. Additionally, the goals of the CBP include developing infrastructure that would address long term supply vulnerabilities, which in addition to improving recycled water availability within the Basin as described above, would enhances local groundwater supplies through the installation of additional extraction wells and through the installation of new wellhead treatment systems that would bring existing out-of-service wells online.

The proposed CBP projects would accommodate increasing water demand and would not contribute to the need for new or expanded water supply resources or entitlements. Because the project would result in a less than significant impact related to expanded water supply resources, the project's contribution to cumulative impacts would not be cumulatively considerable, and therefore, the CBP would not contribute to a significant cumulative water supply impacts.

Level of Significance After Mitigation: Less Than Significant

c) Would the project 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?

Please refer to the discussion under **(a) Wastewater**, above.

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

The proposed CBP includes construction of wells. As stated under the response to issue 4.20(a) above, construction workers would temporarily require use of portable sanitary units during construction of the proposed wells and potentially during the installation of the proposed monitoring devices. Wastewater generated during construction of the proposed CBP facilities would be minimal, consisting of portable toilet waste generated by construction workers and therefore would not substantially impact wastewater treatment capacity. All conveyance systems, wells, and ancillary facilities would not generate wastewater during their operation. Therefore, impacts related to available wastewater treatment capacity would be less than significant.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5-MG reservoir, and up to 6 turn outs varying between 12 and 72 inches in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts related to implementation of all of the facilities under this Project Category, excepting brine conveyance, are the same as those identified under Project Category 1, above.

The disposal of brine through the proposed brine conveyance facilities are addressed under Project Category 4, below, and would therefore be the same as those identified under Project Category 4, below (less than significant with the implementation of mitigation identified below).

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, the proposed expansion has no potential to require or result in the impacts related to wastewater treatment capacities.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

The proposed AWPF at RP-4 would constitute another form of treatment to IEUA and other agency recycled water. As with the AWPF, wellhead treatment facilities would create a new sources of brine waste generated by water treatment that would require treatment by the applicable wastewater treatment provider. Brine from the AWPF at RP-4 would be conveyed through a 1,400-foot 8-inch HDPE brine line using residual pressure from the RO system. The new brine line would exit the southeast side of the AWPF and connect to existing manhole EINL-008 on the NRWS pipeline, located on Etiwanda Avenue between Wells Street and 6th Street. No trenchless crossings would be required for this brine line. It has been verified that the existing NRWS infrastructure would be able to accommodate the brine stream at the point of connection and downstream, and 2,603 NRWS Capacity Units (CU) CUs would need to be purchased. Note that, as outlined in the Project Description, the NRWS has a current flow of 20,000 gpd. The AWPF would contribute an additional anticipated 1,027,300 gpd to the NRWS. The NRWS capacity is 4.6 MGD leaving more than three quarters of the system's capacity available for use by other entities in the region should brine disposal be required.

Additionally, a new 6,800-foot 8-inch HDPE brine line is anticipated to connect to the IEBL, with a possibility for jack and bore to be required in order to install this section of pipeline. It has been verified that the existing IEBL infrastructure would be able to accommodate the brine stream at the point of connection and downstream. One agency CU would need to be purchased to

accommodate this CBP facility. Note that, as outlined in the Project Description, the IEBL has a current flow of 22,000 gpd. The three wellhead-treatment system(s) would contribute an additional anticipated 4,900 gpd per facility to the IEUA. The NRWS capacity is 1.9 MGD leaving a vast majority of the system's capacity available for use by other entities in the region should brine disposal be required.

Should the IEUA require greater capacity of the brine disposal facilities than is presently available, it would not be possible to determine whether these facilities would require OCSD (or another agency responsible for treating brine waste) to expand the capacity of its treatment plant to accommodate the additional brine waste generated by the CBP facilities. As such, MM **UTIL-4**, which requires subsequent CEQA documentation to be prepared for certain projects, is required to minimize potential impacts below significance thresholds.

As with the impacts outlined above under Project Category 1, the construction of these upgrades and improvements are not anticipated to generate additional demand for capacity from the wastewater treatment provider due to the limited wastewater this would generate. Given that the proposed CBP is not anticipated to generate additional demand for these existing facilities, the programs proposed to be implemented as part of the CBP and associated facilities therefore are not anticipated to require substantial additional capacity from the applicable area wastewater treatment provider beyond the provider's existing commitments. Impacts would be less than significant with the implementation of mitigation identified below.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

UTIL-4 ***Should the agencies operating the brine disposal systems (Orange County Sanitation District [OCSD]and Los Angeles County Sanitation District [LACSD]) determine that the capacity requested on behalf of CBP operations is greater than that which can be accommodated with existing treatment capacities, subsequent CEQA documentation addressing the required facility expansions shall be prepared. I.e., should the CBP require access to greater capacity from an existing brine disposal system (including the IEBL, the NRWS, or the Etiwanda Wastewater Line [EWL]) beyond that which can be accommodated by existing facilities--excluding pipeline connections required to connect CBP facilities to these brine disposal systems (such as the 8,200 LF proposed to be installed as part of the CBP)—subsequent CEQA documentation shall be prepared.***

Level of Significance After Mitigation: Less Than Significant

Implementation of MM **UTIL-4** is sufficient to reduce the potential for impacts related to capacity of area wastewater treatment plants to below significance thresholds, as it would ensure that subsequent CEQA documentation is required where the overall CBP would require greater brine conveyance capacity than area brine disposal facilities can accommodate.

Cumulative Impact Analysis

Level of Significance Before Mitigation: Potentially Significant

Future cumulative development within the Chino Basin is expected to demand additional capacity from the available wastewater treatment providers. In general, IEUA and other area wastewater collection agencies have available capacity to accommodate the anticipated population growth and subsequent demand for their services in the future, or these agencies have developed long-term plans that address growth through the expansion of their facilities. Regardless, this cumulative increase could result in inadequate capacity of the wastewater treatment plant(s) to serve the additional demand. However, the 2017 IEUA Facilities Master Plan EIR (FMP EIR) addressed long term projection of growth and capacity needs within the IEUA service area and models capacity utilization of the four Regional Water Recycling Plants (RWRPs). The projects proposed within the WFMP would ensure that IEUA would have adequate capacity to treat wastewater for the region; therefore, the cumulative contribution to wastewater treatment from area growth has been previously analyzed, and was determined to be less than cumulatively considerable.

As discussed in the previous analysis, the proposed CBP would require a large brine disposal capacity to accommodate the proposed AWPF and wellhead treatment systems. Both the IEBL and NRWS would have a remaining capacity, when considering the capacities required to accommodate the CBP, greater than three quarters of the total capacity for these brine disposal systems. As such given that the proposed CBP would utilize mitigation that would ensure subsequent CEQA documentation to address expanded brine disposal capacities, should they be required, the CBP would reduce the overall impacts to less than cumulatively considerable. This is because the CBP would ensure that, if required subsequent CEQA documentation is require, it would address the need for additional brine disposal capacities, thus ensure that capacity is available for existing and future cumulative development.

Because the project would result in a less than significant impact with mitigation related to wastewater capacities, the project's contribution to cumulative impacts is not considered cumulatively considerable, and therefore, would not contribute to a significant cumulative impact on the availability of wastewater treatment.

Level of Significance After Mitigation: Less Than Significant

d) 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?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Construction of wells would not require a large area of construction. Construction of each well may require demolition of existing facilities, grading, soil import/export, etc. at a specific site. Given that the proposed wells would be located within sites no more than one half acre in size, it is not anticipated that construction thereof would generate substantial solid waste. Furthermore, it is not anticipated that more than 3 of the proposed wells would be installed concurrently; as such, the generation of solid waste from each well would not have a potential to exceed the daily capacity of the local landfills. Each of the CBP facilities would include the preparation of a construction and demolition solid waste management plan as required by San Bernardino County or Riverside County for all new construction projects. Information provided in this waste

management plan would include how the waste would be managed, hauler identification, and anticipated material wastes. Each plan would demonstrate a minimum of 50 percent diversion of construction building materials and demolition debris from landfills through reuse or recycling, which is required by AB 939. As such, development of wells is not anticipated to generate solid waste in excess of the capacity of local infrastructure. Impacts would be less than significant with mitigation provided below.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Similar to the development of wells, construction of pipelines and ancillary facilities is not anticipated to result in generation of solid waste in excess of the capacities of local infrastructure. However, given that pipelines would require demolition of sections of roadway in order to install conveyance facilities below ground and within rights-of-way, mitigation is required to ensure that all materials that can feasibly be recycled are salvaged. With the implementation of mitigation identified below, impacts would be less than significant.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, the proposed expansion has no potential to result in impacts to solid waste capacities.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which will be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

While the installation of the proposed AWPF would occur over a large area within the existing RP-4 site, solid waste generation is anticipated to be minimized through the implementation of mitigation. Therefore, impacts are the same as those identified under Project Categories 1 and 2—mitigation is required to address potential impacts to solid waste capacities.

Combined Project Categories

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures:

UTIL-5 ***The contract with demolition and construction contractors for a given CBP project shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled. This includes but is not limited to wood, metals, concrete, road base and***

asphalt. The contractors for a given CBP project shall submit a recycling plan to IEUA for review and approval prior to issuance of permits for the construction of demolition/construction activities.

UTIL-6 ***The contract with demolition and construction contractors for a given CBP project shall include the requirement that all soils that are planned to be exported from the site that can be recycled shall be recycled for re-use; alternatively, soils shall be reused on site to balance soil import/export.***

Level of Significance After Mitigation: Less Than Significant

Implementation of mitigation measure **UTIL-5** will ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted from the local landfill, which will minimize the potential for CBP projects to generate waste in excess of local landfill capacities. Similarly, MM **UTIL-6** will ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycled and ultimately reuse, thereby diverting this waste stream from the local landfill. This too will minimize the potential for CBP projects to generate waste in excess of local landfill capacities.

Cumulative Impacts

Level of Significance Before Mitigation: Potentially Significant

Future cumulative development within the IEUA would cumulatively contribute to the generation of solid waste and disposal of solid waste at the El Sobrante and Mid-Valley Landfill landfills. Based on growth projections, these two landfills have approximately 25 to 30 more years of capacity. Future cumulative development could eventually exceed the capacities of these landfills. Therefore, cumulative development could result in significant impacts to landfills. Because the proposed CBP would not substantially increase the generation of solid waste, particularly with the implementation of MMs **UTIL-5** and **UTIL-6**, the project's contribution to cumulative effects on landfills would be less than cumulatively considerable, and therefore, would result in a less than significant contribution to cumulative impacts.

Level of Significance After Mitigation: Less Than Significant

e) Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)

This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to 9 existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Implementation of the proposed wells would comply with all applicable city, county, and State construction and demolition requirements during construction of the proposed facilities as described above in the regulatory setting. All excavated soil would be hauled offsite by truck to an appropriately permitted solid waste facility. The daily amount of soil to be disposed per day would not exceed the maximum permitted throughput for each waste type (i.e., non-hazardous and hazardous). Furthermore, other solid waste would be disposed of at an appropriately

permitted solid waste facility. The daily amount of solid waste to be disposed per day would not exceed the maximum permitted throughput for each waste type (i.e., non-hazardous and hazardous). Any hazardous materials collected on a given CBP project site during either construction or operation would be transported and disposed of by a permitted and licensed hazardous materials service provider. As stated above under issue 4.20(d), CBP projects would be required, through the implementation of MM **UTIL-5** to recycle construction and demolition materials beyond the mandated 50 percent diversion required by AB 939. Furthermore, MM **UTIL-6** would require further diversion through the recycling of soils where possible for future CBP projects. The proposed development of wells would comply all federal, State, and local statues related to solid waste disposal. Therefore, the proposed CBP would result in less than significant construction impacts with the implementation of mitigation.

The cities and/or county in which a given project would be located are required to comply with the California Integrated Waste Management Act of 1989, requiring diversion of solid waste from landfills through reuse and recycling. Facilities proposed as part of the CBP would be required to recycle as part of the projects' operational activities. Additionally, any hazardous materials collected on the project site during either construction or operation of future development within the CBP would be transported and disposed of by a permitted and licensed hazardous materials service provider. This is a mandatory requirement; compliance does not require mitigation. As such, the proposed CBP facilities would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Impacts are less than significant.

Project Category 2: Conveyance Facilities and Ancillary Facilities

This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Impacts are the same as those identified under Project Category 1.

Project Category 3: Groundwater Storage Increase

This Project Category includes an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

The proposed expansion of the safe storage capacity would not result in any above ground impacts beyond those facilities associated with the CBP designed to support this expansion as discussed herein. As such, the proposed expansion has no potential to violate federal, State, and local management and reduction statutes and regulations related to solid waste.

Project Category 4: AWPF and Other Water Treatment Facilities

This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and will ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

While the installation of the proposed AWPF would occur over a large area within the existing RP-4 site, the AWPF is anticipated to be comply with solid waste regulation, and impacts would

be minimized through the implementation of mitigation. Therefore, impacts are the same as those identified under Project Categories 1 and 2—mitigation is required to address potential impacts to solid waste capacities.

Combined Project Facilities

Level of Significance Before Mitigation: Potentially Significant

Mitigation Measures: Mitigation measures **UTIL-5 and UTIL-6** outlined under issue 4.20(a) above are required.

Level of Significance After Mitigation: Less Than Significant

As stated above under issue 4.20(d), implementation of MMs **UTIL-5 and UTIL-6** will ensure that recyclable waste streams are diverted from the local landfill, thereby ensuring compliance with the required 50 percent waste diversion mandated by the State.

Cumulative Impacts

Level of Significance Before Mitigation: Potentially Significant

Potential cumulative impacts related to solid waste facilities and solid waste disposal would occur if projects within the IEUA service area would be served by a facility without sufficient permitted capacity to accommodate solid waste disposal needs, or if cumulative projects do not comply with federal, State, and local statutes and regulations related to solid waste. Specifically, projects producing solid waste during project implementation, including cleanup, residential and commercial projects, could produce a waste stream that could together not be accommodated by current solid waste facilities within regional solid waste disposal areas, resulting in a cumulatively considerable impact to solid waste facilities.

The proposed CBP projects would comply with all federal, State, and local statues and regulations related to solid waste and would not result in potential significant impacts. When added to cumulative projects, the effects of the proposed CBP projects would contribute incrementally to the cumulative impacts on solid waste facilities.

Cumulative projects would generally be served by the local municipal solid waste disposal facilities and hazardous waste disposal facilities, resulting in potential cumulative impacts to solid waste facilities. However, new cumulative development projects would participate in local programs designed to divert 50 percent of waste from landfills. In addition, all cumulative projects implemented in the area would also be required to comply with federal, State, and local solid waste regulations and statutes. Therefore, when considered in addition to the anticipated impacts of other cumulative projects, and when considering that MMs **UTIL-5** and **UTIL-6** would minimize the CBP's individual potential to contribute to cumulative violations of solid waste regulations, the proposed project's incremental contribution to solid waste facility capacity impacts would not be cumulatively considerable, and therefore, would result in a less than significant contribution to cumulative impacts.

Level of Significance After Mitigation: Less Than Significant

4.20.6 Cumulative Impacts

The cumulative analysis of each Utilities and Service System issue evaluated in this Subchapter 4.20 determined that the proposed project would result in a cumulatively considerable contribution to cumulative utilities and service system impacts within the Chino Basin, even with the implementation of mitigation measures. Such impact would occur as a result of construction of water and wastewater related facilities proposed by the CBP potentially resulting in cumulatively considerable contributions to GHG emissions. All other issues were determined to contribute less than cumulatively considerable contributions to utilities and service systems impacts as the potential for the proposed CBP to result in a cumulatively considerable contribution to such impacts has been minimized through the implementation of mitigation measures.

4.20.7 Unavoidable Significant Adverse Impacts

The foregoing evaluation demonstrates that the construction of the proposed water and wastewater facilities would result in a significant impact, thereby, a significant impact under Utilities and Service Systems is anticipated as a result of implementation of the CBP. This is because the CBP would develop water and wastewater facilities that would contribute to significant construction-related GHG emissions. As such, though MM **GHG-1** would reduce construction related GHG emissions to the greatest extent feasible, construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. Thus, the proposed CBP would result in a significant and unavoidable impact related to construction of new or expansion or modifications to existing water and wastewater facilities. All other impacts related to Utilities and Service systems have been determined to be less than significant with implementation of mitigation identified herein.

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CHAPTER 5 – ALTERNATIVES

5.1 INTRODUCTION

CEQA and the CEQA Guidelines require an evaluation of alternatives to the proposed Chino Basin Program (CBP) to be included in this RDPEIR. The CBP has been evaluated for potential significant adverse impacts in Chapter 4, above. This chapter of the EIR describes and evaluates project alternatives to the CBP and is intended to implement the requirements set forth in the CEQA Guidelines. This chapter also identifies the Environmentally Superior Project Alternative as required by CEQA Guidelines Section 15126.6(e)(2).

No comments were received at the scoping meeting held for the proposed CBP. Two comment letters specific to this RDPEIR's alternatives analysis were received during the Notice of Preparation Comment Period. These are:

Comment Letter #5 from the City of Ontario (dated 10/14/21) states:

- *The City of Ontario proposes there be an alternative defined as the Local Control and Supply Alternative that evaluates treating and injecting, what they believe to be, currently underutilized recycled water in the Chino Groundwater Basin for local use with no export or in-lieu elements, to include the following components:*
  - *Make beneficial use of recycled water currently being discharged to the Santa Ana River.*
  - *Develop a local supply by advance treated recycled water which would be available to agencies in any given year, enabling agencies to reduce reliance on imported water.*
  - *Provide purified water pumping and conveyance for groundwater injection (injection wells and/or recharge basins).*
  - *Implement and be consistent with the rights of contracting parties pursuant to the Regional Sewage Contract.*
  - *This alternative would not include the following components:*
    - *Groundwater extraction and treatment*
    - *Potable water pumping and conveyance*
    - *Potable water usage (MWD pump-back or in-lieu)*
  - *This alternative would only include PUT components with participating agencies extracting the advanced water from the basin using existing infrastructure.*

Comment Letter #6 from the California Department of Fish and Wildlife (CDFW) (dated 10/14/21) states:

- *CDFW recommends that the EIR address a reasonable range of alternatives, including the no project alternative, which should address climate change and drought that may affect the community.*

Responses to these comments can be found in Subsection 2.2.1 of the Introduction (Chapter 2) of this RDPEIR. Additionally, most responses point to text that can be found in this Chapter.

5.1.1 Rationale for Alternatives Selection

The purpose of the alternatives evaluation under CEQA is to determine whether one or more feasible alternatives are capable of reducing the potentially significant impacts of the proposed project to a less than significant level. As Section 15126.6 of the CEQA Guidelines states:

Section 15126.6(a): *Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. …*

Section 15126.6(b) *Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.*

CEQA Guidelines Section 15126.6(f) states that the process of screening alternatives to evaluate in an EIR, is guided by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice, and further specifies that an EIR need examine in detail only those alternatives that the lead agency determines could feasibly attain most of the basis objectives of the proposed project. (CEQA Guidelines § 15126.6(f).) Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, regulatory limitations, jurisdictional boundaries and whether the applicant could reasonably acquire, control, or otherwise have access to the alternative option. (CEQA Guidelines § 15126.6(f)(1).) An EIR need not consider an alternative whose effects cannot be reasonably identified, whose implementation is remote or speculative, or one that would not achieve most of the proposed project's objectives. (CEQA Guidelines § 15126.6(f)(3).)

~~Guided by the foregoing, IEUA has undertaken a two-step process to identify the range of alternatives to discuss in this DPEIR. First, IEUA reviewed a broad range of potential alternatives and excluded those that were not at least "potentially feasible" as far as achieving most of the proposed project's basic objectives. Those alternatives are discussed below in Subsection 5.2. Second, IEUA has included in this DPEIR, for detailed evaluation and comprehensive comparison with the CBP, the remaining alternatives that IEUA deems to be at least "potentially feasible" alternatives in order to foster meaningful public participation and informed decision making.~~

Moreover, CEQA case law requires an EIR to evaluate the project that is actually proposed, as defined by an accurate, stable, and finite project description, including its purpose and basic objectives. (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) Because the range of alternatives is governed by those objectives, an agency is not required to analyze alternatives that would defeat the project's fundamental purpose or fail to achieve its basic goals. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 566; *In re Bay-Delta Programmatic EIR Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165.) Consistent with these principles, courts have upheld EIRs that evaluate a limited range of alternatives where no feasible alternative can attain most of the project's objectives. (*Save Our Access—San Gabriel Mountains v. Watershed Conservation Authority* (2021) 68 Cal.App.5th 8, 31-33.)

The range of feasible alternatives to the CBP is selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, regulatory limitations, jurisdictional

boundaries and whether the project proponent could reasonably acquire, control, or otherwise have access to the alternative option. (CEQA Guidelines § 15126.6(f)(1).)

Additionally, a No Project Alternative is also required to be included in the range of alternatives. (CEQA Guidelines § 15126.6(e)(1).) "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives". (CEQA Guidelines § 15126.6(e)(2).) As explained below, the mandatory No Project Alternative is not environmentally superior to the proposed CBP.

Based on the analysis in Chapter 4 of the RDPEIR, implementation of the CBP may result in potentially significant impacts in the areas of Biological Resources, Greenhouse Gas, and Utilities and Service Systems that may not be able to be mitigated to a level of insignificance.

Implementation of feasible mitigation measures or project design features would reduce potentially significant impacts to the following to less than significant: Aesthetics, Agriculture and Forestry Resources, Air Quality, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, and Wildfire. No other potential significant adverse environmental impacts are forecast to result from the CBP's implementation after implementation of the recommended mitigation measures.

As described in Chapter 1.0, the CBP's goals are as follows:

- **Meet Permit Compliance for the Continued Use of Recycled Water in the Chino Groundwater Basin:** The CBP provides groundwater recharge facilities to recharge high quality recycled water, thus reducing TDS levels within the Chino Groundwater Basin.
- **Maintain Commitments for Salt Management to Enable Sustainable Use of Recycled Water in the Basin:** With the implementation of AWPF with an expected effluent concentration of 100 mg/L, the recycled water TDS will be significantly reduced.
- **Develop Infrastructure That Addresses Long Term Supply Vulnerabilities:** The CBP would improve the use of recycled water at a regional level through new regional pipelines enabling greater potential access to recycled water and enhances local groundwater supplies through the installation of additional extraction wells and through the installation of new wellhead treatment systems that would bring existing out-of-service wells online.
- **Provide a Source of Water for Emergency Response:** The CBP results in 15,000 AFY in local supplies which can be used to augment the water supply portfolio during unplanned or catastrophic events.
- **Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~:** The CBP develops a highly reliable new water supply ~~formally~~ dedicated to supporting regional water reliability while balancing environmental sustainability ~~benefit that can be deployed dynamically and managed flexibly to address varying and changing ecological needs.~~

Implementation of the facilities proposed as part of the CBP consists of construction and operation of the various facilities that will be summarized below. These potential facilities are separated into four project categories: (1) Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.); (2) Project Category 2: Conveyance Facilities and Ancillary Facilities; (3) Project Category 3: Groundwater Storage Increase; and (4) AWPF and Other Water Treatment Facilities. Below are general descriptions of the facilities and operations proposed as part of the CBP.

Project Category 1: Well Development (Injection Wells, Extraction Wells, Etc.)
This Project Category includes the development of 16 injection, 17 extraction, and 4 monitoring wells, as well as use of up to existing member agency wells. The proposed new wells are anticipated to be installed in the northern middle portion of the Chino Basin, generally in the area in which the boundaries of the cities of Ontario, Fontana, and Rancho Cucamonga meet (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Project Category 2: Conveyance Facilities and Ancillary Facilities
This Project Category includes the construction of 158,400 LF of new pipelines, installation of 4 pump stations, one 5 MG reservoir, and up to 6 turn outs varying between 12" and 72" in size. The proposed conveyance facilities and ancillary facilities would be implemented throughout the entire Chino Basin with a focus toward the middle, northern, and eastern portions of the Basin (refer to Exhibit 8 in the Project Description, and Figures 6 through 9).

Project Category 3: Groundwater Storage Increase
This Project Category contemplates an expansion of the maximum storage space (safe storage capacity) to be used within the Chino Basin from its current maximum (700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035) to up to 720,000 AF from July 1, 2030 through June 30, 2042, and to 580,000 AF from July 1, 2042 through June 30, 2048, with the Safe Storage Capacity decreasing to 500,000 AF thereafter.

Project Category 4: AWPF and Other Water Treatment Facilities
This Project Category contemplates the AWPF at RP-4, which would be constructed to utilize an MF/RO/UV-AOP treatment train and would ultimately have a capacity of 15,000 AFY, and the installation of up to 3 wellhead treatment facilities.

As shown in the preceding discussion, the CBP consists of a complex, complicated and integrated program that incorporates a mix of projects and operations that are designed to meet the primary objectives of the CBP.

