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SB 610 – Water Supply Assessment

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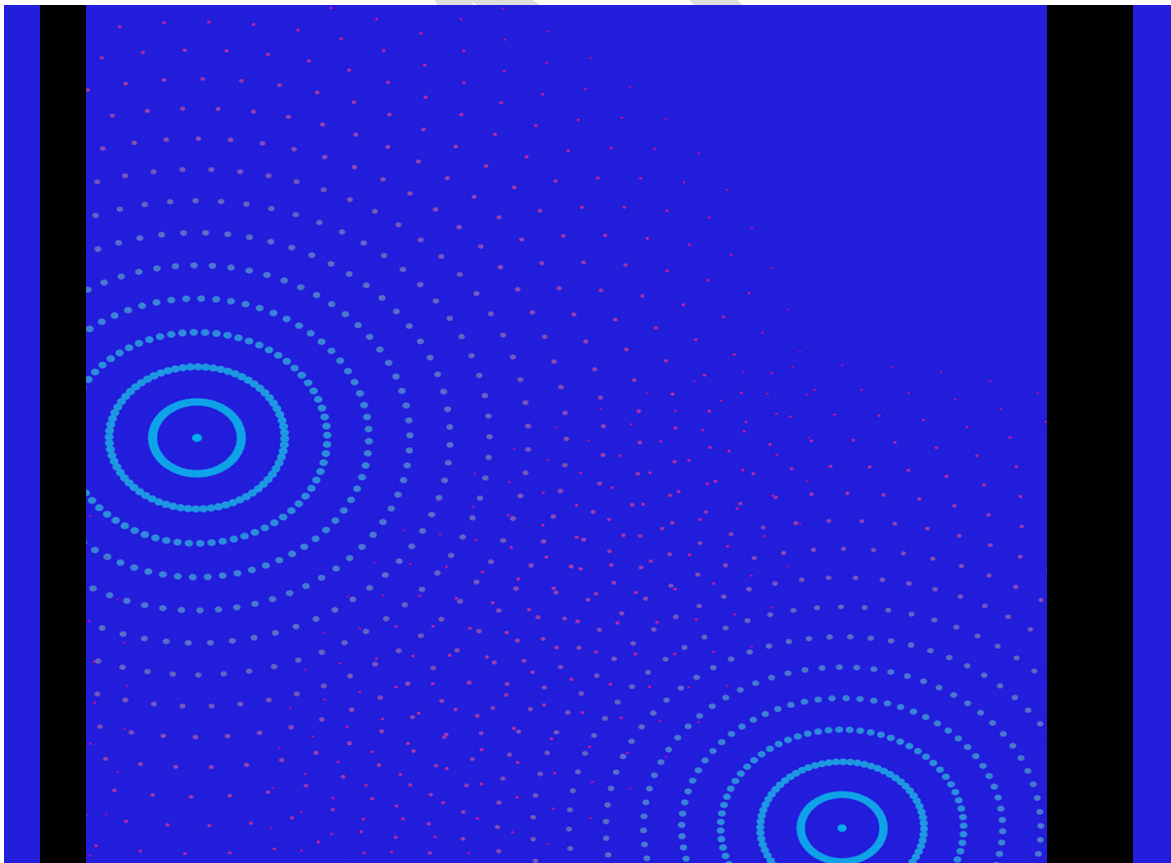
Imperial County Planning and Development Services

801 Main St

El Centro, California 92243

Black Rock Geothermal Project

June 13, 2024





SB 610 – Water Supply Assessment

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Purpose of Water Supply Assessment

This Water Supply Assessment (WSA) was prepared for the Imperial County Planning & Development Services (Lead Agency) by Jacobs Engineering Inc. (Jacobs), regarding the Black Rock Geothermal Project ("Project" or BRGP) proposed by Black Rock Geothermal LLC (the "Applicant" or BHER). This study is a requirement of California law, specifically Senate Bill 610 (referred to as SB 610). SB 610 is an act that amended Section 21151.9 of the Public Resources Code, and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the Water Code. SB 221 is an act that amended Section 11010 of the Business and Professions Code, while amending Section 65867.5 and adding Sections 66455.3 and 66473.7 to the Government Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.¹ SB 610 requires a lead agency, to determine that a project (as defined in CWC Section 10912) subject to California Environmental Quality Act (CEQA), to identify any public water system that may supply water for the project and to request the applicants to prepare a specified water supply assessment. In this case, the California Energy Commission (CEC) has their own CEQA equivalent process that includes the review of an Applicant-prepared Application for Certification (AFC). The CEC's process is a certified regulatory program under CEQA, and the CEC will conduct an independent assessment of the project's potential environmental impacts and compliance with laws, ordinances, regulations, and standards, but will not act as the Lead Agency for this SB 610 Assessment.

This study has been prepared pursuant to the requirements of CWC Section 10910, as amended by SB 610 (Costa, Chapter 643, Stats. 2001). The purpose of SB 610 is to advance water supply planning efforts in the State of California; therefore, SB 610 requires the Lead Agency, to identify any public water system or water purveyor that may supply water for the project and to prepare the WSA after a consultation. Once the water supply system is identified and water usage is established for construction and operations for the life of the project, the lead agency is then able to coordinate with the local water supplier and make informed land use decisions to help provide California's cities, farms and rural communities with adequate water supplies.

Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in California Water Code (CWC) Section 10912 [a]) that are subject to the California Environmental Quality Act (CEQA). Due to increased water demands statewide, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. This bill takes a significant step toward managing the demand placed on California's water supply. It provides further regulations and incentives to preserve and protect future water needs. Ultimately, this bill will coordinate local water supply and land use decisions to help provide California's cities, farms, rural communities and industrial developments with adequate long-term water supplies. The WSA will allow the lead agency to determine whether water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

Project Determination According to SB 610 - Water Supply Assessment

With the introduction of SB 610, any project under the California Environmental Quality Act (CEQA) shall provide a Water Supply Assessment if the project meets the definition of CWC § 10912. Water Code

¹SB 610 amended Section 21151.9 of the California Public Resources Code, and amended Sections 10631, 10656, 10910, 10911, 10912, and 10915, repealed Section 10913, and added and amended Section 10657 of the Water Code. SB 610 was approved by California Governor Gray Davis and filed with the Secretary of State on October 9, 2001.

section 10911(c) requires for that the lead agency “determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.” Specifically, Water Code section 10910(c)(3) states that “If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20 year projection, will meet the projected water demand associated with the proposed project, in addition to the public water system’s existing and planned future uses, including agricultural and manufacturing uses.”

After review of CWC § 10912a, and Section 10912 (a)(5)(B), it was determined that the proposed BRGP is deemed a project as it is considered an industrial use that will occupy more than 40 acres or more in accordance with CWC § 10912a (5).

Executive Summary

The California Energy Commission (CEC), in coordination with Imperial Irrigation District (IID) and Imperial County Planning & Development Services (ICPDS), has requested a WSA as part of the environmental review for the proposed Black Rock Geothermal Project (“Project” or BRGP). This study is intended for use by the CEC, ICPDS, and IID in its evaluation of water supplies for existing and future land uses. The evaluation examines the following water elements:

- Water availability during a normal year
- Water availability during a single dry year, and multiple dry water years
- Water availability during a 20-year projection to meet existing demands
- Expected 20-year water demands of the Project
- Reasonably foreseeable planned future water demands to be served by the Imperial Irrigation District under Equitable Distribution Plan apportionment

The CEC has their own CEQA equivalent process that includes preparation of an environmental document as the standard licensing process used for proposed power plant projects that fall under CEC jurisdiction. The CEC’s process is a certified regulatory program under CEQA, and the CEC is the CEQA lead agency for the project. Water infrastructure capacity is not a part of this assessment. BRGP is responsible for contacting IID Water Engineering Department for an infrastructure capacity assessment. Any infrastructure improvements, costs and environmental compliance associated with improvements to accommodate the Project or for the conservation of the water supply needed for the Project is the sole responsibility of BRGP.

The proposed Project site is located within the Salton Sea Known Geothermal Resource Area (KGRA) located at 1011 W McKendry Road, Calipatria, California within IID’s Imperial Unit and district boundary and as such is eligible to receive water service.

IID adopted an Interim Water Supply Policy (IWSP) in 2009 for new Non-Agricultural Projects, under which water supplies may be contracted to serve new developments within IID’s water service area. For applications processed under the IWSP, applicants shall be required to pay a processing fee and, after IID board approval of the corresponding water supply agreement, will be required to pay a reservation fee(s) and annual water supply development fees. The water supply development fees are collected for the development of water supply projects, such as water conservation projects, water storage projects and/or water augmentation projects.

Under the IWSP, IID may set aside up to 25,000 acre-feet annually (AFY) of IID’s Colorado River water supply to serve new non-agricultural projects with water created from IID efficiency conservation projects and programs. As of January 2024, a balance of 18,620 AFY remain available under the IWSP for new non-agricultural projects, providing a mechanism for the development of reasonably sufficient water supplies for such projects. The proposed Project water demand of approximately 1,125 AFY represents 6.0% of the annual unallocated supply that may be created and set aside for new non-agricultural projects.

The ICPDS anticipates non-agricultural project water supply demand within their jurisdiction, as the land use authority, is likely to exhaust the 18,620 AFY available under the IWSP within the foreseeable 20-year planning period. Thus, the proposed Project’s estimated water demand, combined with other development anticipated in the area is likely to adversely affect IID’s ability to provide water to other users in IID’s water service area unless mitigation is incorporated. This industrial water use project will need to enter into a

water supply agreement with IID under which water conservation and augmentation commitments will be required of BRGP.

In efforts to address any potential water supply/demand imbalances, on June of 2022, IID adopted a revised Equitable Distribution Plan for the apportionment of water to all water user categories including for commercial/industrial water uses such as the proposed Project. Implementation of the EDP initiates every January 1st, and continues throughout the year unless the IID Board of Directors takes specific action. Under the EDP, water supplies may be restricted to the BRGP as described under the IID Water Supply & Demand Section, Equitable Distribution Plan sub-section of this WSA.

IID's EDP implementation efforts in 2022 and 2023 coincide with efforts communicated by the U.S. Bureau of Reclamation to all Colorado River Basin contractors during the same time period. In June 2022, Commissioner Camille Touton testified before a congressional committee and called for the Basin states to develop a plan before the end of the year to reduce demands by 2-4 million acre-feet per year, through 2026, or the Secretary of the Interior would take regulatory action to force these reductions in order to protect the Colorado River system in light of the prolonged drought conditions and climate change impacts.

California has submitted a voluntary conservation proposal to Reclamation to conserve up to 400,000 AFY through 2026 as their commitment to Lake Mead and the Colorado River System, as of the date of this WSA, IID is working diligently with federal agencies and Colorado River contractors to minimize impacts to the local community while simultaneously ramping up water conservation programs in an effort to augment local water supplies, to some degree, should Basin-wide cuts be unavoidable. In the interim, IID has gone on record that its share of the California proposal under a voluntary plan would not exceed 250,000 AFY as long as there are no obligatory reductions imposed. Since BRGP is planned to be in operation after 2026, this conservation proposal will not affect the project.

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- B IID Equitable Distribution Plan

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Acronyms and Abbreviations

AF	Acre-Foot or Acre-Feet
AFC	Application for Certification
AFY	Acre-Feet per Year
AOP	Annual Operations Plan
BHER	BHE Renewables
BRGP	Black Rock Geothermal Project
CAP	Central Arizona Project
CDCR	California Department of Corrections and Rehabilitation
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEC	California Exchange Commission
CEQA	California Environmental Quality Act
CRWDA	Colorado River Water Delivery Agreement
CUP	Conditional Use Permit
CVWD	Coachella Valley Water District
EDP	IID Equitable Distribution Plan
EIS	Environmental Impact Statement
ICPDS	Imperial County Planning and Development Services
ICS	Intentionally Created Surplus
IID	Imperial Irrigation District
IOPP	Inadvertent Overrun Payback Policy
ISG	Interim Surplus Guidelines
IRWMP	Integrated Regional Water Management Plan
IWSP	Interim Water Supply Policy
KAF	Thousand Acre Feet
KGRA	Salton Sea Known Geothermal Resource Area
LAFCO	Local Agency Formation Commission

LCR	Lower Colorado Region
MCI	Municipal, commercial, industrial
MGD	Million Gallons per Day
MW	Megawatt
MWD	Metropolitan Water District of Southern California
NAF	Naval Air Facility
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
QSA/Transfer Agreements	Quantification Settlement Agreement and Related Agreements
SB	Senate Bill
SDCWA	San Diego County Water Authority
SNWA	Southern Nevada Water Authority
TLCFP	Temporary Land Conversion Fallowing Policy
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
WSA	Water Supply Assessment

1. Project Description

Black Rock Geothermal LLC, an indirect, wholly owned subsidiary of BHE Renewables, LLC (BHER), is proposing to site and construct a geothermal facility on approximately 55 acres of a 160-acre parcel of private land in the Imperial Valley in Imperial County. More specifically, the project is located at 1011 W McKendry Road, Calipatria, California. The town of Niland is approximately eight miles to the northeast, and the town of Calipatria is approximately six miles southeast of the plant site. (Assessor Parcel Number 020-110-008). Please refer to Figure 1 for the Project's Regional Location (Figure 1. Site Regional Location), and Figure 2 for the Project Site and Vicinity (Figure 2. Aerial View of Project Site and Vicinity).