Section 5.2 describes alternatives that were considered but rejected. The potentially feasible alternatives to the CBP are evaluated in Sections 5.3, 5.4, and 5.5, and include: the No Project Alternative; Alternative 1 – the Baseline Water Quality Action Alternative; and Alternative 2 – the Regional Water Quality and Reliability Plan Alternative.

5.2 ALTERNATIVES CONSIDERED BUT REJECTED

5.2.1 Alternate AWPF Location

The potential AWPF locations impact treatment process selection and infrastructure requirements for tertiary recycled water, purified water, and brine conveyance. The closer that the AWPFs can be sited to source water supply (tertiary recycled water), the groundwater recharge locations, and brine disposal will result in lower capital and operating costs. RP-1 and RP-4 were initially considered as the two most-feasible locations for the future AWPF, as was a smaller AWPF at Monte Vista Water District (MVWD) Plant 28. AWPF's at RP-1 and MVWD Plant 28 were considered, but ultimately rejected for the following reasons:

- The AWPF at RP-1 would result in:
    - Slightly higher AWPF costs at due to early integration of Membrane Bio Reactor (MBR) with the AWPF (MBR has a higher unit cost than membrane filtration [MF]).
    - Higher purified water conveyance costs for PUT-1 through PUT-3 for both

pipelines and the pump station because RP-1 is farther away from the injection wells than RP-4.
    - Higher annual operation and maintenance (O&M) costs due to increased pumping costs from RP-1 to the injection wells.
- The AWPF at MVWD Plant 28 would:
    - Not meet IEUA selection criteria "Objective 3 – Streamline operations and maintenance" because these alternatives are more operationally complex as they require two AWPFs to accomplish the operation of the CBP generating 15,000 AFY of advanced purified water
    - Not meet IEUA selection criteria "Objective 4 – Minimize program complexity" because this alternative is institutionally complex with an AWPF located on MVWD's property, as it would require more complex implementation due to two AWPFs and two purified water conveyance systems, and would require land acquisition to replace the MVWD Plant 28 site for MVWD.

In addition to the above alternative locations, an AWPF at IEUA's RP-5 was initially considered because of the impending expansion project at RP-5, which includes conversion to an MBR treatment system which could be advantageous for planning a downstream AWPF, pending regulatory development and approval. An AWPF at RP-5 would address only the recycled water effluent NPDES permit limits; it would not address the use of recycled water within the basin and the groundwater recharge regulations compliance. Also, since RP-5 is situated hydraulically low in the IEUA recycled water distribution system, the use of its advanced purified water would be limited to discharge of unused recycled water as effluent to the Chino Creek/Santa Ana River and would not provide the same operational flexibility and benefits of locating in the northern service. An AWPF at RP-5 would be located in the far southern end of the service area, significant piping and pumping infrastructure would be needed to get this high-quality water to ideal recharge locations in the northern service area. Further, the Chino Basin Watermaster's 2018 Storage Framework Investigation (SFI) prioritized recharge ("PUTS") to occur in the north eastern portion of the Chino Basin (Management Zone 2) to minimize pumping sustainability challenges, minimize impacts of storage and recovery, preserve the current state of hydraulic control, and to take advantage of the groundwater storage capabilities in Management Zone 2.

As a result, RP-5 was eliminated from further consideration as RP-4 has been selected as the preferred option for modification to include advanced water purification as part of the CBP because of its advantages relative to operational flexibility and compatible future expansion plans. RP-4 was selected to be the preferred AWPF location over RP-1 due to its proximity to the proposed injection well field, its greater capacity to pump to future injection wells, space availability within the site, ability to integrate with future direct potable reuse opportunities and proximity of surface water treatment plants, its consistency with the SFI recharge prioritization, and overall operational flexibility. As such, AWPF options at RP-1, RP-5, and MVWD's Plant 28 were considered, but ultimately rejected from further analysis in this RDPEIR.

5.2.2 Alternate Delivery Method (Pre-Delivery)

Initially, TAKE options that would include pre-delivery were considered. Pumping groundwater during non-call years was also considered to reduce the required size and capacity of the TAKE facilities. For pre-delivery, it was assumed that 10,000 AFY would be delivered to Metropolitan Water District of Southern California (MWD) and/or member agencies during the 17.5 non-call years, and 26,700 AFY would be delivered to MWD and/or member agencies during the 7.5 call years, totaling 375,000 AF for the 25-year project life. For alternatives with pre-delivery, the capacity of the TAKE facilities was reduced from 50,000 AFY to 26,700 AFY. With pre-delivery,

the water would be stored in MWD's system during non-call years for use during call years. Therefore, alternatives with pre-delivery include a wheeling charge from MWD to compensate for storage.

Due to operational and economic considerations and upon further evaluation and discussions with MWD, pre-delivery was later determined to be infeasible. Those TAKE alternatives developed during the evaluation that considered pre-delivery are no longer being considered for the CBP, and as such, this alternative was considered, but has since been rejected.

5.2.3 Use of Recharge Basins for Groundwater Recharge

Existing recharge basins are used to recharge a combination of stormwater, tertiary recycled water, and imported water into the basin. These recharge basins are highly utilized, especially seasonally during storm events, and do not have sufficient year-round capacity for the additional purified water (15,000 AFY) to be recharged as part of the CBP. Furthermore, the development of new recharge basins would require a great amount of acreage, which may be difficult to secure and develop in order to be operational as part of CBP in 2028. Therefore, the use of recharge basins as part of CBP operations was considered, but ultimately rejected as infeasible due to the (a) high development costs relative to injection wells, (b) large amount of space required to develop new recharge basins, and (c) lack of existing capacity for recharge at existing basins.

5.3 NO PROJECT ALTERNATIVE

One of the alternatives that must be evaluated in an EIR is the "no project alternative," regardless of whether it is a feasible alternative to the proposed project, i.e., would meet any, some, or all of the project's objectives or requirements. In this case, this Subsection evaluates a No Project Alternative that reflects a "no action" alternative that makes salient the potential impacts and practical results redounding from IEUA not approving the CBP and taking no actions to resolve regulatory compliance issues within the Basin from continued recycled water use.

Under this alternative, the environmental impacts that would occur if the CBP facilities and programs are not implemented are evaluated. Under this No Project Alternative, there would be no expansion of existing recycled water systems or groundwater by member agencies of IEUA. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand.

Analysis performed to date indicates that IEUA could exceed the NPDES TDS permit limits for recycled water within the next 10 years, and possibly the groundwater recharge permit limit in the near future if no actions are taken. Maintaining permit compliance is critical for IEUA. There are strict consequences associated with non-compliance with the maximum benefit commitments (i.e., failure to develop the required mitigation plans when the action limits are triggered) that could lead to recycled water and groundwater recharge program interruption and/or retroactive activities. If the NPDES permit limit is exceeded, IEUA will be in violation of its NPDES permit and if a plan to address it is not submitted to the Santa Ana Regional Water Quality Control Board (RWQCB) in a timely manner, this could result in the halting of all use of recycled water. Consequently, all effluent from IEUA's water recycling facilities will need to be discharged to the Santa Ana River. Discharge to the Santa Ana River above 550 mg/L will also be above the discharge limitation, which is also 550 mg/L. The Basin Plan also states that "The Regional Board will also require mitigation of any adverse effects on water quality downstream of the Chino Basin that result from failure to implement the 'maximum benefit' commitments." Non-compliance could

result in permit modification with more stringent recycled water and groundwater recharge limits, severely impacting both the operability of the programs as well as the costs.

Unmitigated use and recharge of recycled water in the Chino Basin is contingent upon compliance with the maximum benefit objectives established by the RWQCB and agreed to by IEUA. If compliance is not demonstrated, lower, more stringent limits consistent with the State and federal anti-degradation objectives would apply. These lower limits effectively prohibit use of recycled water at worst or require a combination of purchase of dedicated State Water Project (SWP) supplies with low TDS from MWD and treatment to reduce TDS concentrations at best. TDS management within Chino Basin is thus critical to ensure continued use of recycled water and reduce reliance on imported water within IEUA's service area.

During 2019, recycled water used for groundwater recharge exceeded the 1,2,3-Trichloropropane (1,2,3-TCP) maximum contaminant level and perfluorooctanoic acid (PFOA) Notification Level and went into an accelerated monitoring schedule for 16 consecutive weeks. Corrective action reports were submitted to the State Water Resources Control Board's Division of Drinking Water and RWQCB in February 2020. Source evaluation for both compounds is ongoing.

Advanced treatment may be required to address impending/future regulations for 1,2,3-TCP and perfluorooctanoic acid PFOA. There are other contaminants of emerging concern, such as microplastics, that are likely to emerge over the next 10 years and could also require advanced treatment to continue recharge of recycled water. Even if these facilities are not required to maintain compliance with the Basin Plan, they may be needed to treat recycled water to continue current and for future groundwater recharge.

There is little flexibility to respond and manage changes in TDS concentration due to drought conditions, and the timeframe by which drought conditions can impact recycled water TDS concentration is short. Expected recycled water TDS concentration is 500 mg/L, considering contributions from household use and treatment processes and imported water. In periods of drought, recycled water TDS concentration is susceptible to increases, with imported water TDS concentration reaching up to 400 mg/L, and the desalter operating at 350 mg/L. Although statistical models considered long-term trends based on data sets of 20+ years and historical drought patterns, significant potential drivers, such as climate change, are not evaluated in these projections. These potential drivers further support the need for salinity management within the next 10 years.

If the ambient water quality in the Chino Basin is not maintained per the RWQCB's TDS limit, there will be greater dependence on imported water and local stormwater supplies, which are highly volatile and impacted by climate change. Since the Basin only receives imported water from one regional pipeline that is owned and operated by MWD, an unplanned or catastrophic occurrence could cut off 25 percent of the Basin's water supply. The No Project Alternative's no action approach would result in the Basin being out of regulatory compliance, threaten water supply, and does not meet IEUA's objectives.

As such, and as required by CEQA, a second, reduced development, alternative that also meets the requirements of analyzing a "no project" alternative is provided below as the Baseline Water Quality Action Alternative. The reason for distinguishing these two alternatives is that for IEUA to take "no action" towards maintaining regulatory compliance means that at some point it will be out of compliance and ultimately, in order for IEUA to continue its operations, an advanced water purification facility would be required in order to comply with its RWQCB permits. As such, the following alternatives discussion reflects the environmental consequences of a true "no action"

alternative—henceforth called the No Project Alternative or NPA—while the Baseline Water Quality Action Alternative or BWQAA, identified below as Alternative 1, would meet the provisions of CEQA Guidelines Section 15126.6(e)(3)(A) and (B), which requires the "no project" alternative to proceed as applicable to a given project as follows:

(A) 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.

(B) … However, where the failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval… ."

As such, given that it is reasonably foreseeable that without implementation of the CBP, actions will need to be taken to ensure that IEUA remain in regulatory compliance through their continued operations, the Baseline Water Quality Action Alternative (Alternative 1), is provided below in Subsection 5.4 to address this requirement.

The following evaluation will also include identification of an environmentally superior alternative as required by Section 15126.6(e)(2) of the CEQA Guidelines. A summary comparative discussion of the no project alternative in terms of the specific issues evaluated in this RDPEIR is provided below.

Aesthetics: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to impact a scenic vista; substantially damage scenic resources; conflict with applicable zoning and other regulations governing scenic quality; or create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area. Contrastingly, under the CBP, aesthetic impacts to scenic vistas and resources from disturbance would be potentially significant, but can be reduced to less than significant by shielding facilities and landscaping or revegetating disturbed areas either with landscaping that is consistent with local design guidelines or with native vegetation consistent with that which occurs naturally in the area, as specified in mitigation measures (MMs) **AES-1** and **AES-2**. Additionally, under the CBP implementation of MM **AES-3** is required to ensure that the proposed facilities' impacts to scenic resources, such as trees, are minimized to a less than significant level, and MM **AES-4** is required to ensure that future facilities are either not located within sites containing scenic resources or undergo subsequent CEQA documentation to fully analyze the impacts thereof. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any aesthetic impacts. Under this evaluation and set of assumptions, ~~the CBP would result in less overall operational aesthetic impacts; however,~~ the level of significance of aesthetic impacts to scenic vistas and scenic resources from this alternative would be similar to that which would occur under the proposed CBP, as neither would result in any significant and unavoidable impacts.

Agricultural and Forestry Resources: The NPA would not result in any new facilities as proposed to operate the CBP. While the CBP would have a potential to impact agricultural and forestry resources located within Chino Basin, mitigation is available to minimize impacts under this issue to a level of less than significant. It is worth noting that the provision of water is valuable to most uses within the Basin, including agricultural operations, and under the NPA, as stated above, the Chino Basin may be out of regulatory compliance, and the water supply may be threatened. As such, the NPA has a marginal potential to result in indirect impacts to agricultural resources, as the water supply required to operate existing and future facilities within land designated for such uses may be at risk due to the availability of water given a more limited water supply. Regardless, the NPA would have no potential to result in the loss of Prime Farmland or Farmland of Statewide Importance, though the NPA may have a potentially significant potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. The NPA would have no potential to impact forestry resources, as no land that has been designated for such use exists within the Chino Basin, and furthermore, where the CBP would have a potential to result in a loss of riparian woodland areas along the Santa Ana River, Chino Creek, and Mill Creek, and in the Prado Basin, these resources, unlike agricultural resources, do not require delivery of groundwater to sustain them. Thus, the NPA would have no potential to impact forestry resources, and the CBP would require mitigation to minimize impacts to such resources. Under this evaluation and set of assumptions, the CBP ~~would result in~~ and the NPA would result in similar levels of impact to agricultural and forestry resources; neither the NPA nor the CBP would result in any significant and unavoidable impacts.

Air Quality: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have minimal potential to result in significant air quality impacts. As with the CBP, this alternative would not lead to unplanned population, housing or employment growth that exceeds the forecasts used in the development of the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP). Because no expansion of existing recycled water systems or groundwater by member agencies of IEUA would occur under the NPA, it is unlikely that maximum daily emissions during construction and operation of the NPA would exceed SCAQMD regional or localized significance thresholds, whereas construction activities under the CBP were determined to exceed the SCAQMD regional significance threshold for nitrogen oxide emissions, and as such MM **AQ-1** would be required to minimize potentially significant impacts below significance thresholds (see Chapter 4.3, *Air Quality*). The NPA also would not include new facilities with the potential to generate substantial odorous emissions. As such, under this evaluation and set of assumptions, the NPA would have substantially less potential to result in significant air quality impacts; however, the level of significance of air quality impacts of this alternative would be similar, if less than, that which would occur under the proposed CBP and would be less than significant.

Biological Resources: The NPA will have no general biological resource impacts as it would not require any diversions from the Santa Ana River. The elimination of diversions from the Santa Ana River has the potential to eliminate the potentially significant impacts to the Santa Ana Sucker. When mitigation is implemented—primarily avoidance of biologically sensitive areas or compensation to offset losses to sensitive biological resources—the proposed CBP approaches the level of significance regarding biological resource to those that would result from the NPA's

impacts, but a potential still exists for significant impacts under the CBP as a result of the diversion of recycled water from the Santa Ana River thus impacting the Santa Ana Sucker as the available mitigation to protect this species cannot be guaranteed to minimize impacts below significance thresholds. Under the NPA, no facilities would be installed that could impact site specific biological resources, and recycled water discharge would continue from IEUA as it does at present, thus eliminating the potential for impacting species or habitat supported by the Santa Ana River. As such, under this evaluation and set of assumptions, the CBP's effects on biological resources is considered to be greater than the NPA, and the NPA would avoid a significant impact on biological resources that would otherwise result from implementation of the CBP.

~~It should be noted, however, that the NPA would eliminate the potential environmental benefit that would result from the CBP. As discussed in Chapter 3 of this DPEIR, the CBP would provide environmental benefit in call years, which will likely be in dry seasons, to improve habitat conditions enabling salmonid species greater chance for survival. The NPA would not only forgo this environmental benefit, but it would also result in a threat to the reliability of water supply in the Chino Basin. Given this, the NPA is not considered environmentally superior to the CBP in the area of biological resources.~~

Cultural Resources: Simply because the CBP will disturb a greater amount of area, its potential for encountering cultural resources is greater for the NPA. The NPA does not require development of any kind, other than the business as usual approach by which IEUA manages its operations. As such, the NPA would have no cultural resources impacts. When mitigation is implemented—primarily avoidance of culturally sensitive areas, further site-specific study of large scale CBP projects, and specific treatment requirements for buried cultural materials that may be uncovered during construction of future projects—both alternatives are forecast to cause less than significant impacts to cultural resources. Under this evaluation and set of assumptions the NPA would have less impacts on cultural resources to the proposed CBP, but neither the NPA nor the CBP would result in significant cultural resource impacts.

Energy: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have minimal potential to result in significant energy impacts. Because no expansion of existing recycled water systems or groundwater by member agencies of IEUA would occur, including the addition of an AWPF in conjunction with PUT and TAKE facilities as proposed by the CBP, energy consumption under the NPA would be less than that which would occur under the proposed CBP. However, as with the proposed CBP, the potential for wasteful, inefficient, or unnecessary energy consumption during construction activities would be minimized by compliance with existing applicable regulations. Furthermore, operational energy usage under the NPA would not be wasteful, inefficient, or unnecessary because it would contribute to the provision of wastewater collection and recycled water generation within IEUA's service area and would be conducted in accordance with existing applicable regulations related to energy efficiency and vehicle fuel economy. Furthermore, similar to the proposed CBP, IEUA would continue to procure energy to serve new facilities under the NPA from Southern California Edison (SCE), which has historically achieved the Renewables Portfolio Standard, and would continue to implement projects in accordance with the goals and objectives of its CCAP. Therefore, this alternative would also be consistent with the California Air Resources Board's (CARB) 2017 Climate Change Scoping Plan and the IEUA

CCAP. As such, under this evaluation and set of assumptions, the NPA would result in less overall energy consumption; however, the level of significance of the energy impacts of this alternative would be similar to that which would occur under the proposed CBP and would be less than significant.

Geology and Soils: The Chino Basin contains substantial geological and soils constraints. Due to these substantial constraints and the installation of future CBP related facilities in locations where such constraints may occur, a potential for significant geology and soils resources impacts from implementation of the CBP were identified in Subchapter 4.8. The NPA does not require development of any kind, other than the business as usual approach by which IEUA manages its operations. As such, the NPA would not result in exposure of persons or structures to new sources of geology and soils related constraints including seismic constructions such as, liquefaction, groundshaking, landslide, and ground rupture as well as soil constraints such as erosion, subsidence, and soil stability. Several mitigation measures were identified to minimize geology and soils impacts under the CBP, while the NPA would not require mitigation to ensure that geology and soils impacts are less than significant. As such, under this evaluation and set of assumptions, the NPA would have less potential to result in significant geology and soils impacts compared to the CBP; however, the level of significance of geology and soils impacts of this alternative would be similar, if less than, that which would occur under the proposed CBP since both would be less than significant with the implementation of mitigation.

Greenhouse Gas: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have minimal potential to result in significant greenhouse impacts. Because no expansion of existing recycled water systems or groundwater by member agencies of IEUA would occur, including the addition of an AWPF in conjunction with PUT and TAKE facilities as proposed by the CBP, greenhouse gas (GHG) emissions under the NPA would likely be less than those of the proposed CBP. Given that the NPA represents an alternative with no new construction or operational activities outside of the scope of a business as usual scenario (i.e., continuation of practices that have already been evaluated and approved under CEQA or that fall outside of the scope of CEQA), the NPA would have no potential to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. As such, under this evaluation and set of assumptions, the NPA would result in fewer overall construction and operational GHG emissions compared to the proposed CBP. Under this evaluation and set of assumptions the proposed CBP would result in significant and unavoidable Greenhouse Gas impacts, while the NPA would not result in any significant impacts thereof. As such, the NPA would avoid a significant impact on biological resources that would otherwise result from implementation of the CBP.

Hazards and Hazardous Materials: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and its member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under

the NPA, the NPA would have minimal potential to result in significant hazards and hazardous materials impacts. The NPA would operate in accordance with existing IEUA policies related to the handling of hazardous materials and, as with the CBP, would be subject to mandatory regulations pertaining to the handling and transport of hazardous materials. Given that no new facilities would be developed under the NPA, no mitigation would be required to minimize potential hazards and hazardous materials impacts. Several mitigation measures were identified to minimize hazards and hazardous materials impacts under the CBP. Therefore, though there will be some adverse impacts as a result of implementing the CBP, specific mitigation measures would reduce its potential project specific and cumulative (direct and indirect) effects to a less than significant impact level for hazards and hazardous material issues. As such, under this evaluation and set of assumptions, the NPA would likely have less potential to result in significant hazard and hazardous materials impacts; however, the level of significance of the hazard and hazardous materials impacts that would result from this alternative would be similar, if less than, that which would occur under the proposed CBP since both would be less than significant with the implementation of mitigation.

Hydrology and Water Quality: It is under this environmental issue where the CBP Alternative and the NPA diverge in their potential environmental impacts. Under the CBP, the expansion of the safe storage capacity required to implement the proposed program may presents several potential challenges that may result in significant impacts, including potential new pumping sustainability challenges, reduced net recharge, subsidence, and potential management of maintaining hydraulic control of the Chino Basin. Under the NPA, however, there are other challenges with managing the basin, including significant water quality challenges that were outlined under the description of this alternative. The consequences of taking no action towards addressing regulatory compliance challenges that would be addressed by the CBP or by the other alternatives—Alternatives 1 and 2—would be as follows: if the ambient water quality in the Basin is not maintained per the RWQCB's TDS limit, there will be greater dependence on imported water and local stormwater supplies, which are highly volatile and impacted by climate change; an unplanned or catastrophic occurrence could cut off 25 percent of the Basin's water supply where imported water is being relied upon with limited expansion of local water supply sources; and as such, a "no action" approach results in the Basin being out of regulatory compliance. Consequently, going forward with management of the Basin in a business as usual approach, without addressing the need for new facilities needed to tackle the above challenges, would have a potential to result in a major significant impact to the Basin's hydrology resources and water quality characteristics.

Regarding flood hazards and contribution thereof, the NPA, with no proposed facilities, would have no potential flood hazard impacts beyond those that have been identified to occur at existing facilities by previously adopted or certified CEQA documentation. Regardless, both of these alternatives are forecast to have less than significant adverse impact under this environmental topic.

In the final analysis, the NPA cannot be considered the environmentally superior alternative to the CBP for the hydrology and water quality issue because the NPA, which assumes no facilities would be installed and business as usual would continue, would result in significant degradation in water quality with no mitigation available to minimize this significant impact. Refer to the Baseline Water Quality Action Alternative below, which represents a business as usual approach that would mitigation for continued water quality degradation in the Chino Basin and thus prevent a significant impact thereof from occurring. Ultimately, under this evaluation and set of assumptions the CBP's effects on hydrology and water quality are considered to be less than the NPA, as the CBP would mitigation significant impacts under this issue to a level of less than

significant. The NPA would ultimately lead to significant new impacts under hydrology and water quality that would not otherwise result from implementation of the CBP.

Land Use and Planning: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to conflict with the goals and policies of the applicable General Plans or physically divide an established community. Mitigation is required to reduce impacts to a level of less than significant under the CBP, and these measures would ensure that the facilities associated with the CBP are developed in appropriate areas and conform with the surrounding land uses or are developed to minimize conflicts with adjacent land uses. As such, while the CBP would require mitigation to reduce potential impacts to a level of less than significant, the NPA would not result in any land use and planning impacts. Under this evaluation and set of assumptions, the NPA would result in less overall land use impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP and neither the NPA nor the CBP would result in significant land use and planning impacts.

Mineral Resources: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to result in a direct adverse impact on mineral resources, or result in the loss of availability of a known valuable mineral resource or result in the loss of availability of a locally important mineral resource recovery site. As such, while implementation of mitigation measures to avoid siting facilities within areas designated for mineral resources is required to minimize impacts under the CBP, given that no facilities would be developed under the NPA, no mitigation would be required to reduce its potential for impacts to mineral resources to a less than significant level. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any mineral resource impacts. Under this evaluation and set of assumptions, the NPA would result in less overall impacts to mineral resources; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP and neither the NPA nor the CBP would result in significant mineral resource impacts.

Noise: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have minimal potential to result in significant noise impacts. Because no expansion of existing recycled water systems or groundwater by member agencies of IEUA would occur, including the addition of an AWPF in conjunction with PUT and TAKE facilities as proposed by the CBP, continuation of the business

as usual approach would have no potential generate temporary or permanent increases in ambient noise levels and excessive groundborne vibration levels in excess of the applicable thresholds. Therefore, while the proposed CBP would result in noise and vibration impacts that could be potentially significant, mitigation would reduce this impact to a level of less than significant. In contrast, the NPA would not require mitigation to reduce noise impacts below significance thresholds, as the continued operations at IEUA facilities and service systems would continue to apply with existing noise standards and regulations as they do at present. Under this evaluation and set of assumptions, the NPA would result in less overall noise impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP and neither the NPA nor the CBP would result in significant mineral resource impacts.

Population and Housing: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would not include construction of new homes or businesses and would therefore not result in a direct increase in population or create a substantial number of new jobs that would result in new residents within the Chino Basin area. Furthermore, the NPA would not result in displacement of housing or persons because no specific facilities are proposed to support IEUA under this alternative. While the CBP would require mitigation to minimize the impacts from construction of facilities that would impact housing through a requirement that relocation assistance in compliance with the California Relocation Assistance Act must be supplied to displaced persons. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any population and housing impacts. Under this evaluation and set of assumptions, the NPA would result in less overall impacts related to population and housing; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP since neither the NPA nor the CBP would result in significant population and housing impacts.

Public Services: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, schools, fire protection facilities, parks, or other public services, or the need for new or physically altered police protection facilities, schools, fire protection facilities, parks, or other public services, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives. Mitigation is required to reduce impacts to a level of less than significant under the CBP, these measures would minimize the potential for trespass that could exacerbate demand for police protection services; and, minimize the potential for loss of park or recreational facilities as a result of CBP projects through relocation or provision of supplemental parkland or recreation facilities. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any public services impacts. Under this evaluation and set of assumptions, the

NPA would result in less overall public service impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP since neither the NPA nor the CBP would result in significant public services impacts.

Recreation: The NPA would not result in any new facilities that have been proposed to operate the under CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to 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. Mitigation is required to ensure that, should construction of recreation or park facilities be required as a part of the CBP, a subsequent CEQA determination will be prepared to ensure that impacts are appropriately assessed and mitigated. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any recreation impacts. Under this evaluation and set of assumptions, the NPA would result in less overall recreation impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP since neither the NPA nor the CBP would result in significant recreation impacts.

Transportation: The NPA would not result in any new facilities that have been proposed to operate the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities; conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b); substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access. Mitigation is required to minimize impacts to transportation that would reduce the CBP's potential construction traffic impacts by requiring all construction activities to be conducted in accordance with an approved construction traffic management plan. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any transportation impacts. Under this evaluation and set of assumptions, the NPA would result in less overall transportation impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP since neither the NPA nor the CBP would result in significant transportation impacts.

Tribal Cultural Resources: Simply because the CBP will disturb a greater amount of area, the potential for encountering Tribal Cultural Resources is greater under the CBP. The NPA does not require development of any kind, other than the business as usual approach by which IEUA manages its operations. As such, the NPA would have no tribal cultural resources impacts. When mitigation is implemented—primarily avoidance of tribally sensitive areas, further site-specific study of large scale projects, tribal and archaeological monitoring, and specific treatment requirements for buried Tribal Cultural Resources that may be uncovered during construction of

future projects—both alternatives are forecast to cause less than significant impacts to cultural resources. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the NPA would not result in any tribal cultural resource impacts. Under this evaluation and set of assumptions, the NPA would be less likely to cause impacts on tribal cultural resources than would the proposed CBP, but neither the NPA nor the CBP would result in significant tribal cultural resource impacts.

Utilities and Service Systems: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. Under the CBP, significant impacts to stormwater drainage, energy, natural gas telecommunications, or solid waste were determined to be less than significant with the implementation of mitigation, and under the NPA, specifically as it relates to utilities infrastructure, it is anticipated that no impact these utility systems would occur. Under the CBP mitigation is required to minimize impacts related to stormwater through implementation of a drainage plan to reduce downstream flows for future CBP projects; this would be not required to implement the NPA, as IEUA would continue operating its existing facilities in the same manner as it would at present. The CBP would generate solid waste during operation and construction and mitigation is required to address potential impacts related to solid waste to a level of insignificance. In contrast, under the NPA, the IEUA would not cause any impacts to solid waste as it would be required to comply with mandatory regulations pertaining to solid waste, and would not generate any new sources of solid waste requiring additional analysis.

The construction of infrastructure related to energy and natural gas under the CBP was analyzed and determined to be less than significant with the implementation of mitigation that would ensure that CBP projects are not located in an area containing adjacent access to electricity and natural gas infrastructure, and if that is not possible, then subsequent CEQA documentation would be required. This mitigation would not be required to reduce impacts under the NPA, as existing facilities are currently served by adequate electricity and natural gas service systems. Under the CBP, the construction of infrastructure related to telecommunications was determined to be less than significant with the implementation of mitigation; this mitigation would not be required to reduce impacts under the NPA, as existing facilities are currently service by adequate telecommunication systems. As such, for the issues of solid waste and stormwater drainage, electricity, natural gas, and telecommunications, the CBP would require mitigation to minimize impacts to a level of less than significant, while the BWQAA would not require mitigation to achieve this level of impact, but neither would result in significant impacts in these areas.

The extension of water and wastewater related infrastructure was determined to be significant under the CBP, while the NPA would eliminate those potentially significant construction-related GHG emissions impacts. Under both the NPA and the CBP, sufficient capacities are anticipated to be available at IEUA and area wastewater treatment plants. However, the resulting recycled water from the wastewater treatment plants may become unusable if the Basin would become out of regulatory compliance. If the ambient water quality in the Basin is not maintained per the RWQCB's TDS limit, there will be greater dependence on imported water and local stormwater supplies, which are highly volatile and impacted by climate change. Since the Basin only receives imported water from one regional pipeline that is owned and operated by MWD, an unplanned or catastrophic occurrence could cut off 25 percent of the Basin's water supply. A No Action approach results in the Chino Basin being out of regulatory compliance and threatens water

supply. Therefore, when compared to the CBP Alternative, which would ensure that IEUA and member agencies would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years, once mitigation is implemented, the NPA would have a potential to result in a significant impact as under this alternative, the provision of sufficient water supply is not guaranteed. As such, under this evaluation and set of assumptions the proposed Project effects on utilities and service systems would be significant, and as such would not eliminate the significant impact that is anticipated to occur under the CBP. Impacts from both the CBP and the NPA would be significant and unavoidable under this issue.

Wildfire: The NPA would not result in any new facilities that have been proposed to operate under the CBP. The IEUA and member agencies would instead continue in a business as usual manner, which ultimately would result in the Chino Basin being out of regulatory compliance due to the continued use of recycled water containing higher levels of TDS. Anticipated future growth would generally be served with imported potable water and local agencies would need to increase their water purchases or implement more restrictive conservation programs to satisfy potable water demand. With no specific facilities required under the NPA, the NPA would have no potential to result in new impacts at existing IEUA facilities located in a very high fire hazard severity zone that have not been identified previously. The CPB would require mitigation to minimize impacts to wildfire that would: reduce the project's potential traffic conflicts that could be exacerbating in high fire hazard zones by requiring all construction activities to be conducted in accordance with an approved construction traffic control plan; and ensure fire hazard reduction measures are incorporated into a fire management plan/fuel modification plan for the proposed facility. As such, while the CBP would require mitigation to reduce wildfire impacts to a level of less than significant, the NPA would not result in any wildfire impacts. Under this evaluation and set of assumptions, the NPA would result in less overall wildfire impacts; however, the level of significance would be similar, if less than, that which would occur under the proposed CBP since neither the NPA nor the CBP would result in significant transportation impacts.

Conclusion

While the No Project Alternative (NPA) would reduce impacts related to Biological Resources, Greenhouse Gas and a part of Utilities and Service Systems below significance levels, the NPA has a potential to result in a significant impact to the Basin's hydrology resources and water quality characteristics, and may impact the sustainability of the Basin's groundwater supply, thereby resulting in significant Hydrology and Water Quality and Utilities and Service Systems impacts. As such, the NPA is not considered to be the environmentally superior alternative.

5.4 ALTERNATIVE 1: BASELINE WATER QUALITY ACTION ALTERNATIVE

Issues of rising TDS concentrations in recycled water nearing compliance levels and other regulatory challenges associated with contaminants of emerging concern puts the region at great risk. IEUA and its partners have invested significant time and money in identifying solutions to address these challenges. Though there are a number of solutions that IEUA could implement to address the groundwater recharge challenges associated with TDS and contaminants of emerging concern, none are as optimal as the implementation of advanced water purification. The Baseline Water Quality Action Alternative (BWQAA) would address TDS levels for both direct use of recycled water and groundwater recharge and could also help address the challenges associated with Title 22 regulations. The BWQAA considers a centrally located advanced water purification system can be linked with the existing distribution system providing greater flexibility

for use of the advanced treated water, providing greater benefit to the region as an available supply and solutions for brine discharge that are more economically feasible. Also, it has the potential to be integrated in the future as direct potable reuse when such regulations are adopted.

As discussed above under Subsection 5.3, the reduced development BWQAA has been included in this RDPEIR in accordance with CEQA Guidelines Section 15126.6(e)(3)(A) and (B). Given that it is reasonably foreseeable that, without the implementation of the CBP, actions will need to be taken to ensure that IEUA remains in regulatory compliance through its continued operations, the BWQAA (Alternative 1), is provided under this Subsection 5.4 to address this foreseeable result.

Under Alternative 1, the BWQAA, centrally located advanced water purification facilities will be used with IEUA's existing conveyance system to help address the region's regulatory compliance challenges. The expected effluent TDS concentration from the AWPF is 100 mg/L. The AWPF would have a capacity comparable to that which is proposed by the CBP, and similarly, would be located at RP-4. This low-TDS recycled water could be used to meet discharge obligations to the Santa Ana River, or for blending into IEUA's existing recycled water distribution system using existing conveyance, significantly reducing recycled water TDS concentrations. Once blended into IEUA's recycled water distribution system, the augmented recycled water supply could be used for groundwater recharge or for indirect potable use.

Table 5-1
ALTERNATIVE 1: BASELINE WATER QUALITY ACTION ALTERNATIVE FACILITIES

Parameter	Description
AWPF	
Location	RP-4
Process	MF/RO/UV-AOP
Capacity (AFY)	15,000[1]
Purified water conveyance	
Pump station	
Location	RP-4
Size	1,500 HP
Brine conveyance	
Disposal system	NRWS
Pipeline	1,400 feet (8-inch)

Notes:
1 Phased with 9,000 AFY online by 2030 and the remaining 6,000 AFY by 2040
HP: horsepower
MF: membrane filtration
RO: reverse osmosis
UV-AOP: ultraviolet advanced oxidation process

As shown on **Table 5-1** above, the Baseline Water Quality Action Alterative Facilities, would include a 15,000 AFY AWPF, a new 1,500 horsepower (HP) pump station at RP-4, and 1,400 lineal feet (LF) of 8-inch brine pipeline. These facilities would be phased with 9,000 AFY online by 2030 and the remaining 6,000 AFY by 2040. TAKE facilities are those that are associated with the extraction of groundwater from the Chino Basin and the conveyance of potable water supply. The BWQAA does not include any TAKE facilities. The BWQAA is only designed to meet water

quality related regulatory challenges and does not include infrastructure to enhance regional water supply. As a result, the BWQAA provides water quality benefits to IEUA and the region, but no water supply, ecosystem, or emergency supply benefits are realized through the BWQAA.

Construction and operational scenarios for the facilities listed above are assumed to be comparable to those described in the CBP Project Description.

The following evaluation will also include identification of an environmentally superior alternative as required by the CEQA Guidelines. A summary comparative discussion of the BWQAA in terms of the specific issues evaluated in this RDPEIR is provided below.

Aesthetics: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Like the CBP, presence of construction equipment and related construction materials could be visible from public vantage points such as open space areas and public rights-of-ways such as roadways and sidewalks. However, construction impacts related to aesthetics would be temporary and short-term in nature and would not substantially affect scenic vistas or resources in the area. Construction would primarily occur in the daytime and would not result additional sources of light and glare. Overall, aesthetic impacts during construction would be less intensive than the CBP due to the smaller scale of potential construction; however, the level of significance of construction-related aesthetic impacts similar to that which would occur under the CBP and would be less than significant.

Landscape disturbance from the development of new facilities and structures has the greatest potential to result in potentially significant permanent effects to scenic vistas and resources from conflict with local agency design guidelines. Most of the facilities would likely be underground, small, and/or similar to nearby existing facilities. However, less facilities would be constructed compared to the CBP. Once constructed, the facilities could conflict with the existing views of any nearby scenic resources. Aesthetic impacts to scenic vistas and resources from disturbance can be reduced to less than significant by shielding facilities and landscaping or revegetating disturbed areas either with landscaping that is consistent with local design guidelines or with native vegetation consistent with that which occurs naturally in the area, as specified in MMs **AES-1** and **AES-2**. Furthermore, implementation of MM **AES-3** would ensure that the proposed facilities' impacts to scenic resources, such as trees, are minimized to a level of less than significant and MM **AES-4** would ensure that future facilities are either not located within sites containing scenic resources or undergo subsequent CEQA documentation to fully analyze the impacts thereof. As such, under this evaluation and set of assumptions, the BWQAA would result in less overall operational aesthetic impacts; however, the level of significance of aesthetic impacts to scenic vistas and scenic resources from this alternative would be similar to that which would occur under the CBP and both would be less than significant with implementation of mitigation.

Like the CBP, facilities construction under the BWQAA may include nighttime security lighting which could result in spill over lighting onto adjacent land uses. Also similar to the CBP, some new facilities could be a source of glare depending on reflectivity of the materials used. However, less facilities would be constructed than under the CBP and would likely result in less overall sources of light and glare compared to the CBP. Measures to reduce impacts related to light and glare, as specified in MM **AES-5** and **AES-6**, would be required to reduce light and glare impacts to less than significant. As such, under this evaluation and set of assumptions, the BWQAA would result in less overall operational light and glare impacts; however, the level of significance would be similar to that which would occur under the proposed CBP and both would be less than significant with implementation of mitigation with the implementation of mitigation.

Agricultural and Forestry Resources: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. The location of these facilities are anticipated to be within RP-4, while the pipeline would be installed within road rights-of-way. As such, unlike the CBP, the proposed BWQAA would not result in any impacts to agricultural or forestry resources, as none exist within these existing water and wastewater infrastructure facilities. However, installation of future CBP related facilities were determined to have a potentially significant impact to such resources; however, mitigation was identified to minimize agricultural and forestry resource impacts below significance thresholds. As such, under this evaluation and set of assumptions, the BWQAA would result in less overall impacts to agricultural and forestry resources; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with implementation of mitigation with the implementation of mitigation.

Air Quality: As with the proposed CBP, IEUA activities under the BWQAA would be intended to serve existing customers as well as future customers associated with planned growth in the Chino Basin. Therefore, as with the CBP, this alternative would not lead to unplanned population, housing or employment growth that exceeds the forecasts used in the development of the SCAQMD's AQMP. The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Similar to the proposed CBP, construction and operation of these components would generate criteria air pollutant emissions. However, fewer facilities would be constructed under the BWQAA as compared to the proposed CBP (e.g., no groundwater wells, no storage reservoir, no wellhead treatment facilities), and construction and operational criteria air pollutant emissions would likely be lower than those of the proposed CBP. Because of this, it is unlikely that maximum daily emissions during construction and operation of the BWQAA would exceed SCAQMD regional or localized significance thresholds whereas construction activities under the CBP were determined to exceed the SCAQMD regional significance threshold for nitrogen oxide emissions (see Chapter 4.4, *Air Quality*). As with the proposed CBP, the relatively small scale of construction projects and operation and maintenance activities under the BWQAA would minimize the potential for the exposure of sensitive receptors to substantial concentrations of carbon monoxide and toxic air contaminants. This alternative also would not likely include new facilities with the potential to generate substantial odorous emissions. While the BWQAA would not require mitigation to reduce construction emissions to below significance thresholds, both the BWQAA and CBP would result in less than significant impacts with the implementation of MM **AQ-1** applied to construction of CBP facilities. MM **AQ-1** entails using more efficient construction equipment engines to reduce emissions for the proposed CBP. As such, under this evaluation and set of assumptions, the BWQAA would likely have fewer overall construction and operational emissions; however, the level of significance of air quality impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Biological Resources: As with the CBP, development of the BWQAA would result in diversion of recycled water from the Santa Ana River through the development of a new AWPF with an ultimate capacity of 15,000 AFY, requiring a diversion of 17,000 AFY in total to support the AWPF operations. However, unlike the CBP, under the BWQAA, the diversions would continue to the Santa Ana River in comparable amounts to that which occur at present. This is because no new recharge facilities would be installed as a result of the installation of the AWPF, and as such the recycled water would be treated to a higher quality and discharged or recharged in comparable amounts to those that would occur under IEUA's current operations. As such, while development of the CBP would have a potential to cause significant unavoidable adverse impact to biological resources, specifically though the cumulative contribution to potential significant impacts to the Santa Ana Sucker due to the reduction in cumulative flows to the Santa Ana River, the BWQAA

would not contribute to this cumulatively considerable impact on the Santa Ana Sucker, as IEUA would not be forecast to reduce flows thereto. Furthermore, the potential for impacting site specific biological resources would be lessened under the BWQAA when compared to the CBP, which would implement a greater number of facilities at locations presently unknown. Thus, there is a potential that a future CBP facility may be developed in an area containing significant biological resources; however, mitigation is available to ensure that a future CBP facility would not be developed in an area containing significant biological resources that cannot be avoided. These same measures would apply to the facilities that would be developed under the BWQAA, though it is likely less measures would be required due to the anticipated development within existing developed sites. As such, under this evaluation and set of assumptions, the proposed CBP's effects on biological resources would likely be greater than the BWQAA, and the BWQAA would avoid a significant impact on biological resources that would otherwise result from implementation of the CBP.

~~It should be noted too, that the BWQAA would eliminate the potential environmental benefit that would result from the CBP. As discussed in Chapter 3 of this DPEIR, the CBP would provide environmental benefits in call years, which will likely be in dry seasons, to improve habitat conditions enabling Feather River salmonid species greater chance for survival.~~

Cultural Resources: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. The location of these facilities are anticipated to be within RP-4, while the pipeline would be installed within road rights-of-way. The Chino Basin is a large expanse of area that may contain historical, archaeological, or paleontological resources. As such, future CBP projects may be developed within sites that contain such resources. However, unlike the CBP, the proposed BWQAA would be installed mainly within developed sites and would also be covered under the site-specific cultural Investigation for RP-4. This site specific report determined that no significant resources are anticipated to be located within this site, and with implementation of mitigation, impacts to cultural resources at this site would be less than significant with the implementation of MM **CUL-1**. As such, while the CBP is proposed at the programmatic level as specific locations for most of the proposed CBP projects have not yet been determined, mitigation will be imposed to minimize impacts to cultural resources at future CBP facilities. This mitigation would also apply to development of the brine pipeline within existing road rights-of-way. As such, mitigation that would ensure that future BWQAA and CBP facilities at sites that have not yet been evaluated will require a follow-on Phase I Cultural Resources Investigation and enforce several phases or steps beyond the completion of a Phase I Cultural Resources Investigation that would cover the identification, evaluation, mitigation, and monitoring associated with a given project site where resources may be located would be required to minimize impacts to a level of less than significant. As such, under this evaluation and set of assumptions, the BWQAA would likely have less potential to impact cultural resources; however, the level of significance of the cultural impacts that would result from this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Energy: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Similar to the proposed CBP, construction and operation of these components would consume energy. However, because fewer facilities would be constructed under the BWQAA as compared to the proposed CBP (e.g., no groundwater wells, no storage reservoir, no wellhead treatment facilities), construction and operational energy consumption would likely be lower than that which would occur under the proposed CBP. Nevertheless, as with the proposed CBP, the potential for wasteful, inefficient, or unnecessary energy consumption during construction activities would be minimized by compliance with existing applicable regulations. Furthermore, operational energy usage under the BWQAA would not be wasteful, inefficient, or

unnecessary because it would further the achievement of water quality standards for regulatory compliance and would be conducted in accordance with existing applicable regulations related to energy efficiency and vehicle fuel economy. Furthermore, similar to the proposed CBP, IEUA would likely procure energy to serve new facilities under the BWQAA from SCE, which has historically achieved the Renewables Portfolio Standard, and would continue to seek opportunities to supply facilities constructed under the BWQAA with other renewable energy sources in accordance with the goals and objectives of IEUA's CCAP. Therefore, this alternative would also be consistent with CARB's 2017 Climate Change Scoping Plan and the IEUA CCAP. As such, under this evaluation and set of assumptions, the BWQAA would result in less overall construction and operational energy consumption; however, the level of significance of the energy impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Geology and Soils: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Similar to the proposed CBP, construction and operation of these components would be subject to geologic and soils-related constraints. However, because fewer facilities would be constructed under the BWQAA as compared to the proposed CBP (e.g., no groundwater wells, no storage reservoir, no wellhead treatment facilities), there would be less overall potential for the BWQAA to expose persons or structures to geologic hazards. Due to the substantial geologic and soils-related constraints, the installation of future CBP and BWQAA related facilities in locations where such constraints may occur could result in a potential for significant geology and soils impacts. However, several mitigation measures identified to minimize geology and soils impacts would be applicable to both the proposed CBP and the BWQAA, including those mitigation measures that would: ensure new facilities are located outside of delineated fault zones through relocation; implementation of seismic design measures, or subsequent CEQA documentation; reduce potential impacts from geological hazards through a design level geotechnical investigation with implementation of specific design recommendations, relocation of the site, or subsequent CEQA documentation; and minimize impacts to paleontological resources through requiring site-specific studies, where necessary. Under this evaluation and set of assumptions, the BWQAA would result in less overall geology and soils impacts, particularly given that the location of the AWPF and brine pipeline would be outside of any delineated geology and soils related constraints, such as zones delineating potential for subsidence, liquefaction, ground rupture, landslide, etc.; however, given that site-specific geotechnical investigations have not yet been performed for the components of the BWQAA, the same mitigation that is required and would apply to future CBP facilities would also apply to facilities proposed under the BWQAA. As such, the level of significance of the geology and soils impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Greenhouse Gas: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Similar to the proposed CBP, construction and operation of these components would generate GHG emissions. However, because fewer facilities would be constructed under the BWQAA as compared to the proposed CBP (e.g., no groundwater wells, no storage reservoir, no wellhead treatment facilities), construction and operational GHG emissions would likely be lower than those of the proposed CBP. As such, while the CBP could result in significant construction GHG construction emissions even with the implementation of MM **GHG-1,** the BWQAA would not result in significant construction emissions, as it would require less intensive construction than the CBP. As such, the CBP would avoid a significant construction-related GHG emissions impact.

As with the proposed CBP, this alternative would not exceed the statewide 2030 target through

generation of indirect GHG emissions associated with electricity consumption because IEUA would likely procure electricity from SCE, which is on-track to achieve 60 percent renewables by 2030. As the proposed CBP and, by extension the BWQAA, have long operational horizons, it is not possible to know with certainty that the BWQAA, which would contribute less operational GHG emissions than the CBP as a result of the minimal energy intensive facilities required to facilitate its operation, would procure its electricity from carbon-neutral electricity sources by 2045. This analysis assumes that, due to the focused types of facilities required to operate the BWQAA — i.e., an AWPF at RP-4, at which, the phased capacity approach could possibly enable the planning of alternative energy sources to serve this facility by IEUA, a pump station, and a brine pipeline— electricity would likely be procured from carbon-neutral electricity sources by 2045. However, because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed, and therefore, it is possible that a significant operations-related GHG impact could also occur with the BWQAA should the future power mix fail to meet the carbon-neutral electricity requirement by 2045.

While the CBP would result in the net reduction of GHG emissions associated with the CBP's avoidance of SWP imports during call years, the BWQAA would not facilitate a water exchange with MWD, and as such, it would not result in a direct offset of energy emissions related to utilization of imported water in the Basin. Ultimately, similar to the proposed CBP, the operations-related GHG emissions impacts of this alternative would be potentially significant, even with the implementation of MM **GHG-2**. Implementation of MM **GHG-2** may reduce the energy usage and associated GHG emissions of facilities constructed under the BWQAA and increase the percentage of electricity supplied to the proposed facilities by renewable energy resources, which would reduce operational GHG emissions. Nevertheless, as with the proposed CBP, implementation of MM **GHG-2** may not fully mitigate the impacts of the BWQAA if IEUA is not able to supply the remaining electricity demand of these facilities from carbon-neutral electricity sources by 2045 or otherwise mitigate the operational emissions of the BWQAA. As such, under this evaluation and set of assumptions, while the BWQAA would likely result in fewer overall construction and operational GHG emissions, the level of significance of its GHG emissions impacts would be similar to that which would occur under the CBP and would therefore be significant and unavoidable.