In general, the project can be described as follows: the development, construction, and operation of a baseload renewable electrical generating facility that will support grid reliability and the State's goal for a transition to a 100% renewable energy and zero-carbon resource supply to end-use customers by 2045.

The main Project elements, including linear facilities and construction laydown areas, are as follows:

- One steam turbine generator system consisting of a condensing turbine generator set with three steam entry pressures (high pressure, standard pressure, and low pressure).
- Geothermal fluid processing systems, including steam separation vessels, pipelines, and tanks.
- One seven-cell cooling tower.
- An interconnection to the proposed Imperial Irrigation District (IID) switching station via an approximately 2.2-mile aboveground generator tie-line that runs from the BRGP northeast to the substation.
- Five production wells on three well pads adjacent to the plant. Production pipelines will connect production wells to the plant site.
- Seven injection wells on three well pads south of the plant with aboveground injection pipelines will exit the southern border of the plant site and follow existing roads to the injection wells. One additional injection well pad is identified for resource support.
- A Class II surface impoundment (Brine Pond) sized to receive aerated process fluid, geothermal fluid from unplanned overflow events, and geothermal fluid from the partial draining of clarifiers during maintenance events. Aerated fluid from the Brine Pond will be directed to a dedicated aerated fluid injection well.
- Process water supply from IID via the Vail 4A Lateral immediately east of the Project, as well as an approximately 0.5-mile-long secondary connection via Vail 4 Lateral adjacent to Gentry Road to the east of the Project; potable water will be supplied through a reverse osmosis system or an equivalent system, and/or delivered through a commercial water service.
- The Project includes up to two potential sites for construction camps, nine laydown and/or parking areas located throughout the region, and four borrow pits. Most of the laydown and parking areas for BRGP will be located adjacent to the site immediately west and east. However, all 15 sites including camps, laydown, and borrow pits, may be used and will be shared between three proposed projects: the Elmore North Geothermal Project, Black Rock Geothermal Project, and Morton Bay Geothermal Project.

Please refer to Figure 2 and Figure 3 for the conceptual project layout and tentative site plan. (**Figure 3. Project Layout/Site Plan**).

The geothermal facility involves certification by the CEC (which includes the preparation of a CEQA environmental document), review by the Imperial County Air Pollution Control District and a Conditional Use Permit (CUP) from Imperial County for the geothermal field and associated wells and piping. Currently the Project is zoned Heavy Agriculture with a Geothermal Overlay (A-3-G).

Potable sanitary water will be supplied through a reverse osmosis system or an equivalent system. Potable drinking water will be delivered through a commercial water service.

The proposed Project owner will need to contract with IID to deliver up to 1,125 AFY of untreated water, via the Vail 4A Lateral Gate V4A-460-001 immediately east of the Project, as well as an approximately 0.5-mile-long backup connection, when the primary canal is out of service and IID has been notified, via a new gate from Canal Vail Lateral Vail 4, in the vicinity of Lateral Gate V4-417-001, adjacent to Gentry Road to the east of the Project. The proposed Project is anticipated to use approximately 1,125 AFY of water for geothermal power plant operation. Approximately 150 AFY will be necessary for construction use (periodic dust control, etc.), but no water supply will be necessary during operation for dust suppression.

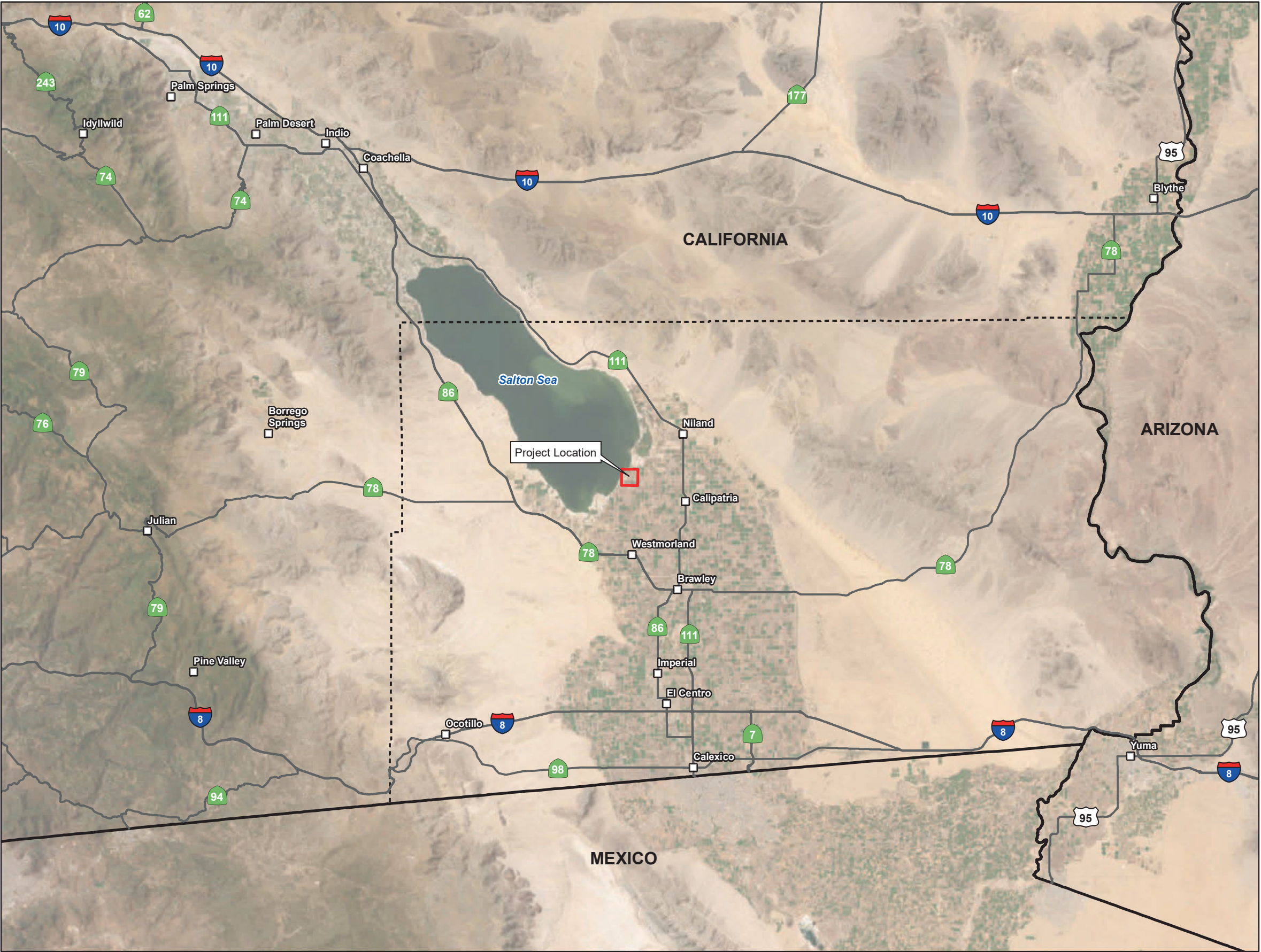
Water Use Efficiency Best Management Practice Incorporated Into Project

The Project proposes to incorporate the following Best Management Practices for water use efficiency under the requested operational water supply amount of 1,125 AFY: Use of fresh water supplied by IID shall not exceed the agreed-upon amount. Project operations shall not start until evidence of a valid water supply contract is provided to the CEC's Compliance Project Manager. The project will be in compliance with CWC Division 1, Chapter 6 § 461; California Constitution, Article 10, §2, which prohibits the waste or unreasonable use of water, regulates the method of use and method of diversion of water, and requires all water users to conserve and reuse available water supplies to the maximum extent possible.

The Project proposes to incorporate the Best Management Practices for water use efficiency under the requested operational water supply amount of 1,125 AFY: The project is designed for maximum water use efficiency. All of condensate generated is used prior to using canal water. Any reductions in water supply from IID would come at the cost of generation loss.

Additional Project Measures Under Potential Water Curtailment

Should reductions to IID's water supply be ordered or directed from a governmental authority having appropriate jurisdiction, the BRGP may be required to reduce its water supply demand by a proportionate reduction of the total volume of water available to IID. The BRGP will be primarily using condensate for makeup water and will only be relying on IID water to maintain the cooling tower water chemistry when evaporation is high. IID water will also be used as dilution water to reduce the geothermal fluids total dissolved solids (TDS) content to avoid supersaturated conditions that can result in scaling and potential blockage of piping, equipment, and wells. Under potential water curtailment, operations will be adjusted accordingly. Such measures may include temporary reductions in electrical generation necessary to maintain cooling tower water chemistry and geothermal fluid TDS levels. In general terms, a 10% reduction in water supply (a reduction of approximately 648 AFY of water use) will likely result in an estimated reduction in electrical output by 10%, or approximately 14 megawatts (net). If commercially viable, BRGP would seek additional water through IID's Clearinghouse, consistent with any contractual requirements or limitations.



- Legend**
- City or Town
 - Major Road
 - - - Imperial County Boundary
 - ▭ State or National Boundary

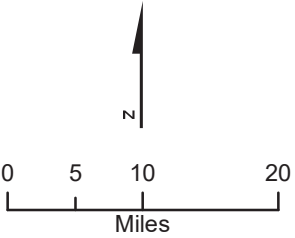
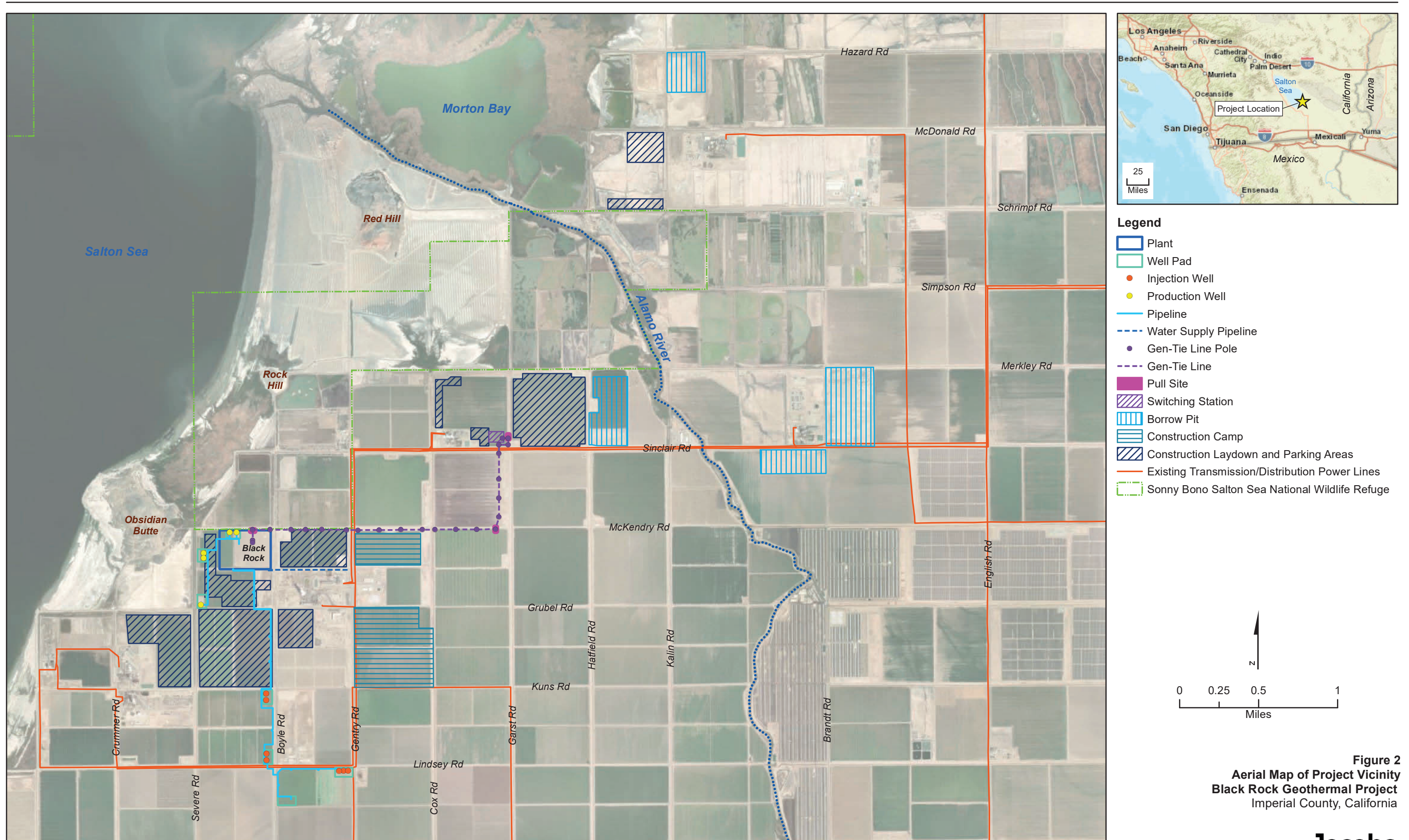
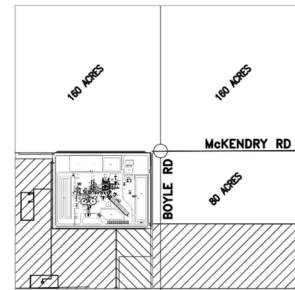
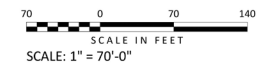
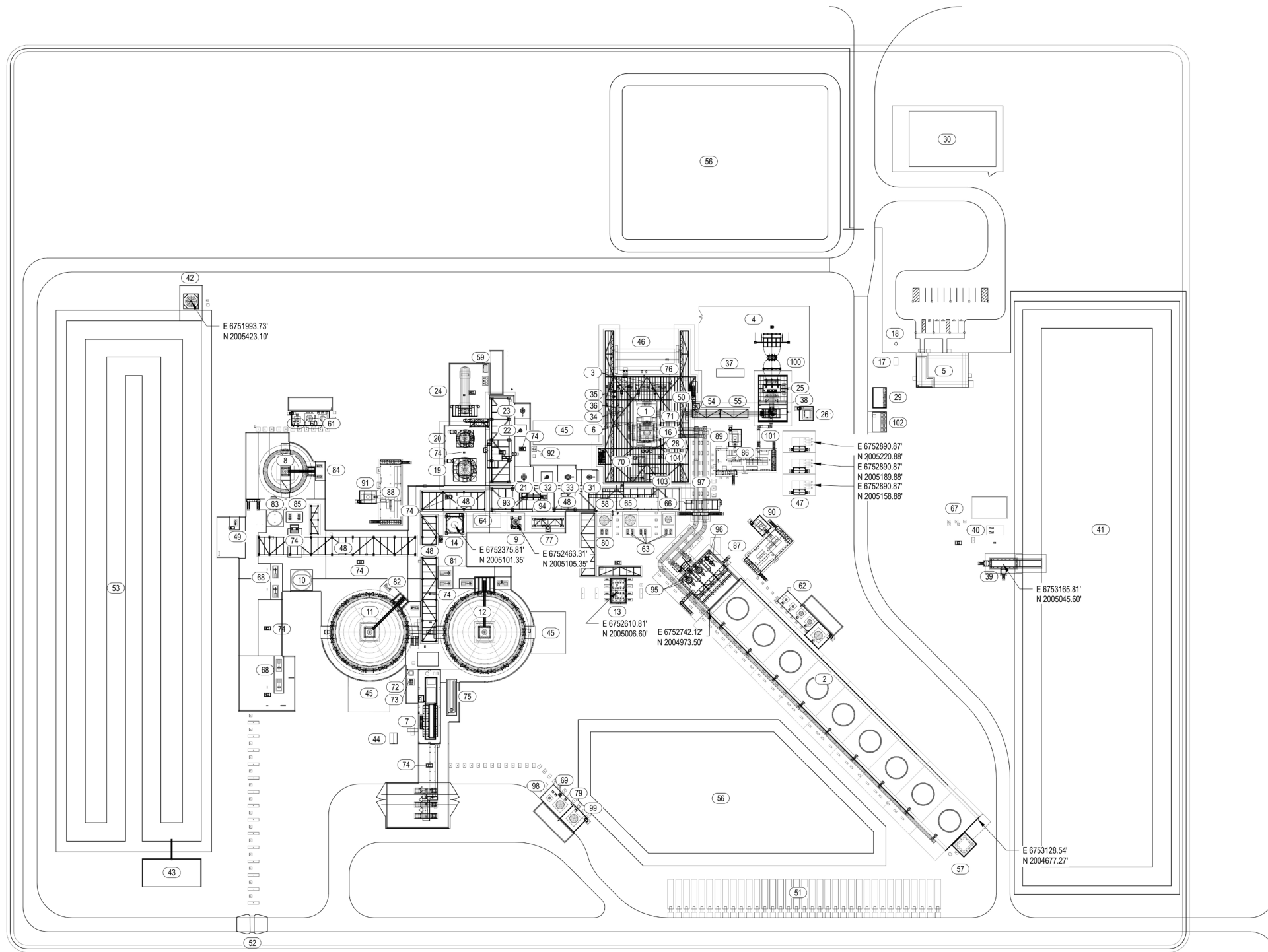


Figure 1
Project Site Regional Location
Black Rock Geothermal Project
Imperial County, California





BLACK ROCK LOCATION PLAN

TOWNSHIP 11 SOUTH, RANGE 13 E,
SECTION 33, NE 1/4 OF SW 14
APPROXIMATELY 50 ACRES

LEGEND:

1. STEAM TURBINE
2. COOLING TOWER
3. VACUUM PUMP SKIDS A/B/C
4. SUBSTATION
5. CONTROL / MAINTENANCE BUILDING
6. EJECTORS A/B/C
7. HORIZONTAL BELT FILTER
8. THICKENER
9. SCRUBBER / DEMISTER DRAIN AFT
10. PROCESS BRINE HEAD TANK
11. SECONDARY CLARIFIER
12. PRIMARY CLARIFIER
13. ROCK MUFFLER
14. PROCESS AFT
15. NOT USED
16. CONDENSER
17. CONTROL / MAINTENANCE BUILDING SEPTIC TANK
18. CONTROL / MAINTENANCE BUILDING SANITARY LIFT STATION
19. LP CRYSTALLIZER
20. SP CRYSTALLIZER
21. LP SCRUBBER
22. SP SCRUBBER
23. HP SCRUBBER
24. HP SEPARATOR
25. GENERATOR STEP-UP TRANSFORMER
26. ALTERNATE FEED TRANSFORMER
27. NOT USED
28. CONDENSATE PUMPS
29. USED OIL STORAGE AREA
30. EVAPOTRANSPIRATION (E-T) BED
31. HP DEMISTER
32. SP DEMISTER
33. LP DEMISTER
34. INSTRUMENT / SERVICE AIR COMPRESSOR
35. INSTRUMENT / SERVICE AIR RECEIVERS
36. AIR COMPRESSOR CHILLER UNIT
37. SUBSTATION CONTROL ENCLOSURE
38. UNIT AUXILIARY TRANSFORMER
39. FIRE WATER PUMP ENCLOSURE
40. SERVICE WATER PUMPS
41. FRESH WATER POND
42. WARM-UP AFT
43. HYDRO BLAST PAD
44. COOLING HUT
45. CRANE ACCESS
46. GANTRY CRANE
47. DIESEL GENERATOR
48. PIPE RACK
49. EMERGENCY BRINE POND PUMPS
50. VT-SURGE CUBICLE
51. TRAILER PARKING
52. CULVERT
53. BRINE POND
54. GENERATOR CIRCUIT BREAKER
55. ISOLATED PHASE BUS DUCT
56. STORM WATER RETENTION BASIN
57. OX BOX
58. BLOWDOWN STORAGE TANK
59. ANTI-FOAM STORAGE AND DOSING SYSTEM
60. NORMS STORAGE AND DOSING SYSTEM
61. FLOCCULANT STORAGE AND DOSING SYSTEM
62. COOLING TOWER CHEMICAL FEED SYSTEM
63. HP/SP/LP CONDENSATE STORAGE PUMPS
64. DILUTION WATER PUMPS (FUTURE)
65. SP/LP CONDENSATE STORAGE TANK
66. HP CONDENSATE STORAGE TANK
67. POTABLE WATER SYSTEM
68. BRINE INJECTION / BOOSTER PUMPS
69. ACID FUME SCRUBBER
70. STG LUBE OIL MODULE
71. NEUTRAL GROUND ENCLOSURE
72. SERVICE WATER HOLDING TANK
73. SERVICE WATER BOOSTER PUMP A/B
74. AREA SUMP / PUMP
75. HORIZONTAL BELT FILTER COOLER
76. SEAL WATER COOLER
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78. ANTI-SCALANT REAGENT
79. HYDROCHLORIC ACID DOSING
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82. SECONDARY CLARIFIER SEED RECYCLE/TRANSFER PUMPS
83. AERATED BRINE STORAGE TANK
84. THICKENER SEED RECYCLE/TRANSFER PUMPS
85. AERATED BRINE BOOSTER / INJECTION PUMPS
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87. COOLING TOWER ELECTRICAL ENCLOSURE
88. BRINE INJECTION ELECTRICAL ENCLOSURE
89. MEDIUM VOLTAGE ELECTRICAL ENCLOSURE SUS TRANSFORMERS
90. COOLING TOWER ELECTRICAL ENCLOSURE SUS TRANSFORMERS
91. BRINE INJECTION ELECTRICAL ENCLOSURE SUS TRANSFORMERS
92. VESSEL DRAIN AFT
93. SCRUBBER DRAIN PUMP
94. DEMISTER DRAIN PUMP
95. COOLING WATER PUMPS
96. AUXILIARY COOLING WATER PUMPS
97. CIRCULATING WATER PIPING
98. 2.5% HCl TANK AND PUMPS
99. LIQUID LIME STORAGE TANK AND PUMPS
100. 230KV BREAKER
101. NON-SEGREGATED PHASE BUS DUCT
102. NEW OIL STORAGE AREA
103. LUBE OIL COOLER
104. OIL PURIFIER

Figure 3
Project Layout/Site Plan
Black Rock Geothermal Project
Imperial County, California

1.1 Description of IID Service Area

The proposed Project site is located in Imperial County in the southeastern corner of California. The County is comprised of approximately 4,597 square miles or 2,942,080 acres². Imperial County is bordered by San Diego County to the west, Riverside County to the north, the Colorado River/Arizona boundary to the east, and 84 miles of International Boundary with the Republic of Mexico to the south. Approximately 50% of Imperial County is undeveloped land under federal ownership and jurisdiction. The Salton Sea accounts for approximately 11% of Imperial County's surface area. In 2023, sixteen percent (16%) of the area was in irrigated agriculture (468,224 acres), including 14,676 acres of the Yuma Project, some 35 sections or 5,750 acres served by Palo Verde Irrigation District (PVID), and 447,798 acres served by IID.^{3, 4}

The area primarily served by IID is located in the Imperial Valley, which is generally contiguous with IID's Imperial Unit, lies south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 699,132 acre area between IID's Westside Main and East Highline Canals.⁵ In 2023, IID delivered untreated water to 506,123 net irrigated acres, predominantly in the Imperial Valley, along with small areas of East and West Mesa land, including non-agricultural uses, but excluding temporarily fallowed land.

The developed area consists of seven incorporated cities (Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland), three unincorporated communities (Heber, Niland and Seeley), and three institutions (Naval Air Facility [NAF] El Centro, Calipatria California Department of Corrections and Rehabilitation [CDCR], and Centinela CDCR) and supporting facilities. **Figure 4** provides a map of the IID canal network, as well as cities, communities and main canals.

1.2 Climate Factors

Imperial Valley, located in the Northern Sonoran Desert, which has a subtropical desert climate is characterized by hot, dry summers and mild winters. Clear and sunny conditions typically prevail, and frost is rare. The region receives 85 to 90% of possible sunshine each year, the highest in the United States. Winter temperatures are mild rarely dropping below 32°F, but summer temperatures are very hot, with more than 100 days over 100°F each year. The remainder of the year has a relatively mild climate with temperatures averaging in the mid-70s.

The 100-year average climate characteristics are provided in **Table 1**. Rainfall contributes around 50,000 AF of effective agricultural water per inch of rain. Most rainfall occurs from November through March; however, summer storms can be significant in some years. Annual areawide rainfall is shown in **Table 2**. IID Areawide Annual Precipitation (In) 1990-2023. The thirty-year, 1994-2023, average annual air temperature was 73.18°F, and average annual rainfall was 2.43 inches, see **Table 3** and **Table 4**. This record shows that while average annual rainfall has fluctuated, the 10-year average temperatures have slightly increased over the 30-year averages.

² *Imperial County General Plan, Land Use Element 2008 Update*

³ USBR website: [Yuma Project](#). PVID contacted AJ Slagan for acreage February 13, 2024.