Hazards and Hazardous Materials: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Similar to the proposed CBP, construction and operation of these components would be subject to hazards. However, because fewer facilities would be constructed under the BWQAA as compared to the proposed CBP (e.g., no groundwater wells, no storage reservoir, no wellhead treatment facilities), there would be less overall potential for the BWQAA to expose a site or persons to hazards and hazardous materials. Due to substantial hazard-related constraints, the installation of future CBP and BWQAA facilities may occur at locations where such constraints may exist. As such, a potential for significant hazards and hazardous materials issue impacts from implementation of both the CBP and the BWQAA exists. However, several mitigation measures were identified to minimize hazards and hazardous materials impacts, and these would apply to both the CBP and BWQAA. Those mitigation measures include those that would: ensure that applicable facilities Business Plans incorporate best management practices designed to minimize the potential for accidental release of such chemicals; ensure that applicable facilities Business Plans identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material; ensure sensitive receptors will not be exposed to significant health threat by modeling the pathways of release and implementing specific measures that would minimize potential exposure to acutely hazardous materials; ensure hazardous materials are disposed of and delivered to licensed facilities; ensure the establishment of and adherence to specific thresholds

of acceptable clean-up of hazardous materials; ensure the preparation of and adherence to vector management plans; ensure remediation of an accidental spill or discharge of hazardous material in compliance with state and local regulations; ensure that sites for future facilities obtain a Phase I Environmental Site Assessment and either avoid or remediate a site that is contaminated; ensure that any unknown contamination is remediated and handled according to the local CUPA; ensure compliance with the appropriate airport land use plan and coordination with the appropriate airport management agencies to ensure safety for people residing or working within the project area; ensure that movement of the contamination plumes is contained to minimize contamination of groundwater at wells located in proximity, but outside of these plumes; ensure that construction traffic is managed safely; and ensure that fire hazard reduction measures are enforced. Therefore, though there will be some adverse impacts as a result of implementing either the CBP or the BWQAA, specific mitigation measures would reduce potential project specific and cumulative (direct and indirect) hazards and hazardous material impacts to a less than significant level. As such, under this evaluation and set of assumptions, the BWQAA would likely have less potential to result in significant hazard and hazardous materials impacts; however, the level of significance of the hazard and hazardous materials impacts that would result from this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Hydrology and Water Quality: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. As the intent of the BWQAA is to ensure baseline regulatory compliance, it is anticipated that the BWQAA would not result in any new water quality-related issues beyond those addressed and mitigated as part of the CBP. The low-TDS recycled water could be used to meet discharge obligations to the Santa Ana River, or for blending into IEUA's existing recycled water distribution system using existing conveyance, significantly reducing recycled water TDS concentrations. Once blended into IEUA's recycled water distribution system, the augmented recycled water supply could be used for groundwater recharge or for indirect potable use. However, with no new groundwater recharge facilities, the BWQAA would not require the extensive mitigation related to storage of water in the Basin that would be required under the CBP. While the BWQAA would result in the development of an AWPF with an equal capacity to the CBP, it would not result in the same diversion of flow from the Santa Ana River as it is anticipated that, once treated through the advanced treatment process, a portion of the low-TDS recycled water would be used to meet discharge obligations to the Santa Ana River. As such, under this alternative, and under the CBP, IEUA would continue to meet the baseflow obligation at Prado, with the BWQAA offering the potential to enhance surplus flows, while the CBP would result in a minor reduction in surplus flows at Prado.

As such, though the CBP would require several mitigation measures to minimize impacts related to hydrology and water quality to ensure sustainable management of the Basin under the required storage and recovery program application, no significant impacts to the Basin would result under the CBP, and even without mitigation none would result from the BWQAA. Both the CBP and the BWQAA would require implementation of mitigation that would: ensure that drainage is managed through either runoff collection or development of a drainage plan for a given CBP project; require all disturbed areas that are not covered in hardscape or vegetation to be revegetated or landscaped at future CBP facility sites; and ensure that brine generated by water treatment systems would be disposed of in a manner that would minimize the potential for release of polluted runoff. As such, under this evaluation and set of assumptions, the BWQAA would likely have less potential to result in significant impacts under hydrology and water quality; however, the level of significance of the hydrology and water quality impacts that would result from this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Land Use and Planning: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Like the CBP, the facilities that could be constructed for the BWQAA would not be anticipated to have features that would create a barrier or physically divide an established community. Because the precise location for facilities under the BWQAA are known, it is not anticipated that any conflicts with existing land use would occur. Furthermore, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. In addition, the cities and counties that are within the Chino Basin area have adopted General Plans that support the provision of adequate infrastructure; therefore, facilities constructed under the BWQAA would not conflict with the goals and policies of the applicable General Plans. No conflicts with adjacent land uses would occur, as the proposed AWPF and pump station would be installed within the RP-4 site containing similar facilities or within existing road-rights-of way, which exist independent of land use designations. Ultimately, because the BWQAA would result in fewer facilities when compared to the CBP, and because the proposed facilities would be installed within known locations, there would be less potential for conflicts to occur. MM LU-1 would be required to minimize land use incompatibilities (such as lighting, noise, use of hazardous materials, traffic, etc.) with adjacent uses under the CBP, though this requirement would not apply to the BWQAA, as its facility locations are known, and no land use conflicts exist. As such, while the CBP would require mitigation to reduce impacts to a less than significant level, the BWQAA would be less than significant without the need for added mitigation. Under this evaluation and set of assumptions, the BWQAA would result in less overall land use impacts; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with mitigation.

Mineral Resources: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Like the CBP, construction of the facilities for The BWQAA are unlikely to interfere with mining of mineral resources. Much of the Chino Basin has been urbanized, resulting in very few areas containing mineral resources that are not already utilized for mining activities. Installation and operation of the BWQAA facilities would have no potential to result in a direct adverse impact on mineral resources, because the sites that have been selected for this alternative are currently developed with other uses, or consist of road rights-of-way. As such, while there is a minor potential for the CBP to result in the loss of availability of a known valuable mineral resource or result in the loss of availability of a locally important mineral resource recovery site requiring the implementation of MM **MR-1** to reduce the potential for impacts to mineral resources to a less than significant level, this mitigation measure would not be required under the BWQAA. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the BWQAA would be less than significant without the need for added mitigation. Under this evaluation and set of assumptions, the BWQAA would result in less overall mineral resource impacts; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with implementation of mitigation.

Noise: As with the proposed CBP, construction and operational activities associated with the BWQAA would have the potential to generate noise and vibration. Similar to the proposed CBP, construction activities under the BWQAA may generate temporary increases in ambient noise levels and excessive groundborne vibration levels in excess of Federal Transit Administration and the California Department of Transportation construction noise thresholds at the nearest sensitive receptors. However, nighttime construction activities would likely not be required for the BWQAA because it does not include new groundwater wells; therefore, no nighttime construction noise and vibration impacts would occur. In addition, operation of the AWPF, pump station, and brine pipeline under this alternative would not likely result in significant operational noise and vibration impacts because the brine pipeline would be located underground; the AWPF and pump station

would be located at RP-4, which is not within 0.25 mile of sensitive receivers; and no vibration-generating equipment or processes are proposed. Nevertheless, because daytime construction and vibration impacts would be potentially significant, implementation of MMs **NOI-1** through **NOI-3** as well as MMs **NOI-4** through **NOI-6** would be required for the BWQAA. Therefore, although this alternative would result in fewer noise and vibration impacts related to nighttime construction activities and operational activities, the level of impact of this alternative and the proposed CBP with implementation of applicable mitigation measures is equivalent. As such, under this evaluation and set of assumptions, the BWQAA would likely have fewer overall noise and vibration impacts; however, the level of significance of the noise and vibration impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Population and Housing: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Unlike the proposed CBP, IEUA activities under the BWQAA would be intended to meet water quality compliance challenges that would enable it to continue meeting existing demand. The CBP, comparatively, would provide a new source of local water that would be available to serve existing customers as well as future customers associated with planned growth in the Chino Basin. The BWQAA would not include construction of new homes or businesses and therefore would not result in a direct increase in population or create a substantial number of new jobs that would result in new residents within the Chino Basin area. Like the CBP, any facilities constructed under the BWQAA would be growth accommodating but would not induce population growth beyond that which has been accounted for in regional planning documents. Also similar to the CBP, the majority of construction and operations and maintenance staff for any new facilities can be expected to be drawn from the existing population within the Chino Basin. However, because less facilities would be constructed, less construction and operation and maintenance staff would be required.

Unlike the CBP, the location of facilities proposed by the BWQAA are known, and therefore would have no potential to adversely impact existing housing. Under the CBP, if construction of facilities would impact housing, relocation assistance would be required in compliance with the California Relocation Assistance Act, as specified in MM **POP-1**. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the BWQAA would be less than significant without the need for added mitigation. Under this evaluation and set of assumptions, the BWQAA would result in less overall impacts related to population and housing; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with mitigation with the implementation of mitigation.

Public Services: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. Facilities constructed under the BWQAA would not include construction of new homes or businesses that would result in a direct increase in population or new jobs that would increase demand for public services. Operation of the new facilities could require fire and police services in the unlikely event of an emergency; however, any increase in demand would be nominal. Similar to the CBP, a Hazardous Materials Business Plan would be required for use of chemicals at any of the new facilities, which would minimize the potential need for emergency services. Any new facilities would be fenced or access controlled to prevent illegal trespass, as required by MM **PS-1**. In addition, the majority of any new employees for operation and maintenance of new facilities would likely come from the existing population with the Chino Basin, and any increase in demand for schools, parks, or other public services would be nominal. The construction of new facilities would not cause a significant demand for parks and recreational facilities, and there would be no potential that the facilities could be located within parks or facilities designated for such use, as the facility locations under the BWQAA are known and do not contain

any such uses. Under the CBP, if impacts to parkland would occur, the CBP facilities would need to be relocated or supplemental parkland provided, as required by MM **PS-2**. As such, while the CBP would require mitigation to reduce impacts to a level of less than significant, the BWQAA would be less than significant without the need for added mitigation. Under this evaluation and set of assumptions, the BWQAA would result in less overall impacts related to public services; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with mitigation with the implementation of mitigation.

Recreation: The BWQAA would include construction of an AWPF and a pump station at RP-4 as well as a brine pipeline. The BWQAA would not require construction or expansion of recreational facilities. The BWQAA would also not include construction of new homes or businesses. Therefore, there would not be a direct increase in population or a substantial number of new jobs that would result in increased demand for parks and recreational facilities within the Chino Basin area. Also similar to the CBP, the majority of construction and operations and maintenance staff for any new facilities can be expected to be drawn from the existing population within the Chino Basin. Therefore, any potential increased demand for parks and recreational facilities would be nominal. However, because less facilities would be constructed, less construction and operation and maintenance staff would be required, and increased demand for recreational facilities would be less than the CBP. However, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Transportation: The BWQAA would include construction and operation of a new AWPF, pump station at RP-4, and a brine pipeline. Construction activities associated with these new facilities may generate temporary increases in heavy truck and construction worker trips that could affect roadway, transit, bicycle, and pedestrian circulation as well as emergency access. This could be due to construction equipment staged within a public right-of-way affecting transit stops, bicycle, and/or pedestrian facilities, construction disturbance under existing transit, bicycle, and/or pedestrian thoroughfares, potential lane or road closures, construction vehicles affecting roadway movement and circulation, and/or blockage of emergency vehicle roadway and driveway access during construction. Therefore, the construction-related circulation and emergency access impacts of the BWQAA would be potentially significant. However, with implementation of mitigation, specifically MM **TRA-1**, which requires preparation and implementation of a construction transportation management plan, construction-related circulation and emergency access impacts under the BWQAA would be reduced to a less than significant level.

There would be fewer facilities constructed under the BWQAA as compared to the proposed CBP, because the BWQAA would include no groundwater wells, no storage reservoir, substantially less pipeline, no turnouts, and no wellhead treatment facilities. As such, operational VMT and potential operational impacts related to transportation circulation, design safety, and emergency access under the BWQAA would be less than under the proposed CBP. Therefore, compared to the proposed CBP, the BWQAA would result in slightly lesser impacts related to transportation. However, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Tribal Cultural Resources: Simply because the CBP would disturb a greater amount of area, the potential for encountering Tribal Cultural Resources is greater under the CBP. The BWQAA will have similar impacts from its development, but those impacts would be less extensive due to the reduced area that would be disturbed from projects under the BWQAA. When mitigation is implemented—primarily avoidance of tribally sensitive areas, further site-specific study of large scale projects, tribal and archaeological monitoring, and specific treatment requirements for buried Tribal Cultural Resources that may be uncovered during construction of future projects—

both alternatives are forecast to cause less than significant impacts to tribal cultural resources. Under this evaluation and set of assumptions the BWQAA would have slightly less impacts on Tribal Cultural Resources when compared to the CBP; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Utilities and Service Systems: Under the CBP, significant impacts to stormwater drainage, energy, natural gas telecommunications, or solid waste were determined to be less than significant with the implementation of mitigation, and it is anticipated that the BWQAA would have comparable, but less potential to impact these utility systems than the CBP. Under the CBP mitigation is required to minimize impacts related to stormwater through implementation of a drainage plan to reduce downstream flows for future CBP projects; this would be required to minimize impacts from the AWPF, pump station, and brine pipeline that would be developed under the BWQAA. As the BWQAA and CBP would both generate solid waste during operation and construction, with the BWQAA generating less solid waste than the CBP, mitigation is required to address potential impacts related to solid waste, including those that would: ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted from the local landfill, which will minimize the potential for CBP projects to generate waste in excess of local landfill capacities; and ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycled and ultimately reuse, thereby diverting this waste stream from the local landfill. The construction of infrastructure related to energy and natural gas under the CBP was analyzed and determined to be less than significant with the implementation of mitigation that would ensure that CBP projects not located in an area containing adjacent access to electricity and natural gas infrastructure would require subsequent CEQA documentation. This mitigation would not be required to reduce impacts under the BWQAA as this alternative would be installed within RP-4, which already has access to electricity, and the brine pipeline would not require electricity beyond the pump station required at RP-4. Under the CBP, the construction of infrastructure related to telecommunications was determined to be less than significant with the implementation of mitigation that would ensure that CBP projects not located in an area containing adjacent access to telecommunication infrastructure would require subsequent CEQA documentation. This mitigation would not be required to reduce impacts under the BWQAA as this alternative would be installed within RP-4, which currently have access to telecommunication facilities, and the brine pipeline would not require connection to such facilities. As such, for the issues of electricity, natural gas, and telecommunications, the CBP would require mitigation to minimize impacts to a level of less than significant, while the BWQAA would not require mitigation to achieve this level of impact. However, for the issues of solid waste and stormwater drainage, mitigation would be required to minimize impacts to a level of less than significant for both the CBP and the BWQAA.

The extension of water and wastewater related infrastructure was determined to be potentially significant under the CBP, and as the BWQAA by eliminating those potentially significant construction-related GHG emissions impacts, would eliminate the potential for those significant impacts to occur. As with the CBP, the BWQAA would ensure the provision of sufficient wastewater treatment capacity at area wastewater treatment plants through mitigation ensuring subsequent CEQA documentation is required where more brine conveyance capacity is required than area brine disposal facilities can accommodate. This is required because the BWQAA would generate similar, though slightly less overall brine from the AWPF process. The CBP would generate additional brine associated with wellhead treatment facilities that are not considered under the BWQAA. As previously stated, the CBP could result in potentially significant impacts related to construction-related GHG emissions that would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction

activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030 that would result from the extension of water- and wastewater-related infrastructure. As such construction of the CBP has the potential to hinder statewide GHG emissions targets, and therefore the proposed CBP could result in significant and unavoidable impacts related to construction of new or expansion or modifications to existing water and wastewater facilities. Given that the BWQAA eliminates the potential for this construction-related GHG emissions impact as a result of the less intensive construction scenario required to develop the facility, and also due to the phased capacity approach proposed by the BWQAA, the BWQAA would eliminate the potentially significant utilities and service systems impact when compared to the CBP.

Wildfire: The location of CBP facilities was determined to likely not be located in designated very high fire hazard severity zones. But since many of the proposed CBP facilities sites have not yet been identified, it is possible that one or more future facilities could be required to locate within such areas. Comparatively, since the proposed BWQAA would be developed within known locations and alignments, it is known that these facilities would be located outside of a very high fire hazard severity zone, and therefore would have no potential to conflict with any wildfire related issues. The CBP would require mitigation to minimize impacts to wildfire that would: reduce the project's potential traffic conflicts that could be exacerbating in high fire hazard zones by requiring all construction activities to be conducted in accordance with an approved construction traffic control plan; and ensure fire hazard reduction measures are incorporated into a fire management plan/fuel modification plan for the proposed facility. As such, the CBP would achieve a level of less than significant with mitigation, while the BWQAA would not result in any wildfire impacts. Thus, with implementation of mitigation to minimize wildfire impacts, the CBP would not cause significant unavoidable adverse impacts under wildfire. Under this evaluation and set of assumptions the BWQAA would have slightly less impacts on wildfire when compared to the CBP; however, the level of significance would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Conclusion

The Baseline Water Quality Action Alternative (BWQAA) would lessen impacts in all categories to a level of less than significant, though it would continue to contribute to significant operational Greenhouse Gas emissions. This is because, while it is likely that electricity would be procured from carbon-neutral electricity sources by 2045, because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed; therefore, it is possible that a significant operations-related GHG impact could occur should the future power mix fail to meet the carbon-neutral electricity requirement by 2045. The BWQAA would not require as intensive construction, as it does not propose the same intensity of facilities proposed by the CBP. As such, the BWQAA would result in lessened environmental impacts for all other resource issues and would also avoid potentially significant impacts under Biological Resources and Utilities and Service Systems, though significant operations related Greenhouse Gas impacts could still occur under this alternative. The BWQAA would not create any new significant impacts beyond those identified by the CBP. As such, it is considered an environmentally superior alternative to the CBP~~; however, the BWQAA would not achieve many of the CBP's Objectives~~.

~~While the BWQAA would meet permit compliance for the continued use of recycled water in the Chino Basin and would maintain commitments for salt management to enable sustainable use of recycled water in the Basin, the BWQAA would not develop infrastructure that addresses long term supply vulnerabilities, provide a source of water for emergency response, or develop an integrated solution to produce State and federal environmental benefits.~~

5.5 ALTERNATIVE 2: REGIONAL WATER QUALITY AND RELIABILITY PLAN ALTERNATIVE

Alternative 2, the Regional Water Quality and Reliability Plan, builds upon the Baseline Water Quality Action Alternative to address regional water quality and water supply challenges. PUT facilities for the Regional Water Quality and Reliability Plan Alternative are summarized in **Table 5-2**. PUT facilities for the Regional Water Quality and Reliability Plan include the AWPF; injection wells; purified water conveyance facilities; and brine conveyance. The Regional Water Quality and Reliability Plan alternative includes the same AWPF, pump station, 6,000 AFY of additional external supplies, and brine conveyance pipelines as the Baseline Water Quality Action Alternative. These facilities would not be phased, and the full capacity would be on-line by 2030. Additionally, the Regional Water Quality and Reliability Plan Alternative would introduce purified water pipelines, and groundwater injection facilities, including 16 injection wells.

Table 5-2
AWPF AND PUT FACILITIES FOR ALTERNATIVE 2:
REGIONAL WATER QUALITY AND RELIABILITY PLAN

Parameter	Description
Recharge Locations	MZ-2
AWPF	
Location	RP-4
Process	MF/RO/UV-AOP
Capacity (AFY)	15,000
Purified water conveyance	
Pipelines	7.1 miles (8-inch to 30-inch)
Pump station	
Location	RP-4
Size	1,500 HP
Number of injection wells	16 (12 duty, 4 standby)
Brine conveyance	
Disposal system	NRWS
Pipeline	1,400 feet (8-inch)

Notes:
MF: membrane filtration
RO: reverse osmosis
UV-AOP: ultraviolet advanced oxidation process

The Regional Water Quality and Reliability Plan would require TAKE facilities, including extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system. These facilities would collectively provide an extraction capacity of 15,000 AFY to support a delivered water capacity used to help address water supply challenges in the region. The extraction wells needed to support this capacity are assumed to be comparable to the extraction wells identified for the CBP designed to recharge up to 50,000 AFY. Furthermore, this alternative does not require connections to MWD's water distribution system as is the case for the proposed CBP.

The Regional Water Quality and Reliability Plan would collectively treat and store up to 15,000 AFY of recycled water in the Chino Basin, creating a new local water supply. This water will be

available for local use for the 50-year project life of the alternative, thereby reducing dependence on imported water, improving water quality, and providing a new local water supply for the Basin. The Regional Water Quality and Reliability Plan would include a network of regional pipelines that would provide the ability for IEUA and its member agencies to access stored water in the Chino Basin, connecting these new potable water supplies for use in lieu of planned water deliveries from MWD. These new water conveyance and water system interconnections also provide an important alternative source of water supply to IEUA and its member agencies during any required shutdown of MWD's major pipelines delivering water to the region, such as the Rialto Pipeline, which is planned for rehabilitation as part of a larger rehabilitation plan of MWD's pipelines within its service area.

The production of high-quality water in the Chino Basin will deliver regional benefits in the form of enhanced water quality. The Regional Water Quality and Reliability Plan will also deliver regional benefits in the form of local water supply benefits available annually to offset the cost of imported water from MWD as well as to reduce the economic impact of supply shortages when MWD is unable to deliver full water supplies.

In addition, the Regional Water Quality and Reliability Plan provides local emergency supply benefits in years when planned or unplanned service disruptions occur.

Construction and operational scenarios for the facilities listed above are assumed to be comparable to those described in the CBP Project Description. The following evaluation will also include identification of an environmentally superior alternative as the CEQA Guidelines require. A summary comparative discussion of the Regional Water Quality and Reliability Plan Alternative (Alternative 2) in terms of the specific issues evaluated in this RDPEIR is provided below.

Aesthetics: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Like the CBP, the presence of construction equipment and related construction materials could be visible from public vantage points such as open space areas and public rights-of-way such as roadways and sidewalks. However, construction impacts related to aesthetics would be temporary and short-term in nature and would not substantially affect scenic vistas or resources in the area. Construction would primarily occur in the daytime and would not result additional sources of light and glare. Overall, aesthetic impacts during construction would be slightly less intensive than the CBP due to the smaller scale of potential construction; however, the level of significance of construction-related aesthetic impacts is similar to that which would occur under the proposed CBP and both would be less than significant with the implementation of mitigation.

Landscape disturbance from the development of new facilities and structures has the highest potential to result in potentially significant permanent effects to scenic vistas and resources from conflict with local agency design guidelines. Most of the facilities would likely be underground, small, and/or similar to nearby existing facilities. Once constructed certain facilities could conflict with the existing views of any nearby scenic resources. Aesthetic impacts to scenic vistas and resources from disturbance can be reduced to less than significant by shielding facilities and landscaping or revegetating disturbed areas either with landscaping that is consistent with local design guidelines or with native vegetation consistent with that which occurs naturally in the area, as specified in MMs **AES-1** and **AES-2**. Furthermore, implementation of MM **AES-3** would ensure that the proposed facilities' impacts to scenic resources, such as trees, are minimized to a level of less than significant and MM **AES-4** would ensure that future facilities are either not located within sites containing scenic resources or undergo subsequent CEQA documentation to fully

analyze the impacts thereof. As such, under this evaluation and set of assumptions, Alternative 2 would result in comparable, if slightly less overall aesthetic impacts; however, the level of significance of aesthetic impacts to scenic vistas and scenic resources from this alternative would be similar to that which would occur under the proposed CBP and both would be less than significant with implementation of mitigation.

Like the CBP, facilities construction under Alternative 2 may include nighttime security lighting which could result in spill over lighting onto adjacent land uses. Also similar to the CBP some new facilities could be a source of glare depending on reflectivity of the materials used. Given that roughly the same type and number of above ground facilities would be developed under Alternative 2, measures to reduce impacts related to light and glare, as specified in MMs **AES-5** and **AES-6**, would be required to reduce light and glare impacts to less than significant. As such, under this evaluation and set of assumptions, the level of significance of aesthetics impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Agricultural and Forestry Resources: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Within the Chino Basin, there are substantial agricultural resources. As such, installation of future CBP related facilities and by extension Alternative 2 related facilities, could result in a potentially significant impact to such resources; however, mitigation has been identified to minimize agricultural and forestry resource impacts below significance thresholds, including those that would: relocate or avoid impacts to important agricultural land; and relocate or avoid impacts to forest land or offset the loss by purchasing compensatory mitigation in the form of comparable forest land permanently conserved in either a local or State-approved important forest land mitigation bank. The location of these facilities is anticipated to be within RP-4, while the pipeline would be installed within road rights-of-way. This mitigation would ensure that future CBP or Alternative 2 related facilities would not contribute to significant agricultural and forestry resource impacts. As such, under this evaluation and set of assumptions, the level of significance of agricultural and forestry resource impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Air Quality: As with the proposed CBP, IEUA activities under Alternative 2 would be intended to serve existing customers as well as future customers associated with planned growth in the Chino Basin. Therefore, as with the CBP, this alternative would not lead to unplanned population, housing or employment growth that exceeds the forecasts used in the development of the SCAQMD's AQMP. Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Similar to the proposed CBP, construction and operation of these components would generate criteria air pollutant emissions. Modestly fewer facilities would be constructed under Alternative 2 as compared to the proposed CBP. Therefore, construction and operational criteria air pollutant emissions would likely be modestly lower than, but comparable to, those of the proposed CBP. The intensity of daily construction activities under Alternative 2 would potentially be similar to that which would occur under the proposed CBP. As such, similar to the CBP, maximum daily emissions during construction of Alternative 2 may exceed SCAQMD regional significance thresholds. Therefore, implementation of MM **AQ-1** would be required for Alternative 2 to address the exceedance(s) and would likely reduce impacts to a less than significant level, as with the proposed CBP. Furthermore, similar to that which would occur under the CBP, the relatively small scale of construction projects and operation and maintenance activities under Alternative 2 would minimize the potential for the exposure of sensitive receptors to substantial concentrations of carbon monoxide and toxic air contaminants. This alternative also would not likely include new

facilities with the potential to generate substantial odorous emissions. Therefore, the level of impact of this alternative and the proposed CBP is equivalent with implementation of MM **AQ-1**. As such, under this evaluation and set of assumptions, Alternative 2 would likely have similar or fewer overall construction and operational emissions as the proposed CBP, and the level of significance of the air quality impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Biological Resources: As with the CBP, development of Alternative 2 would result in diversion of recycled water from the Santa Ana River through the development of a new AWPF with an ultimate capacity of 15,000 AFY, requiring a diversion of 17,000 AFY in total to support the AWPF operations. As such, the potentially significant impact identified under this issue that could result from the CBP's diversion of flow to the Santa Ana River could also occur under Alternative 2. Furthermore, because the specific locations for future CBP and Alternative 2 projects are not presently known, there is a potential that a future facility for both may be developed in an area containing significant biological resources that cannot be avoided. Substantial mitigation provided under the CBP would therefore apply to Alternative 2 to ensure that a future facility would not be developed in an area containing significant biological resources that cannot be avoided. However, it has been determined that even with the implementation of substantial mitigation measures to avoid contributing to cumulatively considerable impacts to covered species and supporting habitat, which can be mitigated by implementing the HCP, impacts to one species may not be completely avoided. The proposed CBP's operations as well as Alternative 2's operations may result in a reduction in surface flows in the Santa Ana River and into Prado Basin. In addition, Low Impact Development ordinances, local policies, and municipal storm water detention regulations will encourage water conservation and flow detention, resulting in a cumulative reduction in surface flows reaching Prado Basin. Thus, both the CBP and Alternative 2 could potentially cause a significant unavoidable adverse impact to biological resources, specifically implementation could contribute cumulatively to potential significant impacts to the Santa Ana Sucker due to a reduction in cumulative flows to the Santa Ana River.

~~It should be noted that Alternative 2 would eliminate the potential environmental benefit that would result from the CBP. As discussed in Chapter 3 of this RDPEIR, the CBP would provide environmental benefit in call years, which will likely be in dry seasons, to improve habitat conditions enabling Feather River salmonid species greater chance for survival.~~

Cultural Resources: As with the proposed CBP, IEUA activities under Alternative 2 would be intended to serve existing customers as well as future customers associated with planned growth in the Chino Basin. The Chino Basin is a large expanse of area that may contain historical, archaeological, or paleontological resources. As such, future CBP projects may be developed within sites that contain such resources which, due to the similar scope of Alternative 2, may also occur under Alternative 2. Both the CBP and Alternative 2 are proposed at the programmatic level, and as specific locations for most of the proposed CBP and Alternative 2 facilities have not yet been identified, mitigation imposed to minimize impacts to cultural resources at future CBP facilities that would also apply to Alternative 2. As such, mitigation to ensure that future CBP and Alternative 2 facilities at sites that have not yet been identified will require a follow-on Phase I Cultural Resources Investigation and enforce several phases or steps beyond the completion of a Phase I Cultural Resources Investigation that would cover the identification, evaluation, mitigation, and monitoring associated with a given project where resources may be located would be required to minimize impacts to a level of less than significant. As such, under this evaluation and set of assumptions, Alternative 2 would likely have a potential to impact cultural resources comparable to the CBP, and the level of significance of the cultural impacts that would result from Alternative 2 would be similar to that which would occur under the CBP and would be less than

significant with the implementation of mitigation.

Energy: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Similar to the proposed CBP, construction and operation of these components would consume energy. Modestly fewer facilities would be constructed under Alternative 2 as compared to the proposed CBP. Therefore, construction and operational energy consumption would likely be somewhat lower than that which would occur under the CBP. However, as with the CBP, the potential for wasteful, inefficient, or unnecessary energy consumption during construction activities would be minimized by compliance with existing applicable regulations. Furthermore, operational energy usage under Alternative 2 would not be wasteful, inefficient, or unnecessary because it would be in furtherance of increasing local water supply reliability, reducing dependence on imported water, improving water quality, providing a new local water supply for the Chino Basin, and providing local emergency supply benefits. In addition, construction and operation of Alternative 2 would be conducted in accordance with existing applicable regulations related to energy efficiency and vehicle fuel economy. Furthermore, similar to the CBP, IEUA would procure energy to serve new facilities under Alternative 2, likely from SCE, which has historically achieved the Renewables Portfolio Standard, and IEUA would continue to seek opportunities to supply facilities constructed under Alternative 2 with other renewable energy sources in accordance with the goals and objectives of its CCAP. Therefore, this alternative would also be consistent with the CARB's 2017 Climate Change Scoping Plan and the IEUA CCAP. As such, under this evaluation and set of assumptions, Alternative 2 would result in similar or less overall construction and operational energy consumption, and the level of significance of its energy impacts would be comparable to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Geology and Soils: As with the proposed CBP, IEUA activities under Alternative 2 would be intended to serve existing customers as well as future customers associated with planned growth in the Chino Basin. Similar to the proposed CBP, construction and operation of these components would be subject to geologic and soils-related constraints. Because comparable facilities would be constructed under Alternative 2 as compared to the proposed CBP, there would be comparable overall potential for the Alternative 2 to expose persons or structures to geologic hazards. Due to the substantial geologic and soils-related constraints, installation of future CBP and Alternative 2 related facilities in locations where such constraints may occur could result in a potential for significant geology and soils impacts. However, several mitigation measures were identified to minimize geology and soils impacts would be applicable to both the CBP and Alternative 2, including those mitigation measures that would: ensure new facilities are located outside of delineated fault zones through relocation, implementation of seismic design measures, or subsequent CEQA documentation; reduce potential impacts from geological hazards through a design level geotechnical investigation with implementation of specific design recommendations, relocation of the site, or subsequent CEQA documentation; minimize impacts to paleontological resources through requiring site-specific studies, where necessary. Under this evaluation and set of assumptions, Alternative 2 would result in comparable overall geology and soils impacts to the CBP. Given that site-specific geotechnical investigations have not yet been performed for most of the components of either the CBP or Alternative 2, the same mitigation that will apply to future CBP facilities would also apply to facilities proposed under Alternative 2. As such, the level of significance of the geology and soils impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Greenhouse Gas: Alternative 2 would include the same facilities proposed by the CBP excluding

the pipeline and turnouts required to connect to MWD's system. Similar to the proposed CBP, construction and operation of these components would generate GHG emissions. Modestly fewer facilities would be constructed under Alternative 2 as compared to the proposed CBP. Therefore, construction and operational GHG emissions would likely be somewhat lower than those of the proposed CBP. Construction-related GHG emissions associated with the CBP would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore would potentially hinder the statewide GHG emission reduction target for 2030. Given the comparable levels of construction required to develop the facilities proposed under Alternative 2, construction related GHG impacts would be the same as those projected for the CBP. As such, while MM **GHG-1** would minimize impacts to the greatest extent feasible, construction-related impacts from implementation of both the CBP and Alternative 2 could be potentially significant.

As with the proposed CBP, this alternative would not generate indirect GHG emissions associated with electricity consumption that exceed the statewide 2030 target because IEUA would likely procure electricity from SCE, which is on-track to achieve 60 percent renewables by 2030. However, similar to the proposed CBP, Alternative 2 would potentially fail to procure its electricity from carbon-neutral electricity sources by 2045 because of the uncertainty surrounding the future power mix and energy demands. Furthermore, Alternative 2 would not have the potential to result in the net reduction of GHG emissions associated with the CBP's avoidance of SWP imports during call years. Therefore, similar to the proposed CBP, the GHG emissions impacts of Alternative 2 could be potentially significant and implementation of MM **GHG-2** would be required. Implementation of MM **GHG-2** may reduce the energy usage and associated GHG emissions of facilities constructed under Alternative 2 and increase the percentage of electricity supplied to these facilities by renewable energy resources, which would reduce operational GHG emissions. Nevertheless, implementation of MM **GHG-2** may not fully mitigate the impacts of Alternative 2 if IEUA is not able to supply the remaining electricity demand of these facilities from carbon-neutral electricity sources by 2045 or otherwise mitigate the operational emissions of Alternative 2. As such, under this evaluation and set of assumptions, Alternative 2 would likely result in similar or potentially cumulatively greater overall construction and operational GHG emissions, and the level of significance of the GHG emissions impacts of Alternative 2 would be similar to that which would occur under the CBP and both could be significant and unavoidable.

Hazards and Hazardous Materials: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Similar to the CBP, construction and operation of these components would be subject to hazards. Because comparable facilities would be constructed under Alternative 2 as compared to the CBP, there would be comparable overall potential for the Alternative 2 to expose a site or persons to hazards and hazardous materials. Due to substantial hazard-related constraints, the installation of future CBP and Alternative 2 facilities may occur at locations where such constraints may exist. As such, a potential for significant hazards and hazardous materials issue impacts from implementation of both the CBP and Alternative 2 exists. However, several mitigation measures were identified to minimize hazards and hazardous materials impacts, which would apply to both the CBP and Alternative 2. Those mitigation measures include those that would: ensure that applicable facilities Business Plans incorporate best management practices designed to minimize the potential for accidental release of such chemicals; ensure that applicable facilities Business Plans identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material; ensure sensitive receptors will not be exposed to significant health threat by modeling the pathways of release and implementing specific measures that would minimize potential exposure to acutely hazardous materials; ensure hazardous materials are disposed of and delivered to licensed facilities; ensure the establishment of and adherence to

specific thresholds of acceptable clean-up of hazardous materials; ensure the preparation of and adherence to vector management plans; ensure remediation of an accidental spill or discharge of hazardous material in compliance with state and local regulations; ensure that sites for future facilities obtain a Phase I Environmental Site Assessment and either avoid or remediate a site that is contaminated; ensure that any unknown contamination is remediated and handled according to the local CUPA; ensure compliance with the appropriate airport land use plan and coordination with the appropriate airport management agencies to ensure safety for people residing or working within the project area; ensure that movement of the contamination plumes is contained to minimize contamination of groundwater at wells located in proximity, but outside of these plumes; ensure that construction traffic is managed safely; and ensure that fire hazard reduction measures are enforced. Therefore, though there will be some adverse impacts as a result of implementing either the CBP or Alternative 2, specific mitigation measures would reduce potential project specific and cumulative (direct and indirect) effects to a less than significant impact level for hazards and hazardous material issues. As such, under this evaluation and set of assumptions, Alternative 2 would likely have comparable potential to result in significant hazard and hazardous materials impacts; the level of significance of the hazard and hazardous materials impacts that would result from this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Hydrology and Water Quality: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. As the intent of Alternative 2 to both address long-term water supply vulnerabilities and address water quality concerns by ensuring regulatory compliance, it is anticipated that Alternative 2 would not result in any new water quality-related issues beyond those addressed and mitigated as part of the CBP. Alternative 2 would result in the development of an AWPF with an equal capacity to the CBP, and also result in a diversion of some flow from the Santa Ana River. As such, under this alternative, and under the CBP, IEUA would continue to meet the baseflow obligation at Prado, with both alternatives resulting in a minor reduction in surplus flows at Prado.

As with the CBP, Alternative 2 would require several mitigation measures to minimize impacts related to hydrology and water quality to ensure sustainable management of the Basin under the required storage and recovery program application so that no significant impacts to the Basin would result. Both the CBP and Alternative 2 would require implementation of mitigation that would: ensure that drainage is managed through either runoff collection or development of a drainage plan for a given CBP project; require all disturbed areas that are not covered in hardscape or vegetation to be revegetated or landscaped at future CBP facility sites; and ensure that brine generated by water treatment systems would be disposed of in a manner that would minimize the potential for release of polluted runoff. As such, under this evaluation and set of assumptions, Alternative 2 and the CBP would have equal hydrology and water quality impacts; the level of significance of the hydrology and water quality impacts that would result from this alternative would be comparable to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Land Use and Planning: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Like the CBP, the facilities that could be constructed for Alternative 2 would not be anticipated to have features that would create a barrier or physically divide an established community. Land would need to be purchased for any proposed facilities. It can be reasonably assumed that siting of the facilities would include determination of the most suitable locations to place facilities, taking into consideration surrounding land uses. However, because the precise location for future facilities is presently unknown, the facilities may be developed across other designated land uses. Per

Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. Therefore, any facilities constructed under Alternative 2 that could potentially conflict with local General Plan land use designations would not be subject to a conditional use permit or general plan amendment. In addition, the cities and counties that are within the Chino Basin area have adopted General Plans that support the provision of adequate infrastructure; therefore, facilities constructed under Alternative 2 would not conflict with the goals and policies of the applicable General Plans. As with the CBP, new facilities may conflict with adjacent land uses and as such MM **LU-1** would be required to minimize land use incompatibilities (such as lighting, noise, use of hazardous materials, traffic, etc.) with adjacent uses. As such, under this evaluation and set of assumptions, Alternative 2 would result in comparable overall land use impacts; the level of significance would be similar to that which would occur under the CBP and both would be less than significant with mitigation.

Mineral Resources: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Like the CBP, construction of the facilities for Alternative 2 are unlikely to interfere with mining of mineral resources. Much of the Chino Basin has been urbanized, resulting in very few areas containing mineral resources that are not already utilized for mining activities. Installation and operation of the Alternative 2 facilities would have little potential to result in a direct adverse impact on mineral resources, unless the parcel(s) selected for such facilities are within an active mining area or are designated for recovery of mineral resources. Given that the proposed locations for the facilities are unknown, similar to the CBP, there is a minor potential for Alternative 2 to result in the loss of availability of a known valuable mineral resource or result in the loss of availability of a locally important mineral resource recovery site. As such, for both Alternative 2 and the CBP, implementation of MM **MR-1** would be required to reduce the potential for impacts to mineral resources to a less than significant level. There would be comparable potential for impacts to mineral resources under both the CBP and Alternative 2; as such, both would result in less than significant impacts with implementation of mitigation.

Noise: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Construction activities under Alternative 2 may generate temporary increases in ambient noise levels and excessive groundborne vibration levels in excess of Federal Transit Administration and the California Department of Transportation daytime and nighttime construction thresholds at the nearest sensitive receivers. In addition, facilities constructed under Alternative 2 may include noise-generating components that could result in a substantial permanent increase in ambient noise levels at nearby sensitive receptors, if present, depending on the equipment type, whether equipment is enclosed in a structure, the distance between equipment and nearby sensitive receivers, and the local jurisdiction's noise standards. Therefore, as with the CBP, construction and vibration impacts for Alternative 2 would be potentially significant, and implementation of MMs **NOI-1** through **NOI-6** would be required. As with the CBP, implementation of these mitigation measures would likely reduce Alternative 2's impacts to less than significant levels. Accordingly, under this evaluation and set of assumptions, the level of noise and vibration impacts of Alternative 2 and the CBP is equivalent and both would be less than significant with the implementation of mitigation.

Population and Housing: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. As with the CBP, IEUA activities under Alternative 2 would be intended to existing customers as well as future customers associated with planned growth in the Chino Basin. Alternative 2 would not include construction of new homes or businesses and would therefore not result in a direct increase in population or

create a substantial number of new jobs that would result in new residents within the Chino Basin area. Like the CBP, any facilities constructed under Alternative 2 would be growth accommodating but would not induce population growth. Also similar to the CBP, the majority of construction and operations and maintenance staff for any new facilities can be expected to be drawn from the existing population within the Chino Basin. Furthermore, comparable construction and operation and maintenance staff would be required.

Like the CBP, the location of any future facilities is presently unknown, and it is remotely possible that the development of specific facilities could adversely impact existing housing. If construction of facilities would impact housing, relocation assistance would be required in compliance with the California Relocation Assistance Act, as specified in MM **POP-1**. As such, under this evaluation and set of assumptions, the level of significance of the population and housing impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Public Services: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Facilities constructed under Alternative 2 would not include construction of new homes or businesses that would result in a direct increase in population or new jobs that would increase demand for public services. Operation of the new facilities could require fire and police services in the unlikely event of an emergency; however, any increase in demand would be nominal. Similar to the CBP, a Hazardous Materials Business Plan would be required for use of chemicals at any of the new facilities, which would minimize the potential need for emergency services. Any new facilities would be fenced or access controlled to prevent illegal trespass, as required by MM **PS-1**. In addition, the majority of any new employees for operation and maintenance of new facilities would likely come from the existing population with the Chino Basin, and any increase in demand for schools, parks, or other public services would be nominal. Although construction of new facilities would not cause a significant demand for parks and recreational facilities, similar to the CBP, there is a potential that the facilities could be located within parks or facilities designated for such use. If impacts to parkland would occur, the facilities would need to be relocated or supplemental parkland provided, as required by MM **PS-2**. As such, under this evaluation and set of assumptions, the level of significance of the public service impacts of this alternative would be similar to that which would occur under the CBP and both would be less than significant with the implementation of mitigation.

Recreation: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Alternative 2 would not require construction or expansion of recreational facilities. Alternative 2 would also not include construction of new homes or businesses. Therefore, there would not be a direct increase in population or a substantial number of new jobs that would result in increased demand for parks and recreational facilities within the Chino Basin area. Also similar to the CBP, the majority of construction and operations and maintenance staff for any new facilities can be expected to be drawn from the existing population within the Chino Basin. However, there is a potential for CBP or Alternative 2 facilities to be installed within either an existing park or a site that has been designated for such uses. MM **PS-2** is required to ensure that, for CBP or Alternative 2 facilities located within vacant land designated for park and/or recreation facility use, or for CBP or Alternative 2 facilities larger than one acre in size within existing park and/or recreation facilities, additional parkland is developed to supplement the loss of this parkland or recreation facility. Similarly, MM **REC-1** would ensure that, should construction of recreation or park facilities be required as a part of the Alternative 2 or the CBP, subsequent CEQA documentation will be prepared to ensure that impacts are appropriately assessed and avoided or mitigated. Therefore, any potential increased demand for parks and recreational facilities would be nominal. As such,

under this evaluation and set of assumptions, the level of significance of the population and housing impacts of this alternative would be similar to that which would occur under the proposed CBP and both would be less than significant with the implementation of mitigation.

Transportation: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Construction activities associated with these new facilities may generate temporary increases in heavy truck and construction worker trips that could affect roadway, transit, bicycle, and pedestrian circulation as well as emergency access. This could be due to construction equipment staged within a public right-of-way affecting transit stops, bicycle, and/or pedestrian facilities, construction disturbance under existing transit, bicycle, and/or pedestrian thoroughfares, potential lane or road closures, construction vehicles affecting roadway movement and circulation, and/or blockage of emergency vehicle roadway and driveway access during construction. Therefore, the construction-related circulation and emergency access impacts of Alternative 2 would be potentially significant. However, with implementation of mitigation, specifically MM **TRA-1**, which requires preparation and implementation of a construction transportation management plan, construction-related circulation and emergency access impacts under Alternative 2 would be reduced to a less-than-significant level with the implementation of mitigation.

There would be slightly fewer facilities constructed under Alternative 2 as compared to the CBP, because Alternative 2 would not include connections to MWD. As such, operational VMT and potential operational impacts related to transportation circulation, design safety, and emergency access under Alternative 2 would be slightly less than under the CBP. Therefore, compared to the proposed CBP, Alternative 2 would result in slightly lesser impacts related to transportation. However, the level of significance would be comparable to that which would occur under the CBP and would be less than significant.

Tribal Cultural Resources: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Simply because the CBP and Alternative 2 would disturb a similar amount of area, the potential for encountering Tribal Cultural Resources is comparable under both alternatives. When mitigation is implemented—primarily avoidance of tribally sensitive areas, further site-specific study of large scale projects, tribal and archaeological monitoring, and specific treatment requirements for buried Tribal Cultural Resources that may be uncovered during construction of future projects—both alternatives are forecast to cause less than significant impacts to tribal cultural resources. Under this evaluation and set of assumptions Alternative 2 would have comparable impacts on Tribal Cultural Resources to the CBP; however, the level of significance would be similar to that which would occur under the CBP and would be less than significant.

Utilities and Service Systems: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. Under the CBP, significant impacts to stormwater drainage, energy, natural gas telecommunications, or solid waste were determined to be less than significant with the implementation of mitigation, and as with the CBP, specifically as it relates to utilities infrastructure, it is anticipated that Alternative 2 would have comparable potential to impact these utility systems than the CBP. Under the CBP mitigation is required to minimize impacts related to stormwater through implementation of a drainage plan to reduce downstream flows for future CBP projects; this would be required to minimize impacts from the facilities that would be developed under Alternative 2. As Alternative 2 and CBP would both generate solid waste during operation and construction, mitigation is required to address potential impacts related to solid waste including those that would: ensure that construction and demolition materials that are salvageable are recycled, and thereby diverted

from the local landfill, which will minimize the potential for CBP projects to generate waste in excess of local landfill capacities; and, ensure that soils that would generally be exported from a given construction site are salvaged where possible for recycled and ultimately reuse, thereby diverting this waste stream from the local landfill. The construction of infrastructure related to energy and natural gas under the CBP was analyzed and determined to be less than significant with the implementation of mitigation that would ensure that CBP projects not located in an area containing adjacent access to electricity and natural gas infrastructure would require subsequent CEQA documentation. This mitigation would also be required to reduce those same impacts under Alternative 2 as this alternative would be installed within locations that have not yet been selected. Under the CBP, the construction of infrastructure related to telecommunications was determined to be less than significant with the implementation of mitigation that would ensure that CBP projects not located in an area containing adjacent access to telecommunication infrastructure would require subsequent CEQA documentation. This mitigation would also be required to reduce those same impacts under Alternative 2 as this alternative would be installed within locations that have not yet been selected. However, for the issues of solid waste, stormwater drainage, electricity, natural gas, and telecommunications, mitigation would be required to minimize impacts to a level of less than significant for both the CBP and Alternative 2.

The extension of water and wastewater related infrastructure was determined to be potentially significant under the CBP, and as Alternative 2 would not eliminate the significant construction-related GHG emissions impact, Alternative 2 could also have a potential for similar significant impacts to occur. As with the CBP, Alternative 2 would ensure the provision of sufficient wastewater treatment capacity at area wastewater treatment plants through mitigation that would ensure subsequent CEQA documentation is required where greater brine conveyance capacity is required than area brine disposal facilities can accommodate. This is required because Alternative 2 would generate similar amounts of brine from the AWPF process. As previously stated, the CBP could result in potentially significant impacts related to construction-related GHG emissions that would exceed the approximated SCAQMD threshold for 2030 of 6,000 MT of CO_2e per year during the most intensive year of construction activities (2027), and therefore could potentially hinder the statewide GHG emission reduction target for 2030 that would result from the extension of water- and wastewater-related infrastructure. As such, construction of the CBP has the potential to hinder statewide GHG emissions targets, and therefore could result in significant and unavoidable impacts related to construction of new or expansion or modifications to existing water and wastewater facilities. Given that Alternative 2 does not eliminate the potential for this construction-related GHG emissions impact, Alternative 2 could likewise result in comparable impacts; thus, under both alternatives, utilities and service systems impacts are significant and unavoidable.

Wildfire: Alternative 2 would include the same facilities proposed by the CBP excluding the pipeline and turnouts required to connect to MWD's system. The location of CBP facilities was determined to likely not be located in designated very high fire hazard severity zones, but since many of the CBP facilities sites have not yet been identified, it is possible that one or more future facilities could be required to locate within such areas. Comparatively, since the proposed Alternative 2 would be developed within unknown locations and alignments, it is possible that these facilities would have a potential to be located within a very high fire hazard severity zone. The CBP, and by extension, Alternative 2, would require mitigation to minimize impacts to wildfire that would: reduce the project's potential traffic conflicts that could be exacerbating in high fire hazard zones by requiring all construction activities to be conducted in accordance with an approved construction traffic control plan; and, ensure fire hazard reduction measures are incorporated into a fire management plan/fuel modification plan for the proposed facility. As such, the CBP would achieve a level of less than significant with mitigation. Thus, with implementation

of mitigation to minimize wildfire impacts, neither the CBP nor Alternative 2 would cause significant unavoidable adverse wildfire impacts. Under this evaluation and set of assumptions Alternative 2 would have comparable impacts on Wildfire when compared to the CBP both would be less than significant with the implementation of mitigation.