⁴ [IID Annual Inventory of Areas Receiving Water Years 2023, 2022, 2021](#)

Figure 4. IID Imperial Unit Boundary and Canal Network

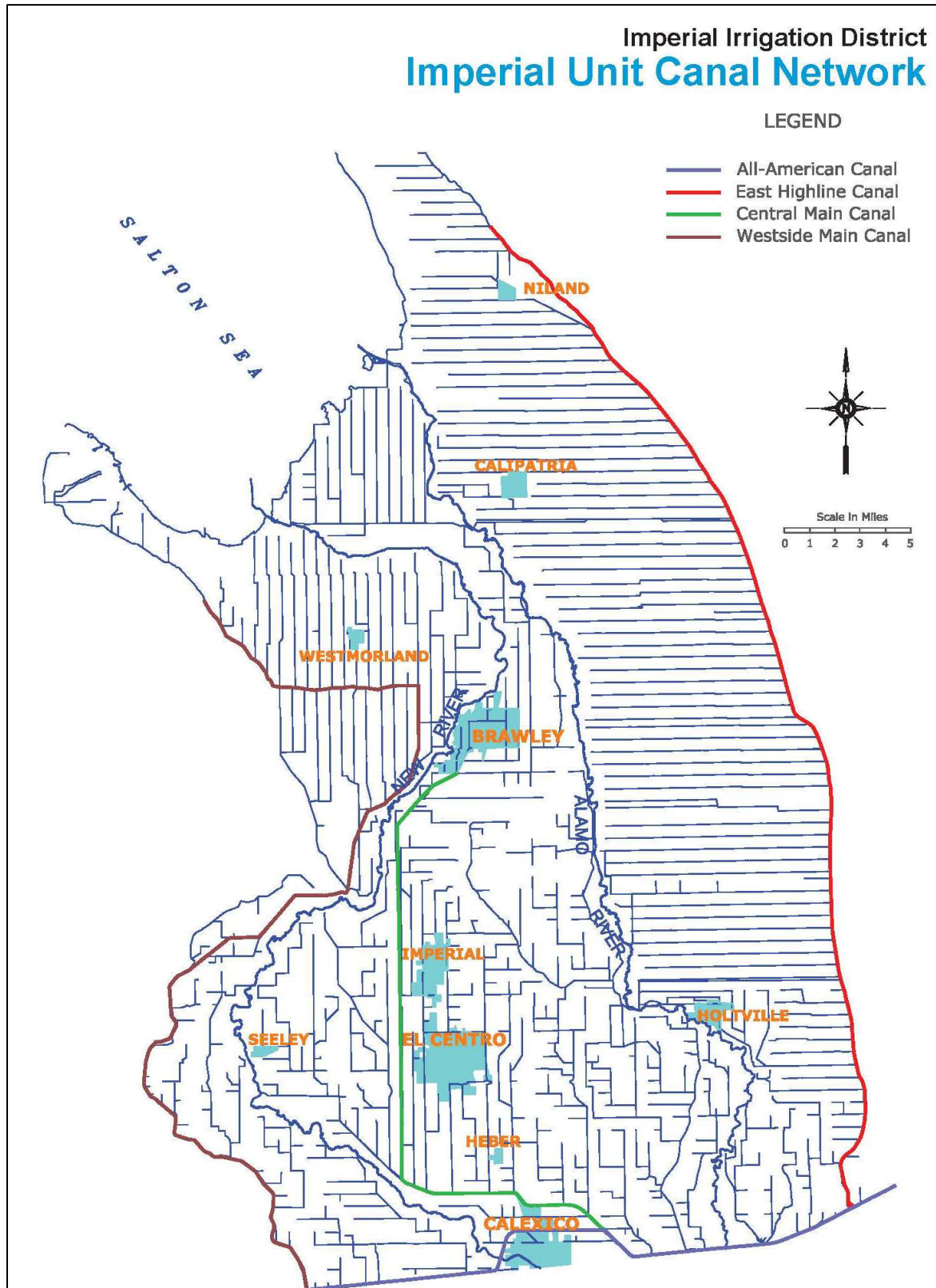


Table 1. Climate Characteristics, Imperial, CA 100-Year Record, 1924-2023

Climate Characteristic	Annual Value
Average Precipitation (100-year record, 1924-2023)	2.76 inches (In)
Minimum Temperature, Jan 1937	16 °F
Maximum Temperature, July 1995	121 °F
Average Minimum Temperature, 1924-2023	48.4 °F
Average Maximum Temperature, 1924-2023	98.4 °F
Average Temperature, 1924-2023	73.2 °F

Source: IID Imperial Weather Station Record

Table 2. IID Areawide Annual Precipitation (In), (1990-2023)

1990	1991	1992	1993	1994	1995	1996
1.646	3.347	4.939	2.784	1.775	1.251	0.685
1997	1998	1999	2000	2001	2002	2003
1.328	2.604	1.399	0.612	0.516	0.266	2.402
2004	2005	2006	2007	2008	2009	2010
4.116	4.140	0.410	1.331	1.301	0.619	3.907
2011	2012	2013	2014	2015	2016	2017
2.261	2.752	2.772	1.103	2.000	1.867	2.183
2018	2019	2020	2021	2022	2023	
1.305	3.017	2.685	1.688	1.265	1.40	

Source: Computation based on polygon average of CIMIS as station came online in the WISKI.⁶

Notable from **Table 2** (above) and **Table 3** (below) is that while average annual rainfall measured at IID Headquarters in Imperial, California, has been decreasing, monthly average temperatures are remarkably consistent.

Table 3. Monthly Mean Temperature (°F) – Imperial, CA 10-Year, 30-Year & 100-Year (2014-2023, 1994-2023, 1924-2023)

	Jan			Feb			Mar			Apr		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	81	35	58	86	37	61	93	43	67	101	49	74
30-year	81	34	57	84	36	60	93	41	66	100	47	72
100-year	80	31	56	84	35	59	91	40	65	99	46	71

⁶ From 1/1/1990-3/23/2004, 3 CIMIS stations: Seeley, Calipatria/Mulberry, Meloland; 3/24/2004-7/5/2009, 4 CIMIS stations (added Westmorland N.); 7/6/2009-12/1/2009, 3 CIMIS stations: Westmorland N. offline; 12/2/2009-2/31/2009, 4 CIMIS stations, Westmorland N. back online; 1/1/2010-9/20/2010.

	May			Jun			Jul			Aug		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	105	54	77	115	62	88	116	72	94	116	73	94
30-year	106	54	78	113	60	87	115	69	93	114	70	93
100-year	105	53	78	113	59	86	114	68	92	113	68	91
	Sep			Oct			Nov			Dec		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	112	65	88	100	53	78	91	40	65	82	35	57
30-year	111	63	87	102	50	76	90	39	64	80	33	56
100-year	110	61	86	102	49	75	89	38	63	80	32	56

Source: IID Imperial Headquarters Station Record (Data provided by IID staff)

Table 4. Monthly Mean Rainfall (In) – Imperial, CA 10-Year, 30-Year & 100-Year (2014-2023, 1994-2023, 1924-2023)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
10-year	0.42	0.14	0.24	0.11	0.08	0.01	0.07	0.30	0.35	0.12	0.17	0.37	2.37
30-year	0.38	0.35	0.23	0.09	0.05	0.00	0.13	0.23	0.31	0.16	0.19	0.31	2.43
100-year	0.38	0.36	0.24	0.10	0.03	0.00	0.10	0.31	0.36	0.23	0.29	0.47	2.76

Source: IID WIS: CIMIS stations polygon calculation (Data provided by IID staff).

Imperial Valley depends on the Colorado River for its water, which IID transports, untreated, to delivery gates for agricultural, municipal, industrial (including geothermal and solar energy), environmental (managed marsh), recreational (lakes), and other non-agricultural uses. IID supplies the cities, communities, institutions and Golden State Water (which includes all or portions Calipatria, Niland, and some land adjacent within Imperial County territory) with untreated water that they treat to meet state and federal drinking water guidelines before distribution to their customers. Industries outside the municipal areas treat the water to required standards of their industry. To comply with U.S. Environmental Protection Agency (USEPA) requirements and avoid termination of canal water service, residents in the IID water service area who do not receive treated water service must obtain alternative water service for drinking and cooking from a state-approved provider. To avoid penalties that could exceed \$25,000 a day, IID strictly enforces this rule. The IID Water Department tracks nearly 3,200 raw water service accounts required by the State Water Resources Control Board's Department of Drinking Water to have alternate state approved drinking water service. IID maintains a small-acreage pipe and drinking water database and provides an annual compliance update to the Department of Drinking Water.

1.3 Imperial Valley Historic and Future Land and Water Uses

Agricultural development in the Imperial Valley began at the turn of the twentieth century. In 2022, gross agricultural production for Imperial County was valued at \$2,612,578,000, of which approximately \$2.28 billion was produced in the IID water service area.⁷ While the agriculture-based economy is expected to continue, land use is projected to change somewhat over the years as industrial and/or alternative energy development and urbanization occur in rural areas and in areas adjacent to existing urban centers, respectively.

The BRGP would provide significant local benefits to the Imperial Valley, including the addition of 61 full-time skilled jobs during operations, positive fiscal impacts of approximately \$7 million to \$11 million from property, payroll and sales taxes, and prioritizing the use of services of local or regional firms for major maintenance and overhauls, plant supplies, and other support services. The BRGP would also benefit the State of California as a whole through the provision clean, firm energy and auxiliary services to support grid reliability and the achievement of renewable energy and climate policies.

Imperial Valley's economy is gradually diversifying. Agriculture will likely continue to be the primary industry within the valley; however, two principal factors anticipated to reduce crop acreage are renewable energy (geothermal and solar) and urban development. Over the next twenty years, urbanization is expected to slightly decrease agriculture land use to provide space for an increase in residential, commercial and industrial uses. The transition from agricultural land use typically results in a net decrease in water demand for municipal, commercial, and solar energy development; and a net increase in water demand for geothermal energy development. Local energy resources include geothermal, wind, biomass and solar. The County General Plan provides for development of energy production centers or energy parks within Imperial County.⁸ Alternative energy facilities will help California meet its statutory and regulatory goals for increasing renewable power generation and use and decrease water demands in Imperial County.

The IID Board has adopted the following policies and programs to address how to accommodate water demands under the terms of the QSA/Transfers Agreements and minimize potential negative impacts on agricultural water uses:

Imperial Integrated Regional Water Management Plan: adopted by the board on December 18, 2012, and by the County, the City of Imperial, to meet the basic requirement of California Department of Water Resources (CDWR) for an IRWM plan. In all, 14 local agencies adopted the 2012 Imperial IRWMP.

Interim Water Supply Policy for Non-Agricultural Projects: adopted by the board on September 29, 2009, to ensure sufficient water will be available for new development, in particular, anticipated renewable energy projects until the board selects and implements capital development projects such as those considered in the Imperial IRWMP.

Temporary Land Conversion Following Policy: adopted by the board on May 8, 2012, and revised on March 29, 2016, to provide a framework for a temporary, long-term following program to work in concert with the IWSP and IID's coordinated land use/water supply strategy.

Equitable Distribution Plan: final adoption by the board on July 26, 2023, to provide a mechanism for IID to administer apportionment of the district's quantified annual supply of Colorado River water.

⁷ [2022 Imperial County Crop and Livestock Report](#)

In addition, water users within the IID service area are subject to the statewide requirement of reasonable and beneficial use of water under the California Constitution, Article X, section 2.

1.4 Imperial Integrated Regional Water Management Plan (October 2012)

The Imperial IRWMP serves as the governing document for regional water planning to meet present and future water resource needs and demands by addressing such issues as additional water supply options, demand management and determination and prioritization of uses and classes of service provided. In November 2012, the Imperial County Board of Supervisors approved the Imperial IRWMP, and the City of Imperial City Council and the IID Board of Directors approved it in December 2012. Approval by these three (3) stakeholders met the basic requirement of California Department of Water Resources (CDWR) for an IRWMP at the time. Through the IRWMP process, IID presented to the region stakeholders options in the event long-term water supply augmentation is needed, such as water storage and banking, recycling of municipal wastewater, and desalination of brackish water.⁸ As discussed herein, long term water supply augmentation is not anticipated to be necessary to meet proposed Project demands.

Chapter 5 of the 2012 Imperial IRWMP addresses water supplies (Colorado River and groundwater), demand, baseline and forecasted through 2050; and IID water budget. Chapter 12 addresses projects, programs and policies, and funding alternatives. Chapter 12 of the IRMWP lists, and Appendix N details, a set of capital projects that IID might pursue, including the amount of water that might result (AFY) and cost (\$/AF) if necessary. These also highlight potential capital improvement projects that could be implemented in the future.

Imperial Valley historic 2015 and 2020 and the forecasted future for 2025 to 2055 non-agricultural water demand, are provided in **Table 5** in five-year increments. Total water demand for non-agricultural uses is projected to be 201.4 thousand acre-feet (KAF) in the year 2055. This is a forecasted increase in the use of non-agricultural water of 94 KAF from 107.4 KAF for the period of 2015 to 2055. These values were modified from Chapter 5 of the Imperial IRWMP to reflect updated conditions from the IID Provisional Water Balance for calendar year 2015 and 2020. Due to the recession in 2009, state policies affecting municipal water use in relation to the drought and other factors, non-agricultural growth projections have lessened since the 2012 Imperial IRWMP. Projections in **Table 5** have been adjusted (reduced by 3% for Municipal and Industrial uses and applied a flat .5 AF increase for Recreation use) to reflect IID 2015 and 2020 delivery data adjustments. Even with these adjustments, the **Table 5** projections for non-agricultural water demand within the IID water service area continue to reflect an unlikely aggressive growth.

Table 5. Non-Agricultural Water Demand within IID Water Service Area, 2015-2055 (KAFY)

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Municipal	30.0	30.9	36.8	39.8	41.5	46.3	51.7	57.8	61.9
Industrial	26.4	28.7	39.8	46.5	53.2	59.9	66.6	73.3	80.0
Other	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Feedlots/Dairies	17.8	19.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Enviro Resources	8.3	9.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Recreation	7.4	9.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0

⁸ October 2012 [Imperial Integrated Regional Water Management Plan](#), Chapter 12.

Service Pipes	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Total Non Ag	107.4	115.1	136.1	145.8	154.2	165.7	177.8	190.6	201.4

Notes: 2015 non-agricultural water demands are from IID 2015 Provisional Water Balance rerun 01/25/2021 2020-2055 demands are modified from 2012 Imperial IRWMP Chapter 5, Table 5-22 p 5-50 based on IID 2015 Provisional Water Balance. 2020 non-agricultural water demands are from IID 2020 Provisional Water Balance rerun on 01/31/2022. 2025-2055 demands are modified from 2012 Imperial IRWMP Chapter 5, Table 5-22 p 5-50 based on IID 2020 Provisional Water Balance. Industrial Demand includes geothermal, but not solar, energy production.

Agricultural evapotranspiration (ET) demand of approximately 1,476.4 KAF in 2015, decreased in 2020 to approximately 1,442.2 KAF. The termination of fallowing programs provided 103.5 KAF of water for Salton Sea mitigation in 2017. Forecasted agricultural ET remains constant, as reductions in water use are to come from efficiency conservation not reduction in agricultural production. Market forces and other factors may impact forecasted future water demand.

Table 6 provides the 2015 and 2020 historic and 2025-2055 forecasted agricultural consumptive use and delivery demand within the IID water service area. When accounting for agriculture ET, tailwater and tilewater, total agricultural consumptive use (CU) demand ranges from 2,157.9 KAF in 2015 to 2,208.5 KAF in 2055. Forecasted total agricultural delivery demand is around 1 KAFY higher than the CU demand, ranging from 2,158.9 KAF in 2015 to 2,209.5 KAF in 2055.

Table 6. Historic and forecasted Agricultural Water Consumptive Use and Delivery Demand within IID Water Service Area, 2015-2055 (KAFY)

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Ag ET from Delivered & Stored Soil Water	1,476.4	1,442.2	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5	1,567.5
Ag Tailwater to Salton Sea	282.9	312.9	268.0	218.0	218.0	218.0	218.0	218.0	218.0
Ag Tilewater to Salton Sea	398.6	410.2	423.0	423.0	423.0	423.0	423.0	423.0	423.0
Total Ag CU Demand	2,157.9	2,165.4	2,258.5	2,208.5	2,208.5	2,208.5	2,208.5	2,208.5	2,208.5
Subsurface Flow to Salton Sea	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total Ag Delivery Demand	2,158.9	2,166.4	2,259.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5

Notes: 2015 record from IID 2015 Provisional Water Balance rerun 06/28/2019; 2020 record from IID 2020 Provisional Water Balance rerun 01/25/2021; 2020-2055 forecasts from spreadsheet used to develop Figure 19, et seq. in Imperial IRWMP Chapter 5 (Data provided by IID staff).

In addition to agricultural and non-agricultural water demands, system operation demand must be included to account for operational discharge, main and lateral canal seepage, including seepage along the All-American Canal (AAC); and for AAC seepage, river evaporation and phreatophyte ET from Imperial Dam to IID's measurement site at AAC Mesa Lateral 5. These system operation demands are shown in **Table 7** for 2020. IID measures system operational uses and at All-American Canal Station 2900 just upstream of Mesa Lateral 5 Heading. Total system operational use for 2020 was 167.8 KAF, including 10 KAF of LCWSP input, 39 KAF of seepage interception input, and 40 KAF of unaccounted canal water input.

Table 7. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2020

Delivery System Evaporation	24.4
Canal Seepage	90.8
Main Canal Spill	10.1
Lateral Spill	121.5
QSA & IID Seepage Interception	-39.0
Unaccounted Canal Water	-40.0
Total System Operational Use, In valley	167.8
Imperial Dam to AAC @ Mesa Lat 5 (Dam-Mesa Lat 5)	9.2
LCWSP	-10
Total System Operational Use in 2020	167.0

Source: 2020 IID Water Balance rerun 01/25/2021

1.5 IID Interim Water Supply Policy for Non-Agricultural Projects (September 2009)

The IID IWSP provides a mechanism to address water supply requests for new non-agricultural projects being developed within the IID service area. The IWSP designates up to 25,000 AFY of water to be conserved from IID's annual Colorado River water supply, consumptive use cap, for new non-agricultural projects. The IWSP provides a mechanism and process to develop a water supply agreement for any appropriately permitted project, and establishes a framework and set of fees to ensure the supplies used to meet new demands do not adversely affect existing users by funding water conservation or augmentation projects as needed to offset the new demand.⁹

The environmental impacts of conserving up to the 25,000 acre-feet of IWSP water were analyzed in the *Imperial Irrigation District Interim Water Supply Policy for Non-Agricultural Projects* Negative Declaration, State Clearinghouse No. 2009061103 dated June 25, 2009. The IID Board adopted this Negative Declaration on September 29, 2009.

Depending on the nature, complexity and water demands of the proposed project, new projects may be charged a one-time Reservation Fee and annual Water Supply Development Fees for the contracted water volume used solely to assist in funding new water supply projects. The applicability of the fee to certain projects will be determined by IID on a case-by-case basis, depending on the proportion of types of land uses and water demand proposed for a project. The 2024 IWSP fee schedule is shown in **Table 8**.

⁹ IID website: [Municipal, Industrial and Commercial Customers](#).

Table 8. Interim Water Supply Policy 2024 Annual Non-Agricultural Water Supply Development Fee Schedule

Annual Demand (AF)	Reservation Fee (\$/AF) ^[a]	Development Fee (\$/AF) ^[a]
0-500	\$88.77	\$355.07
501-1000	\$124.98	\$499.94
1001-2500	\$156.94	\$627.76
2501-5000	\$193.87	\$775.47

^[a] Adjusted annually in accordance with the Consumer Price Index (CPI).

IID customers with new projects receiving water under the IWSP will be charged the appropriate water delivery rate based on measured deliveries, see [IID Water Rate Schedules](#). As of January 2024, IID has issued two water supply agreements and one “Will-Serve Letter” under the IWSP that total 6,380 AFY, leaving a balance of 18,620 AFY of potential water supply available for additional contracting under the IWSP.

1.6 IID Temporary Land Conversion Fallowing Policy (May 2012)

Imperial County planning officials determined that renewable energy facilities were consistent with the county’s agricultural zoning designation and began issuing conditional use permits (CUPs) for these projects with 30-year terms with a 10-year extension (40 years in total). These longer-term, but temporary, land use designations were not conducive to a coordinated land use/water supply policy as envisioned in the Imperial IRWMP, because temporary water supply assignments during CUP term were not sufficient to meet the water supply verification requirements for new project approvals. Agricultural land owners also sought long-term assurances from IID that, at project termination, irrigation service would be available for them to resume their farming operations.

Based on these conditions, IID determined it had to develop a water supply policy that conformed to the local land use decision-making in order to facilitate new development and economic diversity in Imperial County which resulted in the IID Temporary Land Conversion Fallowing Policy (TLCFP).¹⁰ IID concluded that certain lower water use projects could still provide benefits to local water users. The resulting benefits; however, may not be to the same categories of use (e.g., municipal, commercial and industrial) but to the district as a whole.

At the general manager’s direction, IID staff developed a framework for a fallowing program that could be used to supplement the IWSP and meet the multiple policy objectives envisioned for the coordinated land use/water supply strategy. Certain private projects that, if implemented, will temporarily remove land from agricultural production within the district’s water service area include renewable solar energy and other non-agricultural projects. Such projects may need a short-term water supply for construction and decommissioning activities and longer-term water service for facility operation and maintenance or for treating to potable water standards. Conserved water will be credited to the extent that water use for the new project is less than the historic water use for the project site’s footprint as determined by the ten-year water use history.¹¹

¹⁰ IID website: [Temporary Land Conversion Fallowing Policy \(TLCFP\)](#), and The [TLCFP](#) are the sources of the text for this section.

¹¹ For details of how water conservation yield attributable to land removed from agricultural production and temporarily fallowed is computed, see [TLCFP for Water Conservation Yield](#).

Water demands for certain non-agricultural projects are typically less than that required for agricultural production; this reduced demand allows conserved water to be made available for other users under IID's annual consumptive use cap. This allows the district to avail itself of the ability during the term of the QSA/Transfer Agreements under [CWC Section 1013](#) to create conserved water through projects such as temporary land fallowing conservation measures. This conserved water can then be used to satisfy the district's conserved water transfer obligation and for environmental mitigation purposes.

Under the terms of the legislation adopted to facilitate the QSA/Transfer Agreements and enacted in CWC Section 1013, the TLCFP was adopted by the IID board on May 8, 2012 and revised on March 29, 2016 to update the fee schedule for 2016. This policy provides a framework for a temporary, long-term fallowing program to work in concert with the IWSP. While conserved water generated from the TLCFP is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the TLCFP serves to reduce efficiency conservation and water use reduction demands on IID water users, thus providing district wide benefits.

2. Imperial Irrigation District's Water Rights

The laws and regulations that influence IID's water supply are noted in this section. The Law of the River (as described below), along with the 2003 Quantification Settlement Agreement and Related Agreements serve as the laws, regulations and agreements that primarily influence the findings of this WSA. These agreements grant California the most senior water rights along the Colorado River and specify that IID has access to 3.1 MAF per year. These two components will influence future decisions in terms of water supply availability during periods of shortages.

2.1 California Law

IID has a longstanding right to divert Colorado River water, and IID holds legal titles to all of its water and water rights in trust for landowners within the district (CWC §20529 and §22437; *Bryant v. Yellen*, 447 U.S. 352, 371 (1980), fn.23.). Beginning in 1885, a number of individuals, as well as the California Development Company, made a series of appropriations of Colorado River water under California law for use in the Imperial Valley. The rights to these appropriations were among the properties acquired by IID from the California Development Company.

2.2 Law of the River

Colorado River water rights are governed by numerous compacts, state and federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." Together, these documents form the basis for allocation of the water, regulation of land use, and management of the Colorado River water supply among the seven basin states and Mexico.

Of all regulatory literature that governs Colorado River water rights, the following are the specifics that impact IID:

- Colorado River Compact (1922)
- Boulder Canyon Project Act (1928)
- California Seven-Party Agreement (1931)
- Arizona v. California US Supreme Court Decision (1964, 1979)
- Colorado River Basin Project Act (1968)
- Quantification Settlement Agreement and Related Agreements (2003)
- 2003 Colorado River Water Delivery Agreement: Federal QSA for purposes of Section 5(b) Interim Surplus Guidelines (CRWDA)
- 1970 Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs
- Annual Operating Plan (AOP) for Colorado River Reservoirs
- 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead (2007 Interim Guidelines)

2.2.1 Colorado River Compact (1922)

With authorization of their legislatures and urging of the federal government, representatives from the seven Colorado River basin states began negotiations regarding distribution of water from the Colorado

River in 1921. In November 1922, an interstate agreement called the “Colorado River Compact” was signed by the representatives giving the Lower Basin perpetual rights to annual apportionments of 7.5 million acre-feet (MAF) of Colorado River water (75 MAF over ten years). The Upper Basin was to receive the remainder, which based on the available hydrological record was also expected to be 7.5 MAF annually, with enough left over to provide 1.5 MAF annually to Mexico.