Conclusion

The Regional Water Quality and Reliability Plan Alternative (Alternative 2) is comparable to the CBP in terms of environmental impacts. Because Alternative 2 would result in the development of nearly identical facilities to the CBP, excepting those which the CBP requires in order to connect to MWD's water distribution system, most of the impacts related to this alternative are the same as those identified under the CBP. It is possible that, due to reduction in pipeline lengths and turnouts required under this alternative when compared to the CBP, the construction related GHG emissions impact would be eliminated, but given the comparable construction scenarios, the elimination of this construction related GHG impact is not guaranteed. However, because Alternative 2 would not result in offset electricity consumption that would result from the water exchange with the SWP created by the CBP, it is likely the Alternative 2 would result in greater GHG emissions than would the CBP, and as such would not eliminate the operations related GHG impact. Note that Alternative 2 would ultimately reduce reliance on imported water, thus some of the energy related GHG emissions that may result from operation of Alternative 2 facilities would ultimately be offset by reducing reliance on the energy intensive imported water source. Regardless, Alternative 2 could result in a significant operations-related GHG emissions impact. Furthermore, Alternative 2 would not eliminate significant Biological Resources or Utilities and Service Systems impacts. As such, while Alternative 2 would lessen significant impacts under GHG, it would not eliminate significant impacts under any of the categories for which significant impacts have been identified under the CBP. Therefore, Alternative 2 cannot be considered an environmentally superior alternative.

~~Furthermore, while Alternative 2 would meet nearly all of the CBP's objectives, it would not meet one of the IEUA's basic objectives, which is to develop an integrated solution to produce State and federal environmental benefits. As such, under Alternative 2, the improvement of habitat conditions enabling Feather River salmonid species greater chance for survival would be eliminated, thus failing to meet this project objective.~~

5.6 SUMMARY OF ALTERNATIVES

In accordance with CEQA Guidelines Section 15126.6(d), a matrix summarizing the impacts of the alternatives compared to the proposed CBP is included in **Table 1.6-1**.

5.7 CONCLUSION

CEQA Guidelines Section 15126.6(b) requires the lead agency to identify, analyze and consider a range of reasonable alternatives to the proposed project. Elimination of potential environmental impacts of the proposed project should be considered when developing potential alternatives. As noted in Chapter 2 – Introduction – of this EIR, the potentially significant and unavoidable impacts of the proposed CBP are: Biological Resources, Greenhouse Gas, and Utilities and Service Systems.

The "no action" No Project Alternative (NPA) analyzed above would ultimately ~~not be a feasible as it would~~ lead to IEUA having to take actions in order to comply with mandatory regulatory

requirements in order to continue operating as usual. As such, the NPA analyzed above would not ~~neither be feasible nor would it~~ meet the fundamental project objectives outlined in the CBP Project Description. Specifically, the NPA would not meet permit compliance for continued use of recycled water in the Basin, nor would it maintain commitments for salt management to enable sustainable use of recycled water in the Basin. Neither would it address long-term supply vulnerabilities or provide a source of water for emergency response. The NPA generally has lessened environmental impacts for all of the resource issues except for hydrology and water quality issues. The NPA would reduce significant biological resource and greenhouse gas impacts from a significant impact under the CBP to a level of less than significant. The NPA is forecast to result in a new significant unavoidable adverse impacts to hydrology and water quality, and would cause greater significant unavoidable adverse impacts under utilities and service systems than the CBP. ~~Further, although the NPA would reduce potentially significant impacts identified in this DPEIR as compared to the proposed CBP, it would lead to greater impacts in some other areas, including hydrology and water quality and utilities and service systems.~~ This is because the NPA would result in the Chino Basin being out of regulatory compliance and would threaten water supply. In the final analysis, the NPA clearly cannot be considered the environmentally superior alternative to the proposed project from a total environmental standpoint, because the environmental damage from implementing it is forecast to cause a significant adverse impact when compared to implementing CBP.

~~Finally, under the NPA, the ability to attain the goals and objectives as described under Chapter 3, Project Description, and listed in the paragraph above, would be virtually eliminated. The NPA would not obtain the CBP's basic objectives, and furthermore, although the NPA would reduce potentially significant impacts identified in this DPEIR as compared to the proposed CBP, it would lead to greater impacts in some other areas, including hydrology and water quality and utilities and service systems. In the final analysis, the NPA cannot be considered the environmentally superior alternative to the proposed CBP from a total environmental standpoint, because the environmental damage from implementing it is forecast to cause a greater significant adverse impact when compared to implementing CBP. It should be noted too, that the NPA would eliminate the potential environmental benefit that would result from the CBP. As discussed in Chapter 3 of this DPEIR, the CBP would provide environmental benefit in call years, which will likely be in dry seasons, to improve habitat conditions enabling salmonid species greater chance for survival. The NPA would not only forgo this environmental benefit, but it would also result in a threat to the reliability of water supply in the Chino Basin. Given this, the NPA is not considered an environmentally superior alternative.~~

The practical result of IEUA not approving the CBP would be IEUA at some point having to build a reduced development project like the Baseline Water Quality Action Alternative (BWQAA; Alternative 1), as a way to provide the facilities required in order for the use of recycled water in the Chino Basin to continue under current permits and regulations. The reduced development BWQAA, which as noted above is basically a "practical result" no project alternative, would lessen environmental impacts in all categories to a level of less than significant, though it could continue to contribute to potentially significant operational Greenhouse Gas emissions. This is because, while it is likely that electricity would be procured from carbon-neutral electricity sources by 2045, because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed, and therefore, it is possible that a significant operations-related GHG impact could occur should the future power mix fail to meet the carbon-neutral electricity requirement by 2045. The BWQAA would not require as intensive construction as the CBP as it does not propose the same intensity of facilities proposed by the CBP. As such, the BWQAA would not create any new significant impacts beyond those identified by the CBP and result in lessened environmental impacts compared to the CBP. The BWQAA would also avoid Biological

Resources and Utilities and Service Systems significant impacts, although potentially significant operations related Greenhouse Gas impacts could still occur under it. As such, the BWQAA is considered an environmentally superior alternative to the CBP.

~~However, the BWQAA would not achieve several of the CBP's basic objectives. While~~ The BWQAA would meet permit compliance for the continued use of recycled water in the Chino Basin and would maintain commitments for salt management to enable sustainable use of recycled water in the Basin, the BWQAA would not develop infrastructure that addresses long term supply vulnerabilities, provide a source of water for emergency response, or develop an integrated solution to support regional water reliability while balancing ~~produce State and federal~~ environmental sustainability ~~benefits~~ because it would only address water quality improvement project purposes and does not include the infrastructure necessary for water supply improvement.

The Regional Water Quality and Reliability Plan Alternative (Alternative 2) is comparable to the CBP in terms of environmental impacts. Because Alternative 2 would result in the development of nearly identical facilities to the CBP, excepting those which the CBP requires in order to connect to MWD's water distribution system, most of the impacts related to Alternative 2 are the same as those identified under the CBP. It is possible that, due to reduction in pipeline lengths and turnouts required under Alternative 2 when compared to the CBP, the construction related GHG emissions impact would be eliminated, but given the comparable construction scenarios, the elimination of this construction related GHG impact is not guaranteed. However, because Alternative 2 would not result in offset electricity consumption that would redound from the water exchange with the SWP created by the CBP, it is likely the Alternative 2 would result in greater GHG emissions than would the CBP, and as such would not eliminate operations related GHG impact. Note that Alternative 2 would ultimately reduce reliance on imported water; thus, some of the energy related GHG emissions that may result from operation of Alternative 2 facilities would ultimately be offset by reducing reliance on the energy intensive imported water source. Regardless, Alternative 2 would result in a significant operations-related GHG emissions impact. Furthermore, Alternative 2 would not eliminate significant Biological Resources or Utilities and Service Systems impacts. As such, while Alternative 2 would lessen significant impacts under GHG, it would not eliminate significant impacts under any of the categories for which significant impacts have been identified under the CBP. Therefore, Alternative 2 cannot be considered an environmentally superior alternative to the CBP.

Alternative 2 would meet ~~nearly all of~~ the CBP's objectives~~, which is to develop an integrated solution to produce State and federal environmental benefits~~. Alternative 2 and the CBP both include advanced water treatment and groundwater injection and water supply infrastructure, including extraction wells, groundwater treatment facilities, pipelines, and connections that are integrated with the AWPF and injection well system, as well as 15,000 AFY in local supplies. The infrastructure associated with both alternatives would collectively help IEUA meet its objectives of protecting and enhancing water quality and improving regional water supply reliability and resiliency. For the CBP, regional water reliability and environmental sustainability, as an objective, are achieved through the anticipated improvement in habitat conditions enabling Feather River salmonid species greater chance for survival, while producing 15,000 AFY of "new" water supply for a period of 25-years to provide for the State exchange, thereby directly replacing a portion of imported supplies. For Alternative 2, regional water reliability, as an objective, would be achieved through producing 15,000 AFY of recycled water in the Chino Basin, creating a new local water supply, thereby reducing dependence on imported water, improving water quality, and ultimately providing a new local water supply for the Basin. While the CBP project benefits to enabling Feather River salmonid species would not be achieved under Alternative 2, Alternative 2 may still contribute to environmental sustainability, where environmental sustainability is interpreted as

contributing to diversifying supply and thereby contributing to Chino Basin Groundwater sustainability, or as addressing climate resilience through creating a new reliable source of supply. Alternative 2 would contribute regional water reliability and environmental sustainability as part of its implementation. Thus, based on the above, Alternative 2 would meet all of the CBP project objectives.

~~As such, under Alternative 2, the improvement of habitat conditions enabling Feather River salmonid species greater chance for survival would be eliminated, thus failing to meet this project objective.~~

~~CBP Benefits~~

Similar to the Regional Water Quality and Reliability Plan (Alternative 2), the CBP would collectively treat and store up to 15,000 AFY of recycled water in the Chino Basin, creating a new local water supply. The CBP would also include a regional pipeline connecting CBP potable water facilities to the region to provide in lieu use of CBP supplies, as well as connections to MWD with the ability to pump up CBP potable supplies into MWD's water distribution system. This in-lieu and direct pump-in use of CBP water supplies would allow the CBP to make up to 50,000 AFY available to MWD in drier years in exchange for the same amount of supply delivered by the SWP. In return, up to 50,000 AFY that would otherwise have been exported to MWD would be stored in Lake Oroville and used together with Delta carriage water savings to enhance instream flows in the Feather River.

Delta carriage water savings is an additional benefit of the Proposition 1 WSIP water exchange. SWP operations that transfer water across the Delta from upstream storage facilities to Delta export pumps under balanced conditions require additional upstream releases to maintain water quality in the Delta. This additional flow, known as "carriage water," is generally estimated by DWR to be between 20 and 30 percent of the amount of water exported. Under Proposition 1 WSIP water exchange operations, SWP releases from Lake Oroville and Delta export pumping would be reduced compared to planned operations, and a carriage water savings would accrue in Lake Oroville. IEUA has proposed that 20 percent of pulse flow releases be accounted for as carriage water savings and applied towards the total pulse flow quantity. Any additional carriage water savings would accrue to the SWP for other purposes as a hedge against possible operational impacts caused by the exchanges. The CBP would reduce the required capacity and capital cost of the extraction facilities to be constructed be IEUA for the CBP, allow 20 percent of new CBP AWPF supplies to be used locally, and increase total maximum environmental pulse flows from Lake Oroville to 50,000 AFY.

This exchange element would be in operation during the first 25 years of the CBP, administered through agreements with DWR, CDFW, and MWD. The total production of CBP water supplies over 25 years is 375,000 AF. Of this sum, 75,000 AF is assumed to be available for local use and emergency response. The remaining 300,000 AF would be used for in lieu and pump in water deliveries to MWD. Together with projected Delta carriage water savings, a total of 375 ,000 AF would be available in Lake Oroville over the 25-year period for ecosystem improvement in the Feather River. After the 25-year period, the full 15,000 AFY of CBP supply would be available for local use, further reducing dependence on imported water, improving water quality, and providing a new local water supply for the region.

In addition to the public ecosystem improvement benefits provided by this dedicated water supply, the production of high-quality water in the Chino Basin will deliver benefits in the form of enhanced water quality (similar to the Baseline Water Quality Action Alternative and Regional Water Quality

and Reliability Plan) and local water supply available to offset the cost of imported water from MWD and to reduce the economic impact of water supply shortages.

The CBP also provides emergency supply benefits in years when planned or unplanned service disruptions occur, and land subsidence mitigation benefits are achieved through new operational flexibility that will allow using recharged supplies to better manage groundwater pumping in areas sensitive to subsidence.

Table 5-3
COMPARISON OF ALTERNATIVES WITH RESPECT TO IEUA OBJECTIVES

Objectives		Alternative 1: The BWQAA: Baseline Water Quality Action	Alternative 2: Regional Water Quality and Reliability Plan	Proposed Project: Chino Basin Program
Protect and Enhance Regional Water Quality	Meet Permit Compliance for Continued Use of Recycled Water	✓	✓	✓
	Maintain Commitments for Salt Management	✓	✓	✓
Improve Regional Water Supply Reliability and Resiliency	Develop Infrastructure to Address Vulnerabilities		✓	✓
	Provide Source for Emergency Response		✓	✓
	Enhance Recharge		✓	✓
Develop an Integrated Solution to Support Regional Water Reliability and Environmental Sustainability ~~Produce State and Federal Environmental Benefits~~			✓	✓

Based on the above discussion, Alternative 1 would be the environmentally superior alternative to the CBP because it would reduce the overall construction and operational considerations associated with the CBP. Alternative 1 would reduce impacts in all categories as compared to the proposed CBP except as it relates to Greenhouse Gas emissions. This is because, while it is likely that electricity would be procured from carbon-neutral electricity sources by 2045, because of the uncertainty surrounding the future power mix and energy demands, this assumption is not guaranteed, and therefore, it is possible that a significant operations-related GHG impact could occur should the future power mix fail to meet the carbon-neutral electricity requirement by 2045. The BWQAA would not create any new significant impacts beyond those identified by the CBP and would result in lessened environmental impacts compared to the CBP. Accordingly, the BWQAA would be considered the environmental superior alternative because it would reduce Biological Resources impacts below a level of significance, although it would result in lesser, though still significant impacts related to Greenhouse Gas and thereby Utilities and Service Systems (construction related water infrastructure impacts from construction related GHG emissions generation) relative to the proposed project.

Table 1.6-1
TABULAR COMPARISON OF PROJECT ALTERNATIVES

	Would the Project Result in Significant Adverse Impacts to the Resource Issues?	***Would the Alternative Result in Equal, Greater, or Less Impacts than the Project?***		
	Proposed Project (Chino Basin Program)	**No Project Alternative**	**Alternative 1: Baseline Water Quality Alternative**	**Alternative 2: Regional Water Quality and Reliability Plan**
Aesthetics	No Impacts LSM	=	▼	=
Agricultural	No Impacts LSM	=	▼	=
Air Quality	Yes Impacts LSM	▼	▼	=
Biological Resources	Yes Impacts would be Significant	▼	▼	=
Cultural Resources	No Impacts LSM	▼	▼	=
Energy	No Impacts LS	▼	=	=
Geology and Soils	No Impacts LSM	▼	=	▼
Greenhouse Gas	No Impacts would be Significant	▼	=	▲
Hazards and Hazardous Materials	No Impacts LSM	▼	▼	=
Hydrology and Water Quality	No Impacts LSM	▲	▼	=
Land Use and Planning	No Impacts LSM	▼	▼	=
Mineral Resources	No Impacts LSM	▼	▼	=
Noise	No Impacts LSM	▼	▼	=
Population and Housing	No Impacts LSM	▼	▼	=
Public Services	No Impacts LSM	▼	▼	=
Recreation	No Impacts LSM	▼	▼	=
Transportation	No Impacts LSM	▼	▼	▼
Tribal Cultural Resources	No Impacts LSM	▼	▼	=
Utilities and Service Systems	Yes Impacts would be Significant	=	▼	=

	Would the Project Result in Significant Adverse Impacts to the Resource Issues?	***Would the Alternative Result in Equal, Greater, or Less Impacts than the Project?***		
	Proposed Project (Chino Basin Program)	**No Project Alternative**	**Alternative 1: Baseline Water Quality Alternative**	**Alternative 2: Regional Water Quality and Reliability Plan**
Wildfire	No Impacts LSM	▼	▼	=

▲ Alternative is likely to result in greater impacts to issue when compared to Proposed Project.
▼ Alternative is likely to result in reduced impacts to issue when compared to Proposed Project.
= Alternative is likely to result in comparable overall impacts to issue when compared to the Proposed Project.
LSM = less than significant with mitigation measures
LS = less than significant

	~~***Would the Project/Alternative Result in Significant Adverse Impacts to the Resource Issues of …?***~~				~~**Which is the environmentally superior Alternative?**~~
	~~**Chino Basin Program (CBP)**~~	~~**No Project Alternative (NPA**~~	~~**Alternative 1: Baseline Water Quality Action Alternative (BWQAA)**~~	~~**Alternative 2: Regional Water Quality and Reliability Plan**~~	
~~Aesthetics~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Agricultural~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Air Quality~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Biological Resources~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	~~NPA and BWQAA are equal~~
~~Cultural Resources~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Energy~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Geology & Soils~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Greenhouse Gas~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	~~NPA~~
~~Hazards & Hazardous Materials~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Hydrology & Water Quality~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~CBP, BWQAA and Alternative 2 are equal~~
~~Land Use & Planning~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Mineral Resources~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Noise~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Population & Housing~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Public Services~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Recreation~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~Transportation & Traffic~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~

~~Utilities & Service Systems~~	~~Yes~~	~~Yes~~	~~No~~	~~Yes~~	~~BWQAA~~
~~Wildfire~~	~~No~~	~~No~~	~~No~~	~~No~~	~~NPA; All Alternatives less than significant with or without mitigation~~
~~*Would Meet Project Objectives?*~~	~~Yes~~	~~No~~	~~Some~~	~~All Except One~~	-

CHAPTER 7 – PREPARATION RESOURCES

7.1 REPORT PREPARATION

7.1.1 Lead Agency

Elizabeth Hurst ~~Sylvie Lee, P.E.~~
Manager of Planning & Environmental Resources
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708

Phone: (909) 993-~~1600~~ 1634
Email: ehurst@ieua.org ~~slee@ieua.org~~

7.1.2 EIR Consultant

Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92045
Phone: (909) 882-3612

Tom Dodson, Environmental Specialist
Kaitlyn Dodson, Environmental Specialist
Christine Camacho, Admin / Production

Rincon Consultants, Inc.
1980 Orange Tree Lane, Suite 105
Redlands, CA 92374
Phone: (805) 644-4455

Jennifer Haddow, PhD, Principal Env. Scientist
Sherri Miller, Principal Biologist
Christopher A. Duran, RPA, Principal Archaeologist
Aubrey Mescher, Senior Environmental Planner
Melissa Whittemore, Supervising Env. Planner
Nicole West, Supervising Environmental Planner
Kelsey Bennett, Supervising Environmental Planner
Annaliese Miller, Environmental Planner

West Yost
23692 Birtcher Drive
Lake Forest, CA 92630
Phone: (949) 420-3030

Garrett Rapp, P.E., Associate Engineer II
Lauren Sather, PhD, Scientist II
Mark Wildermuth, Principal III

7.1.3 EIR Technical Consultants

- *Draft Chino Basin Program Assumptions Technical Memorandum No. 1* prepared by Brown and Caldwell in association with WSC, Inc. dated August 4, 2020
- *Draft Final Chino Basin Program PUT, TAKE, and Program Alternatives Evaluation Technical Memorandum No. 2* prepared by Brown and Caldwell in association with WSC, Inc. dated October 2021
- *Draft Brine Disposal System Technical Memorandum No. 3, July 31, 2020* prepared by Brown and Caldwell in association with WSC, Inc. dated July 31, 2020
- *Evaluation of the Chino Basin Program/Water Storage Investment Program* prepared by West Yost dated October 15, 2021

- *Air Quality Technical Report* prepared by Woodward & Curran dated October 2021
- *Biological Resources (assembled)*
    - *Upper SAR HCP – Covered Species*
    - *Upper SAR HCP Draft EIR – Biological Resources Impacts*
    - *RP-4 Site-Specific Biological Resources Assessment* prepared by Jacobs dated October 2021
- *Cultural Resources Survey, Proposed AWPF at RP-4, City of Rancho Cucamonga* prepared by CRM TECH dated October 17, 2021
- *Energy Resources Technical Report* prepared by Woodward & Curran dated October 2021
- *Greenhouse Gas Technical Report* prepared by Woodward & Curran dated October 2021
- *Chino Basin Optimum Basin Management Program, 2020 State of the Basin Report* prepared by West Yost dated June 2021
- *Chino Basin Optimum Basin Management Program, 2020 Maximum Benefit Annual Report* prepared by West Yost dated April 2021
- *Noise Data Sheets prepared by Rincon dated October 25, 2021*

7.2 BIBLIOGRAPHY

Previous Environmental Documents

Final Program Environmental Impact Report for the Optimum Basin Management Program (SCH#200041047), July 2000 prepared by Tom Dodson & Associates (2000 OBMP PEIR)

Final Program Environmental Impact Report for the Wastewater Facilities Master Plan, Recycled Water Master Plan, Organics Management Master Plan (SCH#2002011116), June 2002 prepared by Tom Dodson & Associates

Final Subsequent Environmental Impact Report for Inland Empire Utilities Agency Peace II Project (SCH#2000041047), September 2010 prepared by Tom Dodson & Associates (2010 Peace II SEIR)

IEUA Facilities Master Plan Final Environmental Impact Report (SCH#2016061064), February 2017 prepared by ESA (2017 FMP EIR)

IEUA Addendum to 2000 OBMP PEIR, March 2017 prepared by Tom Dodson & Associates (2017 OBMP Addendum)

Final Program Environmental Impact Report for the Chino Basin Program (SCH# 2021090310) May 2022 prepared by Tom Dodson & Associates (2022 CBP FPEIR) https://www.ieua.org/chino-basin-program-ceqa-documents/

Final Pulse Flows Component of the Water Storage Investment Program Groundwater Projects Supplemental Environmental Impact Report (SCH#2022080216)(Subchapter 8.3), July 2024 (DWR Pulse Flow FSEIR)

Project Description

- Chino Basin Watermaster, 2023. 2023 Storage Framework Investigation. https://ceqanet.lci.ca.gov/2020020183/4/Attachment/oTUpcR (Accessed 01/22/26)
- Chino Basin Municipal Water District vs. City of Chino, et al., signed by Judge Howard B. Weiner, Case No. 164327, August 1989. http://www.cbwm.org/docs/WatermasterCourtFilings/2012%20Watermaster%20Restated%20Judgment.pdf (Accessed 01/22/26)
- Chino Basin Watermaster, 2020. *Annual Finding of Substantial Compliance with the Recharge Master Plan.* http://www.cbwm.org/docs/mtgpkgs/2020 Advisory Committee and Board Packages/20201119 Advisory Committee and Watermaster Board Meeting Package.pdf (Accessed 01/22/26)
- IEUA, 2026. Wastewater Discharge Permits. https://www.ieua.org/everything-water/pretreatment-source-control/wastewater-discharge-permits/ (Accessed 01/22/26)

Aesthetics

- California Department of Transportation. 2021. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed 9/30/21)
- City of Chino. 2010. General Plan 2025. http://p1cdn4static.civiclive.com/UserFiles/Servers/Server_10382578/File/City%20Hall/Plans/General/05_Community_Character_Final.pdf (accessed 10/1/21)
- City of Chino Hills. 205. General Plan. https://www.chinohills.org/DocumentCenter/View/11275/General-Plan---Final-approved-by-CC-2-14-15-4-21?bidId= (accessed 9/30/21)

- City of Chino Hills. 2021. Municipal Code. https://library.municode.com/ca/chino_hills/codes/code_of_ordinances?nodeId=TIT16DECO_CH16.08GEDERE (accessed 9/30/21)
- City of Eastvale. 2012. General Plan. https://www.eastvaleca.gov/home/showpublisheddocument/2360/635767198266670000 (accessed 10/1/21)
- City of Fontana. 2018. General Plan. https://www.fontana.org/2632/General-Plan-Update-2015---2035 (accessed 9/30/21)
- City of Jurupa Valley. 2017. General Plan. https://www.jurupavalley.org/DocumentCenter/View/217/2017-Master-General-Plan-PDF (accessed 10/1/21)
- City of Montclair. 1999. General Plan. https://cloud.cityofmontclair.org/main.html?download&weblink=d9839f79a4f97e12ef5124cfc6527d13&realfilename=City$20of$20Montclair$20General$20Plan.pdf accessed 9/30/21)
- City of Ontario. The Ontario Plan Draft Environmental Impact Report. https://www.ontarioplan.org/wp-content/uploads/sites/4/2016/05/31672.pdf (accessed 10/1/21)
- City of Pomona. 2014. General Plan. https://www.pomonaca.gov/home/showpublisheddocument/2402/637521057423830000 (accessed 9/30/21)
- City of Rancho Cucamonga. 2010. General Plan. https://www.cityofrc.us/sites/default/files/2020-12/General%20Plan_4.pdf (accessed 10/1/21)
- City of Rialto. 2010. General Plan. https://www.yourrialto.com/DocumentCenter/View/1494/2010-General-Plan (accessed 10/1/21)
- City of Upland. 2015. General Plan. https://www.uplandca.gov/general-plan-map (accessed 9/30/21)
- City of Upland. 2015. Final Program Environmental Impact Report: General Plan Update, Zoning Code Update, Climate Action Plan, and Cable Airport Land Ise Compatibility Plan Update. https://www.uplandca.gov/uploads/files/DevelopmentServices/Environmental%20Review%20Documents/FINAL%20GENERAL%20PLAN%20EIR%20with%20comments%20COMBINED.pdf (accessed 10/1/21)
- County of Riverside. 2021. General Plan. https://planning.rctlma.org/General-Plan-Zoning/General-Plan (accessed 10/1/21)

Agricultural and Forestry Resources

- California Department of Conservation. Farmland Mapping and Monitoring Program, Division of Land Resource Protection. Available at: https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed on September 29, 2021
- San Bernardino County, *San Bernardino Countywide Plan*, November 2, 2020
- San Bernardino County, *San Bernardino Crop Report,* 2020. Accessed at: http://cms.sbcounty.gov/Portals/13/AWM%20CROP%20REPORT%202020%20080521.pdf?ver=2021-08-05-160649-640
- Final Program Environmental Impact Report for the Optimum Basin Management Program (SCH#200041047), July 2000 prepared by Tom Dodson & Associates (2000 OBMP PEIR)

Air Quality

- CARB. 2021. “Air Quality Standards.” https://ww2.arb.ca.gov/resources/background-air-quality-standards (accessed September 2021).
- CARB. 2021. “iADAM Air Quality Data Statistics.” https://www.arb.ca.gov/adam (accessed October 2021).
- CARB. 2021. “Inhalable Particulate Matter and Health (PM2.5 and PM10). https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed September 2021).