2.2.2 Boulder Canyon Project Act (1928)

Provisions in the 1928 Boulder Canyon Project Act made the compact effective and authorized construction of Hoover Dam and the All-American Canal, and served as the United States’ consent to accept the Compact. Through a Presidential Proclamation on June 25, 1929, this act resulted in ratification of the Compact by six of the basin states and required California to limit its annual consumptive use to 4.4 MAF of the lower basin’s apportionment plus not less than half of any excess or surplus water unapportioned by the Compact. A lawsuit was filed by the State of Arizona after its refusal to sign. Through the implementation of its 1929 Limitation Act, California abided by this federal mandate. The Boulder Canyon Act authorized the Secretary of the Interior (Secretary) to “contract for the storage of water... and for the delivery thereof... for irrigation and domestic uses,” and additionally defined the lower basin’s 7.5 MAF apportionment split, with an annual allocation 0.3 MAF to Nevada, 2.8 MAF to Arizona, and 4.4 MAF to California. Even though the three states never formally settled or agreed to these terms, a 1964 Supreme Court decision (*Arizona v. California*, 373 U.S. 546) declared the three states’ consent to be insignificant since the Boulder Canyon Project Act was authorized by the Secretary.

2.2.3 California Seven-Party-Agreement (1931)

Following implementation of the Boulder Canyon Project Act, the Secretary requested that California make recommendations regarding distribution of its apportionment of Colorado River water. In August 1931, under chairmanship of the State Engineer, the California Seven-Party Agreement was developed and authorized by the affected parties to prioritize California water rights. The Secretary accepted this agreement and established these priorities through General Regulations issued in September of 1931. The first four (4) priority allocations account for California’s annual apportionment of 4.4 MAF, with agricultural entities using 3.85 MAF of that total. Additional priorities are defined for years in which the Secretary declares that excess waters are available.

2.2.4 Arizona v. California U.S. Supreme Court Decision (1964, 1979)

The 1964 Supreme Court decision settled a 25-year disagreement between Arizona and California that stemmed from Arizona’s desire to build the Central Arizona Project to enable use of its full apportionment. California’s argument was that as Arizona used water from the Gila River, which is a Colorado River tributary, it was using a portion of its annual Colorado River apportionment. An additional argument from California was that it had developed a historical use of some of Arizona’s apportionment, which, under the doctrine of prior appropriation, precluded Arizona from developing the project. California’s arguments were rejected by the U.S. Supreme Court. Under direction of the Supreme Court, the Secretary was restricted from delivering water outside of the framework of apportionments defined by law. Preparation of annual reports documenting consumptive use of water in the three lower basin states was also mandated by the Supreme Court. In 1979, present perfected water rights (PPRs) referred to in the Colorado River Compact and in the Boulder Canyon Project Act were addressed by the Supreme Court in the form of a Supplemental Decree.

In March of 2006, a Consolidated Decree was issued by the Supreme Court to provide a single reference to the conditions of the original 1964 decrees and several additional decrees in 1966, 1979, 1984 and

2000 that stemmed from the original ruling. The Consolidated Decree also reflects the settlements of the federal reserved water rights claim for the Fort Yuma Indian Reservation.

2.2.5 Colorado River Basin Project Act (1968)

In 1968, various water development projects in both the upper and lower basins, including the Central Arizona Project (CAP) were authorized by Congress. Under the Colorado River Basin Project Act, priority was given to California's apportionment over (before) the CAP water supply in times of shortage. Also under the act, the Secretary was directed to prepare long-range criteria for the Colorado River reservoir system in consultation with the Colorado River Basin States.

2.2.6 Quantification Settlement Agreement and Related Agreements (2003)

With completion of a large portion of the CAP infrastructure in 1994, creation of the Arizona Water Banking Authority in 1995, and the growth of Las Vegas in the 1990s, California encountered increasing pressure to live within its rights under the Law of the River. After years of negotiating among Colorado River Compact States and affected California water delivery agencies, a Quantification Settlement Agreement and Related Agreements and documents were signed on October 10, 2003, by the Secretary of Interior, IID, Coachella Valley Water District (CVWD), Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA), and other affected parties.

The Quantification Settlement Agreement and Related Agreements (QSA/Transfer Agreements) are a set of interrelated contracts that resolve certain disputes among the United States, the State of California, IID, MWD, CVWD and SDCWA, for a period of 35 to 75 years, regarding the reasonable and beneficial use of Colorado River water; the ability to conserve, transfer and acquire conserved Colorado River water; the quantification and priority of Priorities 3(a) and 6(a)¹² within California for use of Colorado River water; and the obligation to implement and fund environmental impact mitigation.

Conserved water transfer agreements between IID and SDCWA, IID and CVWD, and IID and MWD are all part of the QSA/Transfer Agreements. For IID, these contracts identify conserved water volumes and establish transfer schedules along with price and payment terms. As specified in the agreements, IID will transfer nearly 415,000 AF annually over a 35-year period (or longer), as follows:

- to MWD 110,000 AF [modified to 105,000 AF in 2007],
- to SDCWA 205,000 AF,
- to CVWD and MWD combined 103,000 AF, and
- to certain San Luis Rey Indian Tribes up to 11,500 AFY of water.

All of the conserved water will ultimately come from IID system and on-farm efficiency conservation improvements. In the interim, IID has implemented a Fallowing Program to generate water associated with Salton Sea mitigation related to the impacts of the IID/SDCWA water transfer, as required by the State Water Resources Control Board, which is to run from 2003 through 2017. In return for its QSA/Transfer Agreements programs and deliveries, IID will receive payments totaling billions of dollars to fund needed efficiency conservation measures and to pay growers for conserved on-farm water, so IID can transfer nearly 14.5 MAF of water without impacting local productivity. In addition, IID will transfer to SDCWA 67,700 AFY annually of water conserved from the lining of the AAC in exchange for payment of lining project costs and a grant to IID of certain rights to use the conserved water. In addition to the

¹² Priorities 1, 2, 3(b), 6(b), and 7 of current Section 5 Contracts for the delivery of Colorado River water in the State of California and Indian and miscellaneous Present Perfected Rights within the State of California and other existing surplus water contracts are not affected by the QSA Agreement.

105,000 acre-feet of water currently being conserved under the 1988 IID/MWD Conservation Program, these more recent agreements define an additional 303,000 AFY to be conserved by IID from on-farm and distribution system conservation projects for transferred to SDCWA, CVWD, and MWD.

2.2.7 Colorado River Water Delivery Agreement (2003)¹³

As part of QSA/Transfer Agreements among California and federal agencies, the Colorado River Water Delivery Agreement: Federal QSA for purposes of Section 5(b) Interim Surplus Guidelines (CRWDA) was entered into by the Secretary of the Interior, IID, CVWD, MWD and SDCWA. This agreement involves the federal government because of the change in place of diversion from Imperial Dam into the All-American Canal to Parker Dam into MWD's Colorado River Aqueduct.

The CRWDA assists California to meet its "4.4 Plan" goals by quantifying deliveries for a specific number of years for certain Colorado River entitlements so transfers may occur. In particular, for the term of the CRWDA, quantification of Priority 3(a) was effected through caps on water deliveries to IID (consumptive use of 3.1 MAF per year) and CVWD (consumptive use of 330 KAF per year). In addition, California's Priority 3(a) apportionment between IID and CVWD, with provisions for transfer of supplies involving IID, CVWD, MWD and SDCWA are quantified in the CRWDA for a period of 35 years or 45 years (assumes SDCWA does not terminate in year 35) or 75 years (assumes SDCWA and IID mutually consent to renewal term of 30 years).

Allocations for consumptive use of Colorado River water by IID, CVWD and MWD that will enable California to stay within its basic annual apportionment (4.4 MAF plus not less than half of any declared surplus) are defined by the terms of the QSA/Transfer Agreements (Table 9). As specified in the QSA/Transfer Agreements, by 2026, IID annual use within (Imperial Valley) is to be reduced to just over 2.6 MAF of its 3.1 MAF quantified annual apportionment. The remaining nearly 500,000 AF (which includes the 67,000 AF from AAC lining) are to be transferred annually to urban water users outside of the Imperial Valley.

Table 9. CRWDA Annual 4.4 MAF Apportionment (Priorities 1 to 4) for California Agencies (AFY)

User	Apportionment (AFY)
Palo Verde Irrigation District and Yuma Project ^[a]	420,000
Imperial Irrigation District	3,100,000
Coachella Valley Water District	330,000
Metropolitan Water District of Southern California*	550,000
Total:	4,400,000

^[a] PVID and Yuma Project did not agree to a cap; value represents a contractual obligation by MWD to assume responsibility for any overages or be credited with any volume below this value.

Notes: All values are consumptive use at point of Colorado River diversion: Palo Verde Diversion Dam (PVID), Imperial Dam (IID and CVWD), and Parker Dam (MWD). Source: IID Annual Water Report

Quantification of Priority 6(a) was effected through quantifying annual consumptive use amounts to be made available in order of priority to MWD (38 KAF), IID (63 KAF), and CVWD (119 KAF) with the provision that any additional water available to Priority 6(a) be delivered under IID's and CVWD's existing water delivery contract with the Secretary¹⁴ The CRWDA provides that the underlying water delivery contract

¹³ [CRWDA: Federal QSA](#) accessed 7 June 2017.

¹⁴ When water levels in the Colorado River reservoirs are low, Priority 5, 6 and 7 apportionments are not available for diversion.

with the Secretary remain in full force and effect. (*Colorado River Documents 2008*, Chapter 6, pages 6-12 and 6-13). The CRWDA also provides a source of water to effect a San Luis Rey Indian Water Rights settlement. Additionally, the CRWDA satisfies the requirement of the 2001 Interim Surplus Guidelines (ISG) that a QSA be adopted as a prerequisite to the interim surplus determination by the Secretary in the ISG.

2.2.8 Inadvertent Overrun Payback Policy (2003)

The CRWDA Inadvertent Overrun Payback Policy (IOPP), adopted by the Secretary contemporaneously with the execution of the CRWDA, provides additional flexibility to Colorado River management and applies to entitlement holders in the Lower Division States (Arizona, California and Nevada).¹⁵ The IOPP defines inadvertent overruns as “Colorado River water diverted, pumped, or received by an entitlement holder of the Lower Division States that is in excess of the water users’ entitlement for the year.” An entitlement holder is allowed a maximum overrun of 10% of its Colorado River water entitlement when operating under normal conditions.

In the event of an overrun, the IOPP provides a mechanism to payback the overrun. When the Secretary has declared a normal year for Colorado River diversions, a contractor has from one to three years to pay back its obligation, with a minimum annual payback equal to 20% of the entitlement holder’s maximum allowable cumulative overrun account or 33.3% of the total account balance, whichever is greater. However, when Lake Mead is below 1,125 feet on January 1, the terms of the IOPP require that the payment of the inadvertent overrun obligation be made in the calendar year after the overrun is reported in the USBR Lower Colorado Region Colorado River Accounting and Water Use Report [for] Arizona, California, and Nevada (Decree Accounting Report).¹⁶

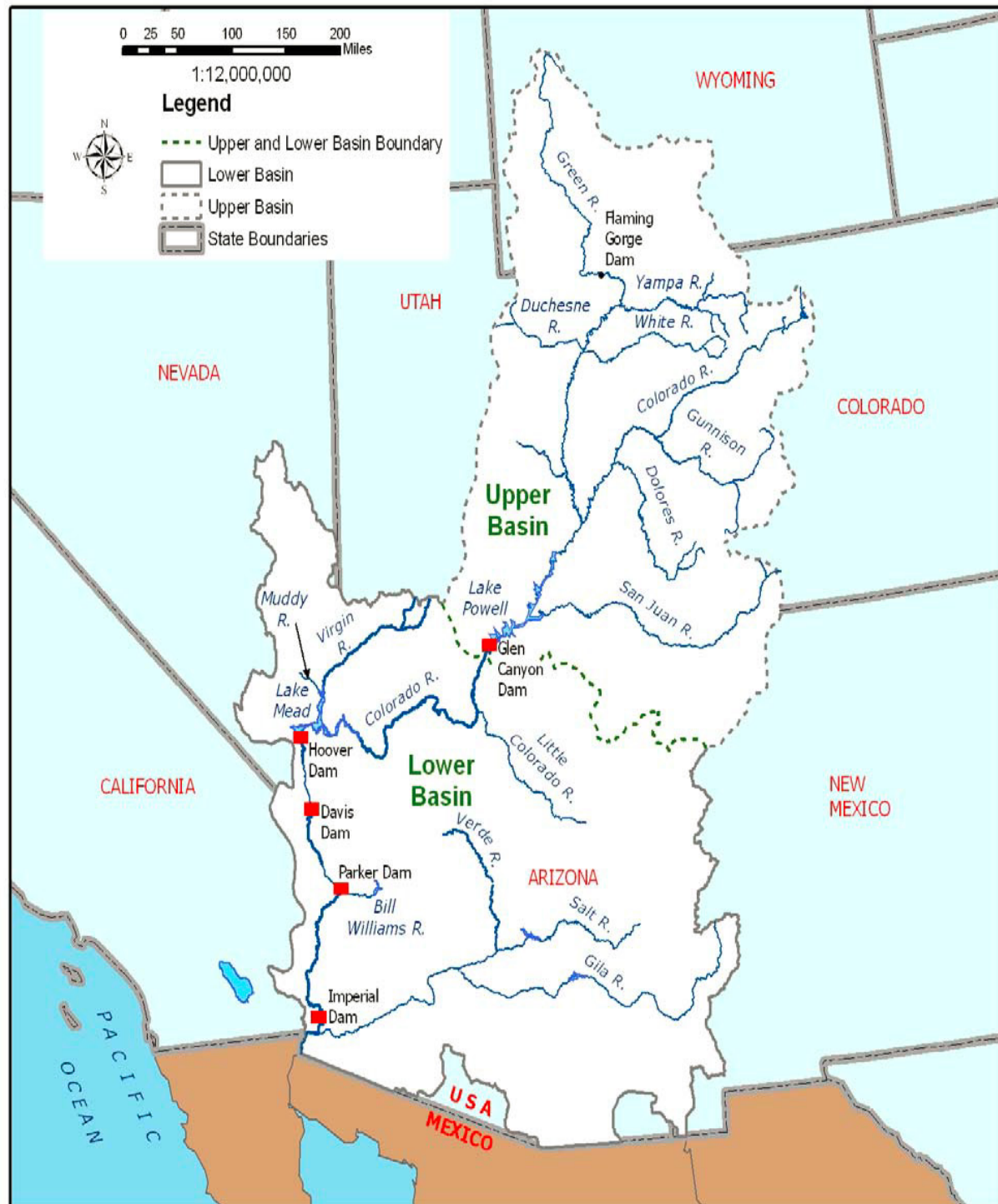
2.2.9 1970 Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs

The 1970 Operating Criteria control operation of the Colorado River reservoirs in compliance with requirements set forth in the Colorado River Compact of 1922, the United States-Mexico Water Treaty of 1944, the Colorado River Storage Project Act of 1956, the Boulder Canyon Projects Act (Lake Mead) and the Colorado River Basin Project Act (Upper Basin Reservoirs) of 1968, and other applicable federal laws. Under these Operating Criteria, the Secretary makes annual determinations published in the USBR Annual Operating Plan for Colorado River Reservoirs (discussed below) regarding the release of Colorado River water for deliveries to the lower basin states. A requirement to equalize active storage between Lake Powell and Lake Mead when there is sufficient storage in the Upper Basin is included in these operating criteria. **Figure 5** identifies the major storage facilities at the upper and lower basin boundaries.

¹⁵ USBR, 2003 CRWDA ROD Implementation Agreement, IOPP and Related Federal Actions Final EIS. Section IX. Implementing the Decision A. Inadvertent Overrun and Payback Policy. Pages 16-19 of 34.

¹⁶ 2003 [CRWDA ROD](#). Section IX. A.6.c, page 18 of 34.

Figure 5. Major Colorado River Reservoir Storage Facilities and Basin Location Map



Source: [Final EIS – Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Volume 1 Chapter 1 Purpose and Need](#), p I-10.

2.2.10 Annual Operating Plan for Colorado River Reservoirs (Applicable when Lake Mead Surplus/Shortage)

The AOP is developed in accordance with Section 602 of the Colorado River Basin Project Act (Public Law 90-537); the Criteria for Coordinated Long-Range Operations of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of 1968, as amended, promulgated by the Secretary of the Interior; and Section 1804(c)(3) of the Grand Canyon Protection Act (Public Law 102-575). As part of the AOP process, the Secretary makes determinations regarding the availability of Colorado River water for deliveries to the lower basin states, including whether normal, surplus, and shortage conditions are in effect on the lower portion of the Colorado River.

2.2.11 2007 Colorado River Interim Guidelines for Lower Basin Shortages (2007 Interim Guidelines)

A multi-year drought in the Colorado River Upper Basin triggered the need for the 2007 Interim Shortage Guidelines. In the summer of 1999, Lake Powell was essentially full with reservoir storage at 97% of capacity. However, precipitation fell off starting in October 1999 and 2002 inflow was the lowest recorded since Lake Powell began filling in 1963.¹⁷ By August 2011, inflow was 279% of average; however, drought resumed in 2012 and continued through calendar year 2022. Although 2023 experienced hydrological improvements, it was not sufficient to make a significant difference in lake elevation. Using the record in **Table 10**, average unregulated inflow to Lake Powell for water years 2000-2023 is 71% (71.43%); or if 2011 is excluded, 65% (65.52%) of the historic average.

Table 10. Unregulated Inflow to Lake Powell, % of Historic Average, 2000-2023

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
62%	59%	25%	51%	49%	105%	73%	68%	102%	88%	73%
2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
136%	35%	49%	90%	83%	80%	101%	36%	120%	54%	36%
2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
34%	34%									

Source: [UCR Water Operations: Historic Data](#) (2000-2023)

In the midst of the drought period, USBR developed 2007 Interim Guidelines with consensus from the seven basin states, which selected the Draft EIS Preferred Alternative as the basis for USBR's final determination. The basin states found the Preferred Alternative best met all aspects of the purpose and need for the federal action.¹⁸

The 2007 Interim Guidelines Preferred Alternative highlights the following:

1. The need for the Interim Guidelines to remain in place for an extended period of time.
2. The desirability of the Preferred Alternative based on the facilitated consensus recommendation from the basin states.

¹⁷ Water Year: October 1 through September 30 of following year, so water year ending September 30, 1999

¹⁸ USBR *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* <<http://www.usbr.gov/lc/region/programs/strategies.html>>

3. The likely durability of the mechanisms adopted in the Preferred Alternative in light of the extraordinary efforts that the basin states and water users have undertaken to develop implementing agreements that will facilitate the water management tools (shortage sharing, forbearance, and conservation efforts) identified in the Preferred Alternative
4. That the range of elements in the Preferred Alternative will enhance the Secretary's ability to manage the Colorado River reservoirs in a manner that recognizes the inherent tradeoffs between water delivery and water storage.

In June 2007, USBR announced that a preferred alternative for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead (Final Preferred Alternative) had been determined. The Final Preferred Alternative, based on the basin states' consensus alternative and an alternative submitted by the environmental interests called "Conservation Before Shortage," is comprised of four key operational elements which are to guide operations of Lake Powell and Lake Mead through 2026 are:

1. Shortage strategy for Lake Mead and Lower Division states: The Preferred Alternative proposed discrete levels of shortage volumes associated with Lake Mead elevations to conserve reservoir storage and provide water users and managers in the Lower Basin with greater certainty to know when, and by how much, water deliveries will be reduced during low reservoir conditions.
2. Coordinated operations of Lake Powell and Lake Mead: The Preferred Alternative proposed a fully coordinated operation of the reservoirs to minimize shortages in the Lower Basin and to avoid risk of curtailments of water use in the Upper Basin.
3. Mechanism for storage and delivery of conserved water in Lake Mead: The Preferred Alternative proposed the Intentionally Created Surplus (ICS) mechanism to provide for the creation, accounting, and delivery of conserved system and non-system water thereby promoting water conservation in the Lower Basin. Credits for Colorado River or non-Colorado River water that has been conserved by users in the Lower Basin creating an ICS would be made available for release from Lake Mead at a later time. The total amount of credits would be 2.1 MAF, but this amount could be increased up to 4.2 MAF in future years.
4. Modifying and extending elements of the Interim Surplus Guidelines (ISG). The ISG determines conditions under which surplus water is made available for use within the Lower Division states. These modifications eliminate the most liberal surplus conditions thereby leaving more water in storage to reduce the severity of future shortages.

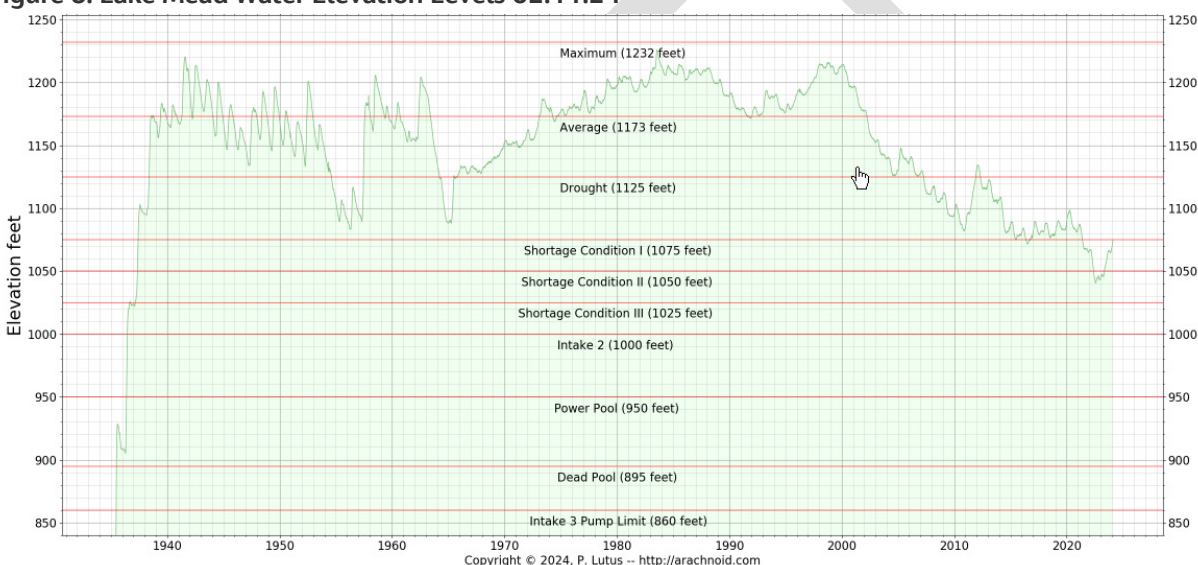
With respect to the various interests, positions and views of the seven basin states, this provision adds an important element to the evolution of the legal framework for prudent management of the Colorado River. Furthermore, the coordinated operation element allows for adjustment of Lake Powell releases to respond to low reservoir storage conditions in either Lake Powell or Lake Mead. States found the Preferred Alternative best met all aspects of the purpose and need for the federal action.¹⁹ The 2007 Interim Guidelines are in place from 2008 through December 31, 2025 (through preparation of the 2026 Annual Operating Plan).

¹⁹ [*USBR Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.*](#)

2.2.12 Lower Colorado Region Water Shortage Operations

The Colorado River Basin is experiencing a prolonged period of drought and record-low runoff conditions that have resulted in historically low reservoir levels in both Lake Powell (upper Basin) and Lake Mead (lower Basin). The period from 2000 through 2023 was the lowest 24-year inflow into Lake Powell in the historical record and has strained the Colorado River system. The drought in the Colorado River watershed has continued through 2023. Despite an increase in observed runoff in August 2011 when unregulated inflow to Lake Powell was 279% of the average. Since 2000, Lake Mead has been below the “average” level of lake elevations (see Figure 6). Such conditions have caused the activation of shortage plans for waters users in Arizona and Nevada, and in Mexico. By May of 2022 Lake Meads elevation had declined to 1,048 feet. These conditions resulted in the U.S. Secretary of the Interior declaring the first-ever Tier 2a Shortage on the Colorado River. The drought in the Colorado River watershed had lessened by mid 2023 after a winter of record-breaking rain and snow but not enough to take out of a Tier 1 Shortage for 2024 operations.

Figure 6. Lake Mead Water Elevation Levels 02.11.24



visit <<http://www.arachnoid.com/NaturalResources/index.html>>

According to guidelines put in place in 2007, Arizona and Nevada begin to take shortages when the water elevation in Lake Mead falls below 1,075 feet. The volumes of shortages increase as water levels fall to 1,050 feet and again at 1,025 feet. In 2012, Mexico agreed to participate in a 5-year pilot agreement to share specific volumes of shortages at the same elevations. The 2007 interim shortage guidelines contain no reductions for California, which has senior water rights to the Central Arizona Project water supply, through 2025 when the guidelines expire. If Lake Mead's elevation drops to 1,025 feet, a re-consultation process would be triggered among the basin states to address next steps. Consultation would start out within each state, then move to the three lower basin states, followed by all seven states and the USBR. Mexico will then be brought into the process unless they choose to participate earlier. In total, 721,000 acre-feet of reductions will be implemented in the Lower Basin and Mexico in 2023 consistent with various agreements that dictate the operation of the Colorado River.

California has no stipulated reduction to its water supplies under a Tier 2a Shortage declaration. While not directly affected by the shortage reductions announced by Reclamation, the Shortage condition does prevent IID from overrunning its approved water order and, as stated earlier, contributions to address Lake

Mead water elevation are anticipated by IID. IID has offered voluntary water conservation for the benefit of Lake Mead, up to 250,000 AFY, as long as there are no obligatory reductions.