- CARB. 2021. "National Ambient Air Quality Standards." https://ww2.arb.ca.gov/resources/national-ambient-air-quality-standards (accessed September 2021).
- CARB. 2021. "Overview: Diesel Exhaust & Health." https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health (accessed September 2021).
- CARB. 2021. "Summaries of Historical Area Designations for State Standards." https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations/summary-tables (accessed October 2021).
- CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. https://www.arb.ca.gov/ch/handbook.pdf (accessed October 2021).
- National Highway Traffic Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed September 2021).
- SCAQMD. 2021. "Frequently Asked Questions: What is CalEEMod and what is it used for?" http://www.aqmd.gov/home/rules-compliance/ceqa/air-qualityanalysis-handbook/frequently-asked-questions (accessed October 2021).
- SCAQMD. 2020. "2019 Annual Report on AB 2588 Air Toxics "Hot Spots" Program." October. http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588_annual_report_2019.pdf?sfvrsn=30 (accessed October 2021).
- SCAQMD. 2019. "South Coast AQMD Air Quality Significance Thresholds." Last modified: April 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed October 2021).
- SCAQMD. 2018-2020. "Air Quality Data Tables." https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year (accessed October 2021).
- SCAQMD. 2017. Final 2016 Air Quality Management Plan (AQMP). March 3, 2017. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp (accessed October 2021).
- SCAQMD. 2008. Final Localized Significance Threshold Methodology. July 2008. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf (accessed September 2021).
- SCAQMD. 2005. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. May 6, 2005. http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf (accessed September 2021).
- SCAQMD. 1993. CEQA Air Quality Handbook. November 1993.
- U.S. EPA. 2021. "Criteria Air Pollutants." Last modified: August 16, 2021. https://www.epa.gov/criteria-air-pollutants (accessed September 2021).
- U.S. EPA. 2021. "NAAQS Table." February 10, 2021. https://www.epa.gov/criteria-air-pollutants/naaqs-table (accessed September 2021).
- U.S. EPA. 2020. "Process of Reviewing the National Ambient Air Quality Standards." Last modified: September 1, 2020. https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards (accessed September 2021).
- U.S. EPA. 2013. Policy Assessment for the Review of the Lead National Ambient Air Quality Standards, External Review Draft. https://www3.epa.gov/ttn/naaqs/standards/pb/data/010913_pb-draft-pa.pdf (accessed May 2021).
- Brief for San Joaquin Valley Unified Air Pollution Control District as Amicus Curiae Supporting Respondents, Sierra Club, Revive the San Joaquin, and League of Women Voters Fresno v. County of Fresno and Friant Ranch, L.P. (2018), 6 Cal.5th 502, Case No. S219783.

Biological Resources

- Jacobs Engineering Group, *Program Biological Resources Report, Optimum Basin Management Program Update for the Chino Basin Watermaster and Inland Empire Utilities Agency*, March 15, 2020
- San Bernardino Valley Municipal Water District, *Upper Santa Ana River Habitat Conservation Plan Draft Environmental Impact Report,* May 2021

- San Bernardino Valley Municipal Water District, *Upper Santa Ana River Habitat Conservation Plan,* May 2021
- San Bernardino General Plan Biological Resources Report, 2007

Cultural Resources

Bean, Lowell John, and Charles R. Smith
1978a Gabrielino. In Robert F. Heizer (ed.): *Handbook of North American Indians*, Vol. 8: *California*; pp. 538-549. Smithsonian Institution, Washington, D.C.
1978b Serrano. In Robert F. Heizer (ed.): *Handbook of North American Indians*, Vol. 8: *California*; pp. 570-574. Smithsonian Institution, Washington, D.C.
Beck, Warren A., and Ynez D. Haase
1974 *Historical Atlas of California*. University of Oklahoma Press, Norman.
Bortugno, E.J., and T.E. Spittler
1986 San Bernardino Quadrangle (1:250,000). California Regional Map Series, Map 3A. California Division of Mines and Geology, Sacramento.
Brown, James T.
1985 *Harvest of the Sun: An Illustrated History of Riverside County*. Windsor Publications, Northridge, California.
Brown, John, Jr., and James Boyd
1922 *History of San Bernardino and Riverside Counties, with Selected Biography of Actors and Witnesses of the Period of Growth and Achievement*. The Lewis Publishing Company, Chicago, Illinois.
Chartkoff, Joseph L., and Kerry Kona Chartkoff
1984 *The Archaeology of California*. Stanford University Press, Stanford, California. Bean, Lowell John, and Charles R. Smith
Clarke, Anthony Orr
1978-1979 Quaternary Evolution of the San Bernardino Valley. *Quarterly of the San Bernardino County Museum Association* XXVI (2/3), Winter 1978/Spring 1979, Redlands, California.
Encarnación, Deirdre, Thomas Melzer, and Laura H. Shaker
2006 Identification and Evaluation of Historic Properties: 1158 Zone Pipeline Project, City of Rancho Cucamonga, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.
Google Earth
2002-2012 Aerial photographs of the project vicinity; taken in 2002-2007, 2009, 2011, and 2012. Available through the Google Earth software.
Hall, William Hammond
1888 *Irrigation in California (Southern): The Field, Water-Supply, and Works, Organization and Operation in San Diego, San Bernardino, and Los Angeles Counties.* California State Printing Office, Sacramento.
Harms, Nancy S.
1996 *A Precollegate Teachers Guide to California Geomorphic/Physiographic Provinces*. Far West Section, National Association of Geoscience Teachers, Concord, California.
IEUA (Inland Empire Utilities Agency)
n.d. Regional Water Recycling Plant No. 4. https://www.ieua.org/facilities/regional-water-recycling-plant-no-4/.
Ingersoll, Luther A.
1904 *Ingersoll's Century Annals of San Bernardino County, 1769-1904*. L.A. Ingersoll, Los Angeles.
Jahns, Richard H.
1954 Generalized Geologic Map of the Peninsular Range Province, Southern California. In Richard H. Jahns (ed.): *Geology of Southern California*. California Division of Mines Bulletin 170; Chapter II, pp. 29-52. San Francisco.
Jenkins, Olaf P.

1980 Geomorphic Provinces Map of California. *California Geology* 32(2):40-41. California Division of Mines and Geology, Sacramento.

Knecht, Arnold A.
1971 *Soil Survey of Western Riverside Area, California*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington, D.C.

McCawley, William
1996 *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press/ Ballena Press, Banning/Novato, California.

Miller, Bruce W.
1991 *The Gabrielino*. Sand River Press, Los Osos, California.

Moratto, Michael J. (ed.)
1984 *California Archaeology*. Academic Press, Orlando, Florida.

Morton, Douglas M., and Fred K. Miller
2003 Preliminary Digital Geologic Map of the San Bernardino and Santa Ana 30'x60' Quadrangles, California (1:100,000). U.S. Geological Survey Open-File Report 03-293. Washington, D.C.

NCRS (Natural Resources Conservation Service, U.S. Department of Agriculture)
n.d. Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/.

NETR (Nationwide Environmental Title Research) Online
1938-2002 Aerial photographs of the project vicinity; taken in 1938, 1948, 1959, 1966, 1994, and 2002. http://www.historicaerials.com.

NPS (National Park Service, U.S. Department of the Interior)
1997 *How to Apply the National Register Criteria for Evaluation*; revised edition. National Register Bulletin No. 15.

OHP (Office of Historic Preservation, State of California)
1990 *California Historical Landmarks*. California Department of Parks and Recreation.

Raup, David M., and Steven M. Stanley
1978 *Principles of Paleontology*. W.H. Freeman and Company, San Francisco.

Rogers, Thomas H.
1965 Geological Map of California, Santa Ana Sheet (1:250,000). California Division of Mines and Geology, Sacramento.

Schuiling, Walter C.
1984 *San Bernardino County: Land of Contrasts*. Windsor Publications, Woodland Hills, California.

Scott, Eric, and Kathleen B. Springer
2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.

Society of Vertebrate Paleontology
2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf

Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, California, 1972.

Tang, Bai, and Josh Smallwood
2002 Identification and Evaluation of Historic Properties: Recycled Water Facilities Improvement Project, Regional Plants No. 1 and No. 4, Cities of Ontario and Rancho Cucamonga, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Wallace, William J.

1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Archaeology* 11(3):214-230.

1978 Post-Pleistocene Archeology, 9,000 to 2,000 BC. In Robert F. Heizer (ed.): *Handbook of North American Indians*; Vol. 8, *California*; pp. 25-36. Smithsonian Institution, Washington, D.C.

Warren, Claude N.

1968 Cultural Traditions and Ecological Adaptations on the Southern California Coast. In Cynthia Irwin-Williams (ed.): *Archaic Prehistory in Western United States*; pp. 1-14. Eastern New Mexico University Contributions in Anthropology 1(3). Portales, New Mexico.

1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.

Warren, Claude N., and Robert H. Crabtree

1986 Prehistory of the Southwestern Area. In Warren L. D'Azevedo (ed.): *Handbook of North American Indians*, Vol. 11: *Great Basin*; pp. 183-193. Smithsonian Institution, Washington, D.C.

Woodruff, George A., and Willie Z. Brock

1980 *Soil Survey of San Bernardino County, Southwest Part, California*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Historic Map, Aerial Photograph, and Record Collections:

- California Historic Resources Information System: reports and site records pertaining to the Chino Basin area; available at Eastern Information Center, University of California, Riverside, and South Central Coastal Information Center, California State University, Fullerton.
- General Land Office, U.S. Department of the Interior: land survey plat maps, 1850s-1910s; available at U.S. Bureau of Land Management, California Desert District, Moreno Valley.
- Google Earth: historic aerial photograph collection, 1984-2016; available through the Google Earth software.
- Nationwide Environmental Title Research Online: historic aerial photograph collection, 1938-2016; available at https://www.historicaerials.com.
- Natural History Museum of Los Angeles County, Vertebrate Paleontology Section: paleontology collection records; available at the museum, Los Angeles.
- San Bernardino County Museum, Division of Earth Sciences: Regional Paleontological Localities Inventory; available at the museum, Redlands.
- United States Geological Survey, U.S. Department of the Interior: topographic maps, various quadrangles (30', 15', and 7.5'), 1901-1996; available at Science Library, University of California, Riverside.

Energy

- California Air Pollution Control Officers Association. 2021. California Emissions Estimator Model User's Guide version 2020.4.0. May 2021.
- California Air Resources Board. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011.
- California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. November 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed October 2021).
- Carpinteria Valley Water District. 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.
- California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2020. 2019 Report of California Oil and Gas Production Statistics. October 2020. https://www.conservation.ca.gov/calgem/pubs_stats/annual_reports/Pages/annual_reports.aspx (accessed October 2021).

- California Department of Conservation Division of Oil, Gas, and Geothermal Resources. 2021. Division of Oil, Gas & Geothermal Resources – Well Finder. https://maps.conservation.ca.gov/doggr/wellfinder/ (accessed September 2021).
- California Department of Finance. 2021. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark." http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/ (accessed October 2021).
- California Energy Commission. 2003. Reducing California's Petroleum Dependence. Joint Agency Report with California Air Resources Board. https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf (accessed October 2021).
- California Energy Commission. 2007. State Alternative Fuels Plan.
- California Energy Commission. 2012. 2012 Bioenergy Action Plan. Prepared by the Bioenergy Interagency Working Group. http://resources.ca.gov/docs/energy_and_climate_change/2012_Bioenergy_Action_Plan.pdf (accessed October 2021).
- California Energy Commission. 2018. "Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation." May 9, 2018. https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first (accessed October 2021).
- California Energy Commission. 2019. 2019 California Energy Efficiency Action Plan. November 2019. https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings (accessed October 2021).
- California Energy Commission. 2020. Final 2019 Integrated Energy Policy Report. February 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report (accessed October 2021).
- California Energy Commission. 2020. "California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets." Last modified: August 31, 2020. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting (accessed October 2021).
- California Energy Commission. 2021. "Oil Supply Sources to California Refineries." http://www.energy.ca.gov/almanac/petroleum_data/statistics/crude_oil_receipts.html (accessed September 2021).
- California Energy Commission. 2021. "Electric Generation Capacity & Energy." https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy (accessed October 2021).
- CEC California Energy Commission 2021. "Supply and Demand of Natural Gas in California." https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed October 2021).
- California Energy Commission. 2021. "California Energy Consumption Database." http://ecdms.energy.ca.gov/ (accessed October 2021).
- California Gas and Electric Utilities. 2020. *2020 California Gas Report*. https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf (accessed October 2021).
- California Public Utilities Commission. 2008. 2008 Update to the Energy Action Plan. https://www.cpuc.ca.gov/industries-and-topics/natural-gas/energy-action-plans (accessed October 2021).
- California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
- GasBuddy. 2021. "Gas Price Map." www.gasbuddy.com (accessed September 2021).

- Inland Empire Utilities Agency. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).
- National Highway Traffic and Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed October 2021).
- Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
- Southern California Edison. 2021. "Our Service Territory." https://www.sce.com/about-us/who-we-are/leadership/our-service-territory (accessed October 2021).
- Southern California Edison. 2021. "Who We Are." https://www.sce.com/about-us/who-we-are (accessed October 2021).
- Southern California Gas Company. 2013. "Southern California Gas Company's Service Territory." December 2013. https://www.socalgas.com/documents/news-room/fact-sheets/ServiceTerritory.pdf (accessed October 2021).
- Southern California Gas Company. 2021. "Company Profile." https://www.socalgas.com/about-us/company-profile (accessed October 2021).
- Southern California Gas Company. 2021. "Gas Transmission Pipeline Interactive Map." https://www.socalgas.com/stay-safe/pipeline-and-storage-safety/natural-gas-pipeline-map (accessed October 2021).
- United States Department of Energy. 2021. "Alternative Fuels Data Center." https://afdc.energy.gov/stations/#/find/nearest (accessed October 2021).
- United States Department of Transportation. 2014. "Corporate Average Fuel Economy (CAFE) Standards." Last modified: August 11, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (accessed October 2021).
- United States Energy Information Administration. 2021. "Petroleum & Other Liquids, California Field Production of Crude Oil." https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA1&f=M (accessed September 2021).
- United States Energy Information Administration. 2021. "U.S. Energy Mapping System." https://www.eia.gov/state/maps.php (accessed September 2021).
- United States Energy Information Administration. 2021. "Glossary." https://www.eia.gov/tools/glossary/ (accessed October 2021).
- United States Energy Information Administration. 2021. Table P2. Primary Energy Production Estimates in Trillion Btu, 2018. Last modified: June 25, 2021. https://www.eia.gov/state/seds/sep_prod/pdf/P2.pdf (accessed October 2021).
- United States Environmental Protection Agency. 2019. "Trump Administration Announces One National Program Rule on Federal Preemption of State Fuel Economy Standards." https://www.epa.gov/newsreleases/trump-administration-announces-one-national-program-rule-federal-preemption-state-fuel (accessed September 2021).
- United States Environmental Protection Agency. 2021. "History." https://www.energystar.gov/about/history-0 (accessed October 2021).

Geology and Soils

- IEUA, *Facilities Master Plan Final Environmental Impact Report* (SCH#2016061064), February 2017 prepared by ESA (2017 FMP EIR)
- IEUA, *Final Program Environmental Impact Report for the Optimum Basin Management Program* (SCH#200041047), July 2000 prepared by Tom Dodson & Associates (2000 OBMP PEIR)
- San Bernardino County, *San Bernardino Countywide Plan*, November 2, 2020
- SARWQCB, 2016. San Bernardino County Municipal NPDES Storm Water Permit. Available at: www.waterboards.ca.gov/santaana/water_issues/programs/stormwater/san_bernardino_permit.shtml. Accessed August 16, 2016

- West Yost. *Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program.* October 15, 2021 (Appendix 4, Volume 2 to this DPEIR)

Greenhouse Gas

- California Air Pollution Control Officers Association. 2010. "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." August. https://www.aqmd.gov/docs/default-source/ceqa/handbook/mitigation-measures-and-control-efficiencies/quantifying-greenhouse-gas-mitigation-measures.pdf?sfvrsn=0 (accessed October 2021).
- California Air Pollution Control Officers Association. 2021. California Emissions Estimator Model User's Guide version 2020.4.0. May 2021.
- California Air Resources Board. 2008. Climate Change Scoping Plan. Sacramento, CA. December 2008. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents (accessed September 2021).
- California Air Resources Board. 2011. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles. December 7, 2011. http://www.arb.ca.gov/regact/2012/leviiighg2012/levisor.pdf (accessed September 2021).
- California Air Resources Board. 2014. AB 32 Scoping Plan Website. Updated June 2014. http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm (accessed September 2021).
- California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. December 14, 2017. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed September 2021).
- California Air Resources Board. 2020. EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule. June 26, 2020. https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery (accessed September 2021).
- California Air Resources Board. 2021. "California Greenhouse Gas Emissions for 2000 to 2019 Trends of Emissions and Other Indicators." https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (accessed September 2021).
- California Department of Food and Agriculture. 2021. "California Agricultural Statistics Review 2019-2020." https://www.cdfa.ca.gov/statistics/ (accessed September 2021).
- California Department of Water Resources. 2018. Indicators of Climate Change in California. May 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf (accessed September 2021).
- California Department of Water Resources. 2020. "Climate Action Plan." https://water.ca.gov/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan (accessed October 2021).
- California Public Utilities Commission. 2020. "2020 California Renewables Portfolio Standard: Annual Report." November. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2020-rps-annual-report.pdf (accessed October 2021).
- California Climate Change Center. 2006. Climate Scenarios for California.
- California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. March 2009. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf (accessed September 2021).
- Carpinteria Valley Water District (CVWD). 2019. "Carpinteria Advanced Purification Project Environmental Impact Report." July.

- Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland. 2007. Changes in Atmospheric Constituents and in Radiative Forcing. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf (accessed September 2021).
- Inland Empire Utilities Agency. 2019. *Climate Change Action Plan.* https://18x37n2ovtbb3434n48jhbs1-wpengine.netdna-ssl.com/wp-content/uploads/2019/01/2019-IEUA-Climate-Change-Action-Plan-with-Appendices.pdf (accessed October 2021).
- Intergovernmental Panel on Climate Change. 2007. Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change
- Intergovernmental Panel on Climate Change. 2014. Climate Change 2014: Mitigation of Climate Change. Summary for Policymakers - Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Intergovernmental Panel on Climate Change. 2018. Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. https://www.ipcc.ch/sr15/ (accessed September 2021).
- Intergovernmental Panel on Climate Change. 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)] Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf (accessed September 2021).
- National Aeronautics and Space Administration. 2021. "Global Climate Change – Vital Signs of the Planet – Sea Level." https://climate.nasa.gov/vital-signs/sea-level/ (accessed September 2021).
- National Highway Traffic Safety Administration. 2020. "Fact Sheet: SAFE Vehicles Rule." https://www.nhtsa.gov/corporate-average-fuel-economy/safe-fact-sheet (accessed September 2021).
- National Oceanic and Atmospheric Administration. 2021. "Global Climate Report for Annual 2020." State of the Climate. January 2021. https://www.ncdc.noaa.gov/sotc/global/202013 (accessed September 2021).
- Parmesan, C. August 2006. Ecological and Evolutionary Responses to Recent Climate Change.
- Sanchez, Carolina, electronic communication. 2020. "Energy information for Aquifer Storage and Recovery wells." January 10.
- South Coast Air Quality Management District. 2008. "Board Meeting Agenda No. 31: Interim CEQA Greenhouse Gas (GHG) Significance Threshold." October. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2 (accessed September 2021).
- South Coast Air Quality Management District. 2021. "Frequently Asked Questions: What is CalEEMod and what is it used for?" http://www.aqmd.gov/home/rules-compliance/ceqa/air-qualityanalysis-handbook/frequently-asked-questions (accessed October 2021
- State of California. 2018. California's Fourth Climate Change Assessment Statewide Summary Report. August 27, 2018. http://www.climateassessment.ca.gov/state/ (accessed September 2021).

- United States Energy Information Administration. 2021. "California State Energy Profile." February 18, 2021. https://www.eia.gov/state/print.php?sid=CA (accessed October 2021).
- United States Environmental Protection Agency. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. April 2021. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed September 2021).
- Verma, Ram, electronic communication. 2016. "GHG for SWP." May 13.
- World Meteorological Organization. 2013. A summary of current and climate change findings and figures: a WMO information note. March 2013. https://library.wmo.int/opac/index.php?lvl=notice_display&id=15892#.Wt9-Z8gvzIU (accessed September 2021).
  World Meteorological Organization. 2020. "Greenhouse Gases." https://public.wmo.int/en/our-mandate/focus-areas/environment/greenhouse%20gases (accessed September 2021).

Hazards and Hazardous Waste

- IEUA, 2016. *IEUA Facilities Master Plan Final Environmental Impact Report (SCH #2016061064)*, February 2017 prepared by ESA (2017 FMP EIR)
- DTSC, 2021. EnviroStor Database, County of San Bernardino search, Available at http://www.envirostor.dtsc.ca.gov/public/ Accessed on September 24, 2021.
- SWQCB, 2021. GeoTracker Map, San Bernardino County search, Available at: http://geotracker.waterboards.ca.gov/. Accessed on September 24, 2021
- Toll Free Airline, 2021. San Bernardino County Public and Private Airports. Available at http://www.tollfreeairline.com/california/sanbernardino.htm. Accessed on September 24, 2021.

Hydrology and Water Quality

- California Regional Water Quality Control Board, Santa Ana Region. (2008). Water Quality Control Plan Santa Ana River Basin (Region 8) 1995. Updated February 2008.
- FEMA, Map Service Center, Accessed 10/6/21 at: https://msc.fema.gov/portal/home
- Pollock, D. (2016). *User guide for MODPATH Version 7—A particle-tracking model for MODFLOW: U.S. Geological Survey Open-File Report 2016-1086*.
- San Bernardino County, *San Bernardino Countywide Plan*, November 2, 2020
- Santa Ana River Watermaster. (2020). Forty Seventh Annual Report of the Santa Ana River Watermaster for Water Year October 1, 2018 – September 30, 2019. Prepared for Orange County Water District v. City of Chino, et al. Case No. 117628 – County of Orange
- Tom Dodson & Associates (TDA), *Optimum Basin Management Program Addendum No. 2*, March 2021. Prepared on behalf of Watermaster and IEUA. Accessible at: https://cbwm.syncedtool.com/shares/folder/9abb162877b999/?folder_id=1055
- West Yost. *2020 State of the Basin Report*. June 2021. (Appendix 10a, Volume 2 to this DPEIR)
- West Yost. *Technical Memorandum: Evaluation of the Chino Basin Program/Water Storage Investment Program.* October 15, 2021 (Appendix 4, Volume 2 to this DPEIR)
- West Yost. *2020 Chino Basin Maximum Benefit Annual Report*. April 2021. (Appendix 10b, Volume 2 to this DPEIR)
- Wildermuth Environmental, Inc., 1999. *Optimum Basin Management Program Phase I Report. Prepared for the Chino Basin Watermaster.*
- Wildermuth Environmental, Inc. 2003. *Optimum Basin Management Program, Chino Basin Dry-Year Yield Program, Preliminary Modeling Report, Chino Basin Watermaster.* July 2003.
- Wildermuth Environmental, Inc. 2007. *2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description*. Prepared for the Chino Basin Watermaster. November 2007.
- Wildermuth Environmental, Inc. 2013. *Optimum Basin Management Program 2012 State of the Basin Atlas*. Prepared for the Chino Basin Watermaster. June 2013.
- Wildermuth Environmental, Inc. 2014. *TIN/TDS: Recomputation of Ambient Water Quality in the Santa Ana Watershed for the Period 1993 to 2012*. Technical Memorandum. August 2014.
- Wildermuth Environmental, Inc. 2015. *Optimum Basin Management Program Chino Basin Maximum Benefit Annual Report*. Prepared for Chino Basin Watermaster April 2015.

- Wildermuth Environmental, Inc. 2018. 2018 Recharge Master Plan Update. Prepared for Chino Basin Watermaster and the Inland Empire Utilities Authority. September 2018.
- Wildermuth Environmental, Inc. 2020. *2020 Safe Yield Recalculation Report*. Prepared for the Chino Basin Watermaster. May 2020.

Land Use and Planning

- City of Chino. 2010. General Plan 2025, Land Use Element. http://p1cdn4static.civiclive.com/UserFiles/Servers/Server_10382578/File/City%20Hall/Plans/General/NEW%204%20Land%20Use%20GP%20Update%202013.pdf (accessed 9/29/21)
- City of Chino Hills. 2015 General Plan, Land Use Element. https://www.chinohills.org/DocumentCenter/View/11275/General-Plan---Final-approved-by-CC-2-14-15-4-21?bidId= (accessed 9/29/21)
- City of Chino Hills. 2021. A Great Place to Be! https://www.chinohills.org/93/A-Great-Place-To-Be (accessed 9/29/21).
- City of Chino Hills. 2021. History. https://www.chinohills.org/95/History (accessed 9/29/21).
- City of Eastvale. 2012. General Plan, Land Use Element. https://www.eastvaleca.gov/home/showpublisheddocument/2360/635767198266670000 (accessed 9/29/21)
- City of Fontana. 2018. General Plan, Land Use, Zoning, and Urban Design Element. https://www.fontana.org/DocumentCenter/View/26754/Chapter-15---Land-Use-Zoning-and-Urban-Design (accessed 9/29/21)
- City of Fontana. 2021. About the City of Fontana. https://www.fontana.org/31/About-Us (accessed 9/29/21)
- City of Jurupa Valley. 2017. 2017 General Plan, Land Use Element. https://www.jurupavalley.org/DocumentCenter/View/217/2017-Master-General-Plan-PDF (accessed 9/29/21)
- City of Montclair. 1999. General Plan. file:///C:/Users/nwest/Downloads/City%20of%20Montclair%20General%20Plan%20(3).pdf (accessed 9/29/21)
- City of Montclair. 2021. About Montclair, CA. https://www.cityofmontclair.org/about/ (accessed 9/29/21)
- City of Ontario. 2021. The Ontario Plan: A Framework for the Future. https://www.ontarioplan.org/wp-content/uploads/sites/4/2021/04/LU-03-Future-Buildout-for-PGPA18-003_RM.pdf (accessed 9/29/21)
- City of Ontario. 2021. Facts & History. https://www.ontarioca.gov/FactsAndHistory (accessed 9/29/21)
- City of Pomona. 2014. Pomona General Plan, Land Use & Density. https://www.pomonaca.gov/home/showpublisheddocument/2402/637521057423830000 (accessed 9/2921)
- City of Rancho Cucamonga. 2010. General Plan. https://www.cityofrc.us/sites/default/files/2020-12/General%20Plan_4.pdf (accessed 9/29/21)
- City of Rialto. 2010. General Plan Environmental Impact Report. https://www.cityofrc.us/sites/default/files/2021-04/Draft%20General%20Plan%20EIR.pdf (accessed 9/29/21)
- City of Rialto. 2010. General Plan. https://www.yourrialto.com/DocumentCenter/View/1494/2010-General-Plan (accessed 9/29/21)
- City of Upland. 2015. Final Program Environmental Impact Report, General Plan Update, Zoning Code Update, Climate Action Plan, and Cable Airport Land Use Compatibility Plan Update. https://www.uplandca.gov/uploads/files/DevelopmentServices/Environmental%20Review%20Documents/FINAL%20GENERAL%20PLAN%20EIR%20with%20comments%20COMBINED.pdf (accessed 9/29/21)
- City of Upland. 2015. General Plan. https://www.uplandca.gov/uploads/ftp/City_departments/development_services/planning/general_plan_map/pdfs/00_Introduction.pdf (accessed 9/29/21)

- County of San Bernardino. 2019. San Bernardino Countywide Plan for County of San Bernardino, Draft Environmental Impact Report. June. http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-10-LU.pdf (accessed 9/29/21)
- County of Riverside. 2021. County of Riverside General Plan, Land Use Element. June. https://planning.rctlma.org/Portals/14/genplan/2021/Ch03_Land%20Use_06.29.21.pdf (accessed 9/29/21)

Mineral Resources

- California Department of Conservation, Division of Mine Reclamation. 2021. Mines Online. https://maps.conservation.ca.gov/mol/Index.html (access 9/22/21)
- City of Chino. 2010. General Plan 2025. July. http://p1cdn4static.civiclive.com/UserFiles/Servers/Server_10382578/File/City%20Hall/Plans/General/NEW%209%20Open%20Space%20&%20Conservation%20GP%20Update%202013.pdf (accessed 9/21/21)
- City of Montclair. 1999. General Plan. https://www.cityofmontclair.org/general-and-specific-plans/ (accessed 9/21/21)
- City of Pomona. 2014. City of Pomona General Plan Update, Corridors Specific Plan, Active Transportation Plan, and Green Plan Final Environmental Impact Report. March. https://www.pomonaca.gov/home/showpublisheddocument/2869/637539009362330000 (accessed 9/21/21)
- County of Los Angeles. 2015. General Plan. October. https://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-6_mineral_resources.pdf (accessed 9/21/21)
- County of Riverside. Riverside County General Plan. 2015. General Plan. December. https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833 (accessed 9/21/21)
- County of San Bernardino. 2019. San Bernardino Countywide Plan Draft PEIR. June. http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-11-MIN.pdf (accessed 9/21/21)

Noise

- California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. (CT-HWANP-RT-13-069.25.2) September. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf (accessed August 2021).
- California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). September. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed August 2021).
- California Office of Planning and Research. 2017. State of California 2017 General Plan Guidelines – Appendix D: Noise Element Guidelines. July 2017. https://opr.ca.gov/docs/OPR_Appendix_D_final.pdf (accessed September 2021).
- Chino Hills, City of. 2015. City of Chino Hills General Plan. February 24, 2015. https://www.chinohills.org/DocumentCenter/View/11275/General-Plan---Final-approved-by-CC-2-14-15-4-21?bidId= (accessed September 2021).
- Crocker, Malcolm J. Crocker (Editor). 2007. Handbook of Noise and Vibration Control Book, ISBN: 978-0-471-39599-7, Wiley-VCH, October.
- Federal Highway Administration. 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/ (accessed August 2021).
- Federal Highway Administration. 2011. Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025). https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf (accessed October 2021).

- Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed October 2021).
- Kinsler, Lawrence E. and R. Frey, Austin and B. Coppens, Alan and V. Sanders, James. 1999. Fundamentals of Acoustics, 4th Edition. ISBN 0-471-84789-5. Wiley-VCH, December 1999.
- Montclair Municipal Code Sections 6.12.040 and Montclair Municipal Code Section 6.12.050
- Ontario, City of. 2011. Ontario International Airport Land Use Compatibility Plan.
- Ontario Municipal Code Section 5-29.04(a)
- Pomona Municipal Code Section 18-3111
- Rancho Cucamonga Municipal Code Tables 17.66.050-1 and 17.66.110-1
- Rialto Municipal Code Sections 9.50.070(B)(1) and 9.50.070(B)(2)
- Upland Municipal Code Sections 9.40.040 and 9.40.070

Population and Housing

- County of Riverside, Economic Development Agency. 2021. Demographics: Riverside County, California. https://www.rivcoeda.org/Portals/0/BRG-PDFs/2.%20Demographics.pdf (accessed 9/28/21)
- Southern California Association of Governments. 2020. Current Context: Demographics and Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf (accessed 9/28/21).
- Southern California Association of Governments. SCAG Local Profiles. 2019. https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx
- State of California, Employment Development Department. 2021. Riverside-San Bernardino-Ontario Metropolitan Statistical Area (MSA) (Riverside and San Bernardino Counties) https://www.labormarketinfo.edd.ca.gov/file/lfmonth/rive$pds.pdf (accessed 9/28/21)
- Statistic Atlas. 2021. Population of San Bernardino, San Bernardino County, California. https://statisticalatlas.com/county-subdivision/California/San-Bernardino-County/San-Bernardino/Population#data-map/tract (accessed 9/28/21)
- Statistic Atlas. 2021. Population of Jurupa, Riverside County, California. https://statisticalatlas.com/county-subdivision/California/Riverside-County/Jurupa/Population#figure/county-subdivision-in-riverside-area (accessed 9/28/21)
- United States Census Bureau. 2021. QuickFacts: San Bernardino County, California. https://www.census.gov/quickfacts/fact/table/sanbernardinocountycalifornia/AFN120212?sec_ak_reference=18.0bdcf180.1592124716.bd616 (accessed 9/28/21)

Public Services

- California Highway Patrol. 2021. (818) Inland Communications Center. https://www.chp.ca.gov/find-an-office/inland-division/offices/(818)-inland-empire-communications-center (accessed 9/23/21)
- California Highway Patrol. 2021. (855) Rancho Cucamonga. https://www.chp.ca.gov/Find-an-Office/Inland-Division/Offices/(855)-Rancho-Cucamonga (accessed 9/23/21)
- California Highway Patrol. 2021. (860) San Bernardino. https://www.chp.ca.gov/Find-an-Office/Inland-Division/Offices/(860)-San-Bernardino (accessed 9/23/21)
- California Highway Patrol. 2021. Southern Division. https://www.chp.ca.gov/find-an-office/southern-division (accessed 9/23/21)
- CAL FIRE. 2021. Fire Protection. https://www.fire.ca.gov/programs/fire-protection/ (accessed 9/23/21)
- CAL FIRE 2021. Cooperative Efforts. https://www.fire.ca.gov/programs/fire-protection/cooperative-efforts/ (accessed 9/23/21)
- City of Chino Police Department. 2021. Our Operations. https://www.cityofchino.org/cms/One.aspx?portalId=10382662&pageId=11471237 (accessed 9/23/21)
- City of Chino Hills. 2021. Chino Hills Station. https://www.chinohills.org/163/Chino-Hills-Station (accessed 9/23/21)

- City of Eastvale. 2021. Fire Services. https://www.eastvaleca.gov/government/fire-services (accessed 9/23/21)
- City of Fontana. 2021. About the Fontana Fire District. https://www.fontana.org/635/About-the-Fontana-Fire-District (accessed 9/23/21)
- City of Fontana. 2021. Stations & Equipment. https://www.fontana.org/639/Stations-Equipment (accessed 9/23/21)
- City of Fontana. 2021. About Us. https://www.fontana.org/2509/About-Us (accessed 9/23/21)
- City of Fontana. 2021. Patrol Unit. https://www.fontana.org/206/Patrol-Unit (accessed 9/23/21)
- City of Jurupa Valley. 2021. Cal Fire. https://www.jurupavalley.org/212/Cal-Fire (accessed 9/23/21)
- City of Montclair. 2021. Fire Department. https://www.cityofmontclair.org/departments/fire-department/ (accessed 9/23/21)
- City of Montclair. 2021. Montclair Fire Department History. https://www.cityofmontclair.org/montclair-fire-department-history/ (accessed 9/23/21)
- City of Montclair. 2021. Police Department. https://www.cityofmontclair.org/departments/police-department/ (accessed 9/23/21)
- City of Ontario. 2021. Fire Stations. https://www.ontarioca.gov/Fire/FireStations (accessed 9/23/21)
- City of Ontario. 2021. Fire Department. http://www.ontarioca.gov/fire (accessed 9/23/21)
- City of Ontario. 2021. Police. https://www.ontarioca.gov/Police (accessed 9/23/21)
- City of Pomona. 2021. Fire Department. https://www.pomonaca.gov/government/departments/fire-department?locale=en (accessed 9/23/21)
- City of Pomona. 2021. Police Department. https://www.ci.pomona.ca.us/index.php/government/City-departments/police-department (accessed 9/23/21)
- City of Pomona. Operations Division. 2021. https://www.pomonaca.gov/government/departments/police-department/operations-division (accessed 9/23/21)
- City of Rancho Cucamonga. 2021. Rancho Cucamonga Fire Protection District. https://www.cityofrc.us/sites/default/files/2021-02/Station%20Locations%202021_0.pdf (accessed 9/23/21)
- City of Rancho Cucamonga. 2021. About the Rancho Cucamonga Fire District. https://www.cityofrc.us/news/about-rancho-cucamonga-fire-district (accessed 9/23/21)
- City of Rancho Cucamonga. Fire District - Our History. https://www.cityofrc.us/sites/default/files/2020-10/Our%20History.pdf (accessed 9/23/21)
- City of Rialto. 2021. Facilities. https://www.yourrialto.com/Facilities?clear=False (accessed 9/23/21)
- City of Rialto. 2021. Fire Department. https://www.yourrialto.com/233/Fire-Department (accessed 9/23/21)
- City of Upland. 2021. Police Department. https://www.uplandca.gov/police (accessed 9/23/21)
- City of Upland. 2021. Patrol. https://www.uplandca.gov/patrol (accessed 9/23/21)
- Chino Valley Fire District. 2020. Annual Report 2020 https://www.chinovalleyfire.org/DocumentCenter/View/1526/Annual-Report-2020 (accessed 9/23/21)
- CONFIRE. 2021. CONFIRE- Who We Are, What We Do. https://www.confire.org/about-us (accessed 9/23/21)
- County of Los Angeles Fire Department. 2020. 2020 Statistical Summary. https://fire.lacounty.gov/wp-content/uploads/2021/06/2020-Statistical-Summary-FINAL-DRAFT.pdf (accessed 9/23/21)
- Education Data Partnership. 2021. District Summary. http://www.ed-data.org/ (accessed 9/23/21)
- Rialto Police Department. 2021. Our Department. https://rialtopolice.com/our-department (accessed 9/23/21)

- Riverside County Fire Department. 2021. Riverside County Fire Department News. http://www.rvcfire.org/Pages/default.aspx (accessed 9/23/21)
- Riverside County Sheriff's Department. https://www.riversidesheriff.org/27/About-Us
- San Bernardino County Fire Protection District. 2021. About the San Bernardino County Fire Protection District. https://sbcfire.org/about/ (accessed 9/23/21)
- San Bernardino County Fire Protection District. 2021. San Bernardino County Fire Statistics (FY 2020-21). https://sbcfire.org/statistics-fy-2020-21/#district-facts-anchor (accessed 9/23/21)
- San Bernardino County Fire Protection District. 2021. Service Zone FP-5. https://sbcfire.org/fp5/ (accessed 9/23/21)
- San Bernardino County Fire Chiefs' Association. 2014. http://www.sbcounty.gov/Uploads/SBCFire/content/pdf/Mutual-Aid-Manual-with-Zone11.pdf (accessed 9/23/21)
- San Bernardino County Sheriff's Department. 2021. About Us. https://wp.sbcounty.gov/sheriff/about-us/ (accessed 9/23/21)
- San Bernardino County Sheriff's Department. 2021. Chino Hills Patrol Station. https://wp.sbcounty.gov/sheriff/patrol-stations/chino-hills/ (accessed 9/23/21)
- San Bernardino County Sheriff's Department. 2021. Rancho Cucamonga Patrol Station. https://wp.sbcounty.gov/sheriff/patrol-stations/rancho-cucamonga/ (accessed 9/23/21)

Recreation

- California Department of Recreation. 2021. About Us. https://www.parks.ca.gov/?page_id=91 (site accessed 9/21/21)
- California State Parks. 2021. Chino Hill State Park. http://www.stateparks.com/chino_hills_state_park_in_california.html (site accessed 9/21/21)
- City of Chino. 2021. Recreation. https://www.cityofchino.org/residents/connection (accessed 9/21/21)
- City of Chino. 2021. Parks. https://www.cityofchino.org/residents/parks (accessed 9/21/21)
- City of Chino. 2021. Community Services. https://www.cityofchino.org/city_hall/departments/communityservices (accessed 9/21/21)
- City of Chino. 2021. Recreation. https://www.cityofchino.org/residents/connection (accessed 9/21/21)
- City of Chino. 2021. Parks. https://www.cityofchino.org/residents/parks (accessed 9/21/21)
- City of Chino Hills. 2021. Parks & Facilities. https://www.chinohills.org/87/Park-Facility-Guide (accessed 9/21/21)
- City of Eastvale. 2021. Parks and Recreation. https://www.eastvaleca.gov/community/parks-and-recreation (accessed 9/21/21)
- City of Fontana Community Services. 2021. https://www.fontana.org/153/Community-Services (accessed 9/21/21)
- City of Fontana Community Services. 2021. Facilities & Parks. https://www.fontana.org/156/Facilities-Parks (accessed 9/21/21)
- City of Jurupa Valley. 2021. Jurupa Area Recreation & Park District. https://www.jurupavalley.org/242/Jurupa-Area-Recreation-Park-District-JAR (accessed 9/21/21)
- City of Montclair. 2021. About the Department. https://www.cityofmontclair.org/departments/human-services-department/ (accessed 9/21/21)
- City of Montclair. 2021. Parks. https://www.cityofmontclair.org/parks/ (accessed 9/21/21)
- City of Ontario. 2021. Parks. https://www.ontarioca.gov/Parks (accessed 9/21/21)
- City of Pomona. Community Services/Recreation. https://www.pomonaca.gov/government/departments/neighborhood-services/community-services-parks-recreation?locale=en (accessed 9.22.21)
- City of Rancho Cucamonga. 2021. Parks and Facilities. https://regis.maps.arcgis.com/apps/Shortlist/index.html?appid=8f5b91cb41df4bb48ba64231b319891d (accessed 9/21/21)
- City of Rialto. 2021. Community Services. https://www.yourrialto.com/163/Community-Services (accessed 9/22/21)

- City of Rialto. 2021. City Parks. https://www.yourrialto.com/164/City-Parks (accessed 9/22/21)
- County of San Bernardino. 2020. County of San Bernardino Countywide, County Policy Plan. October. http://countywideplan.com/wp-content/uploads/2020/12/CWP_PolicyPlan_20201027_adopted.pdf (site accessed 9/21/21)
- Jurupa Area Recreation and Park District. 2021. About Us. https://www.jarpd.org/about-us (accessed 9/21/21)
- Jurupa Community Services District. 2021. About the Parks Department. https://www.jcsd.us/services/parks-and-recreation/about-the-parks-dept (accessed 9/21/21)
- Riverside County Planning Department. 2015. General Plan, Multipurpose Open Space Element. December. https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833 (accessed 9/21/21)
- Riverside County Regional Park and Open-Space District. 2021. Welcome to the RivCoParks. https://www.rivcoparks.org/about-us/ (accessed 9/21/21)
- San Bernardino County Regional Parks. 2021. About Us. https://parks.sbcounty.gov/about-us/ (site accessed 9/21/21)
- San Bernardino County Regional Parks. 2021. Cucamonga-Guasti Regional Park. https://parks.sbcounty.gov/park/cucamonga-guasti-regional-park/ (site accessed 9/21/21)
- San Bernardino County Regional Parks. 2021. Prado Regional Park https://parks.sbcounty.gov/park/prado-regional-park/ (accessed 9/21/21)

Transportation

- American Railway Engineering and Maintenance-of-Way Association. 2019. Manual for Railway Engineering - Chapter 10: Structures, Maintenance, and Construction.
- California Department of Transportation. 2015. Transportation Management Plan Guidelines.
- California Department of Transportation. 2020. Transportation Analysis Framework – First Edition.
- California Department of Transportation. 2020. Transportation Analysis under CEQA – First Edition.
- California State Transportation Agency. 2021. California Transportation Plan.
- California Governor's Office of Planning and Research. 2018. Technical Advisory on Evaluation of Transportation Impacts in CEQA.
- San Bernardino Associated Governments. 2020. 2045 San Bernardino County Long Range Transit Plan.
- Southern California Association of Governments. 2020. 2045 Regional Transportation Plan/Sustainable Communities Strategy (also known as SoCal Connect).

Tribal Cultural Resources

- IEUA Facilities Master Plan Final Environmental Impact Report (SCH#2016061064), February 2017 prepared by ESA (2017 FMP EIR)
- CRM TECH, Memorandum: Cultural Resource Survey, Proposed AWPF at RP-4, City of Rancho Cucamonga, October 17, 2021 (provided as Appendix 7 to Volume 2 of this DPEIR)

Utilities and Service Systems

- Administration, U.S. Energy Information. California State Profile and Energy Estimates. Accessed 10/1/21 at: https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures
- California Energy Commission. Transportation Energy Demand Forecast 2018-2030. 2018.
- Alternate Fuels Data Center. U.S. Department of Energy. Accessed 10/1/21 at: https://afdc.energy.gov/states/ca
- U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates. Accessed 10/1/21 at: https://www.eia.gov/state/?sid=CA#tabs-2.

- Jet fuel consumption, price, and expenditure estimates, 2017. U.S. Energy Information Administration. Accessed 10/1/21 at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_jf.html.
- State Profile Data: California. U.S. Energy and Information Administration. Accessed 10/1/21 at: https://www.eia.gov/state/data.php?sid=CA.
- City of Chino Hills, 2020 Urban Water Management Program, 2021
- City of Ontario, 2020 Urban Water Management Program, 2021
- City of Pomona, 2020 Urban Water Management Program, 2021
- City of Upland, 2020 Urban Water Management Program, 2021
- Cucamonga Valley Water District, 2020 Urban Water Management Program, 2021
- Fontana Water Company, 2020 Urban Water Management Program, 2021
- IEUA, FMP PEIR, 2017
- IEUA, Draft Optimum Basin Management Program Update EIR, 2020
- Monte Vista Water District, 2020 Urban Water Management Program, 2021
- Jurupa Community Services District, 2020 Urban Water Management Program, 2021
- Water Systems Consulting, Inc. [West Valley Water District et. al.], 2020 San Bernardino Valley Regional Urban Water Management Program, 2021
- IEUA, 2020 Urban Water Management Program, 2021
- Water Facilities Authority Website, Accessed 10/1/21 at: http://www.wfajpa.org/
- 2020 Draft Optimum Basin Management Program Update EIR
- WEI on behalf of Chino Basin Watermaster, Final 2020 Storage Management Plan. December 2019.
- City of Riverside, Riverside Water Quality Control Plant Website. Accessed 10/1/21 at: https://www.riversideca.gov/publicworks/sewer/wqcp.asp
- Jurupa Community Services District, Sewer and Wastewater Website. Accessed 10/1/21 at: https://www.jcsd.us/customers/sewer-wastewater
- Western Riverside County Regional Wastewater Authority, Treatment Plant Overview Website. Accessed 10/1/21 at: https://www.wrcrwa.org/152/Treatment-Plant-Overview
- California Department of Resources Recycling and Recovery, Solid Waste Information System (SWIS), 2021
- California Energy Commission, 2018 Total System Electrical Generation Website. Accessed 10/1/21 at: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

Wildfire

- County of San Bernardino, November 1, 2018. *General Plan*.
- California Public Utilities Commission, *Fire Threat Map* as accessed September, 2021 at https://ia.cpuc.ca.gov/firemap/
- CAL FIRE, California Fire Hazard Severity Zone Viewer as accessed September, 2021 at https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414
- City of Fontana. 2018. General Plan, Noise and Safety Element as accessed September, 2021 at https://www.fontana.org/DocumentCenter/View/26750/Chapter-11---Noise-and-Safety
- City of Rancho Cucamonga. 2010. General Plan as accessed September, 2021 at https://www.cityofrc.us/sites/default/files/2020-12/General%20Plan_4.pdf
- City of Upland. 2015. General Plan as accessed September, 2021 at https://www.uplandca.gov/uploads/ftp/City_departments/development_services/planning/general_plan_map/pdfs/00_Introduction.pdf

CHAPTER 8 – APPENDICES

~~8.1 NOTICE OF PREPARATION / DISTRIBUTION LIST~~

~~8.2 NOP COMMENT LETTERS~~

8.3 2024 DWR PULSE FLOW FSEIR

~~APPENDIX 8.1~~

~~NOTICE OF PREPARATION / DISTRIBUTION LIST~~

~~APPENDIX 8.2~~

~~NOP COMMENT LETTERS~~

APPENDIX 8.3

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(For clarity, provided as a separate file)