DRAFT

3. Imperial Irrigation District Water Supply and Demand

SB 610 requires an analysis of a normal, single dry, and multiple dry water years to show that adequate water is available for the proposed Project in various climate scenarios. Water availability for this Project in a normal year is no different from water availability during a single-dry and multiple-dry year scenarios. This is due to the small effect rainfall has on water availability in IID's arid environment along with IID's strong entitlements to the Colorado River water supply. Local rainfall does have some impact on how much water is consumed (i.e. if rain falls on agricultural lands, those lands will not demand as much irrigation), but does not impact the definition of a normal year, a single-dry year or a multiple-dry year scenario.

4. Water Availability – Normal Year

IID is entitled to annual net consumptive use of 3.1 MAF of Colorado River, less its QSA/Transfer Agreement obligations. Imperial Dam, located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona and Mexico. Water is transported to the IID water service area through the AAC for use throughout the Imperial Valley. IID historic and forecast net consumptive use volumes at Imperial Dam from CRWDA Exhibit B are shown in **Table 10**. Volumes 2003-2023 are adjusted for USBR Decree Accounting historic records. Volumes for 2024-2077 are from CRWDA Exhibit B modified to reflect 2014 Letter Agreement changes to the 1988 IID/MWD Water Conservation Agreement.²⁰

Due to limits on annual consumptive use of Colorado River water under the QSA/Transfer Agreements, IID's water supply during a normal year is best represented by the CRWDA Exhibit B Net Available for Consumptive Use (**Table 11**, Column 11). The annual volume is IID Priority 3(a) Quantified Amount of 3.1 million acre-feet (MAF) (**Table 11**, Column 2) less the IID transfer program reductions for each year (**Table 11**, Columns 3-9). IID suggests **Table 11**, which assumes full use of IID's quantified water supply, be used in determining base normal year water availability.

Table 11. IID Historic and Forecast Net Consumptive Use for Normal Year, Single-Dry Year and Multiple-Dry Year Water Supply, 2003-2037, et seq. (CRWDA Exhibit B)

IID Quantification and Transfers, Volumes in KAF at Imperial Dam ^[1]										
Col 1	2	3	4	5	6	7	8	9	10	11
Year	IID Priority 3(a)									IID Net [Available for] Consumptive Use (Col 2 - 10)
	IID 3(a) Quantified Amount	IID Reductions								
		1988 MWD Transfer ^[2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer ^[3]	Intra-Priority 3 CVWD Transfer	MWD Transfer w\ Salton Sea Restoration ^[4]	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) ^[5]	
2003	3,100	105.1	10.0	0.0	0.0	0.0	0.0	11.5	126.6	2978.2
2004	3,100	101.9	20.0	0.0	15.0	0.0	0.0	11.5	148.4	2743.9
2005	3,100	101.9	30.0	0.0	15.0	0.0	0.0	11.5	158.4	2756.8
2006	3,100	101.2	40.0	0.0	20.0	0.0	0.0	11.5	172.7	2909.7
2007	3,100	105.0	50.0	0.0	25.0	0.0	0.0	11.5	191.5	2872.8
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2825.1

²⁰ [2014 Imperial Irrigation District Letter Agreement](#) for Substitution and Conservation Modifications to the IID/MWD Water Conservation Agreement - December 17, 2014.

IID Quantification and Transfers, Volumes in KAF at Imperial Dam ^[1]										
Col 1	2	3	4	5	6	7	8	9	10	11
Year	IID Priority 3(a)									
	IID 3(a) Quantified Amount	IID Reductions								IID Net [Available for] Consumptive Use (Col 2 - 10)
		1988 MWD Transfer ^[2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer ^[3]	Intra-Priority 3 CVWD Transfer	MWD Transfer w\ Salton Sea Restoration ^[4]	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) ^[5]	
2009	3,100	105.0	60.0	65.5	30.1	8.0	0.0	11.5	280.1	2566.7
2010	3,100	105.0	70.0	67.7	33.8	12.0	0.0	11.5	294.8	2540.5
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	262.4	2915.8
2012	3,100	104.1	106.7	67.7	15.2	21.0	0.0	11.5	326.2	2,903.2
2013	3,100	105.0	100.0	67.7	71.4	26.0	0.0	11.5	381.6	2,554.9
2014	3,100	104.1	100.0	67.7	89.2	31.0	0.0	11.5	403.5	2,533.4
2015	3,100	107.82	100.0	67.7	153.3	36.0	0.0	11.5	476.3	2,480.9
2016	3,100	105.0	100.0	67.7	130.8	41.0	0.0	11.5	456.0	2,504.3
2017	3,100	105.0	100.0	67.7	105.3	45.0	0.0	9.9	432.9	2,667.1
2018	3,100	105	130	67.7	0.1	63	0.0	9.7	375.5	2,724.5
2019 ⁶	3,100	105	160	67.7	46.55	68	0.0	6.9	454.2	2,645.8
2020	3,100	105	192.5	67.7	0.0	73	0.0	9.1	448.0	2,652.0
2021	3,100	105	205	67.7	0.0	78	0.0	9.3	465.0	2,635.0
2022	3,100	105	202.5	67.7	0	83	0.0	9.8	468.0	2,632.0
2023 ^[7]	3,100	105	150	67.7	0	88	0.0	9.9	420.6	2,679.4
2024	3,100	105	200	67.7	0	93	0.0	11.5	477.2	2,622.8
2025	3,100	105	200	67.7	0	98	0.0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2029-37	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8

IID Quantification and Transfers, Volumes in KAF at Imperial Dam ^[1]										
Col 1	2	3	4	5	6	7	8	9	10	11
Year	IID Priority 3(a)									IID Net [Available for] Consumptive Use (Col 2 - 10)
	IID 3(a) Quantified Amount	IID Reductions								
		1988 MWD Transfer ^[2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer ^[3]	Intra-Priority 3 CVWD Transfer	MWD Transfer w/ Salton Sea Restoration ^[4]	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) ^[5]	
2038-47 ^[8]	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2048-77 ^[9]	3,100	105	200	67.7	0	50	0.0	11.5	434.2	2,665.8

^[1] 2003 through 2023, volumes are adjusted for actual USBR Decree Accounting values; IID Total Reduction and Net Available for Consumptive Use may not equal Col 2 minus Col 10, if IID conservation/use was not included in Exhibit B.

^[2] 2014 Letter of Agreement provides that, effective January 2016 total amount of conserved water available is 105 KAFY

^[3] Salton Sea Mitigation volumes may vary based on conservation volumes and method of conservation.

^[4] This transfer is not likely given lack of progress on Salton Sea restoration as of 2018; shaded entries represents volumes that may vary.

^[5] Reductions include conservation for 1988 IID/MWD Transfer, IID/SDCWA Transfer, AAC Lining; SDCWA Transfer Mitigation, MWD Transfer w/Salton Sea Restoration (if any); Misc. PPRs. Amounts are independent of increases and reductions as allowed by the IOPP.

^[6] In order to resolve the outstanding 2010 Salton Sea mitigation water pre-delivery issue, IID left 46,546 AF of extraordinary conservation in Lake Mead. See IID's December 19, 2019 revised 2019 water order and Reclamation's March 10, 2020 approval letter.

^[7] In 2023, 50 KAF of ICS was foregone by SDCWA for the benefit of Lake Mead under the Drought Response Plan by Reclamation.

^[8] Assumes SDCWA does not elect termination in year 35.

^[9] Assumes SDCWA and IID mutually consent to renewal term of 30 years.

^[10] Modified from 100 KAFY in CRWDA Exhibit B; stating in 2018 MWD will provide CVWD 50 KAFY of the 100 KAFY.

Source: [CRWDA: Federal QSA](#) Exhibit B, p 13; updated values from [2022 Annual Water & QSA Implementation Report](#)

5. Expected Water Availability – Single Dry and Multiple Dry Years

Historically, when drought conditions exist within the IID water service area, as has been the case for the past two decades, the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID historically relied solely on its entitlement for Colorado River water. Due to the priority of IID water rights and other agreements, drought conditions affecting Colorado River water supplies cause shortages for Arizona, Nevada and Mexico, before impacting California and IID. Accordingly, the Net Available for Consumptive Use volumes in **Table 11**, Column 11 represents the water supply at Imperial Dam available for diversion by IID in single-dry year and multiple-dry year scenarios, consistent with IID's senior water rights. The runoff declines in the upper basin and prolonged drought conditions throughout the west have resulted, for the first time, in the Colorado River operating under a Tier 2a Shortage Condition in 2023, creating long-term water supply uncertainties throughout the Basin states.

5.1 Water Management under a Suspended Inadvertent Overrun Payback Policy (IOPP)

Under normal operating conditions, the CRWDA Inadvertent Overrun Payback Policy (IOPP), provided IID with some flexibility to manage its water use. When the water level in Lake Mead is above 1,125 feet, an overrun of its USBR approved annual water order was permissible, and IID had up to three years to pay water use above the annual water order. When Lake Mead's water level is at or below 1,125 feet on January 1 in the calendar year after the overrun is reported in the USBR Lower Colorado Region Decree Accounting Report, the IOPP prohibits additional overruns and requires that outstanding overruns be paid back in the subsequent calendar year rather than in three years as allowed under normal conditions; that is, the payback is to be made in the calendar year following publication of the overrun in the USBR Decree Accounting Report. The IOPP is suspended during shortage conditions. For historic IID annual rainfall, net consumptive use, transfers and IID underrun/overrun amounts, see **Table 12**.

Table 12. IID Annual Rainfall (In), Net Consumptive Use and Underrun/Overrun Amounts (AF), 1988-2023

Year	IID Total Annual Rainfall	IID Water Users	IID/MWD Transfer	IID/SDC WA Transfer	SDCWA Transfer Salton Sea Mitigation	IID Underrun/ (Overrun)	IID/CVWD Transfer	AAC Lining
1988		2,947,581						
1989		3,009,451						
1990	91,104	3,054,188	6,110					
1991	192,671	2,898,963	26,700					
1992	375,955	2,575,659	33,929					
1993	288,081	2,772,148	54,830					
1994	137,226	3,048,076	72,870					
1995	159,189	3,070,582	74,570					

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Year	IID Total Annual Rainfall	IID Water Users	IID/MWD Transfer	IID/SDC WA Transfer	SDCWA Transfer Salton Sea Mitigation	IID Underrun/ (Overrun)	IID/CVWD Transfer	AAC Lining
1996	78,507	3,159,609	90,880					
1997	64,407	3,158,486	97,740					
1998	100,092	3,101,548	107,160					
1999	67,854	3,088,980	108,500					
2000	29,642	3,112,770	109,460					
2001	12,850	3,089,911	106,880					
2002	12,850	3,152,984	104,940					
2003	116,232	2,978,223	105,130	10,000	0	(6,555)		
2004	199,358	2,743,909	101,900	20,000	15,000	166,408		
2005	202,983	2,756,846	101,940	30,000	15,000	159,881		
2006	19,893	2,909,680	101,160	40,000	20,000	(12,414)		
2007	64,580	2,872,754	105,000	50,000	25,021	(6,358)		
2008	63,124	2,825,116	105,000	50,000	26,085	47,999	4,000	8,898
2009	30,0354	2,566,713	105,000	60,000	30,158	237,767	8,000	65,577
2010	189,566	2,545,593	105,000	70,000	33,736	207,925	12,000	67,700
2011	109,703	2,915,784	103,940	63,278	0	(82,662)	16,000	67,700
2012	133,526	2,903,216	104,140	106,722	15,182	(134,076)	21,000	67,700
2013	134,497	2,554,845	105,000	100,000	71,398	64,981	26,000	67,700
2014	53,517	2,533,414	104,100	100,000	89,168	797	31,000	67,700
2015	97,039	2,480,933	107,820	100,000	153,327	90,025	36,000	67,700
2016	90,586	2,504,258	105,000	100,000	130,796	62,497	41,000	67,700
2017	105,919	2,548,171	105,000	100,000	105,311	30,591	45,000	67,700
2018	63,318	2,625,422	105,000	130,000	0	0	63,000	67,700
2019	146,384	2,558,136	105,000	160,000	46,555	34,215	68,000	67,700
2020	130,275	2,493,623	105,000	192,500	0	98,073	73,000	67,700
2021	81,901	2,552,674	105,000	205,000	0	37,737	78,000	67,700
2022	61,377	2,577,164	105,000	202,500	0	6,470	83,000	67,700
2023	68,122	2,417,024	105,000	150,000	0	146.8	88,000	67,700

Notes: Volumes in acre-feet and except Total Annual Rainfall are USBR Decree Accounting Report record at Imperial Dam.

IID Total Annual Rainfall from IID Provisional Water Balance, first available calculations are for 1990

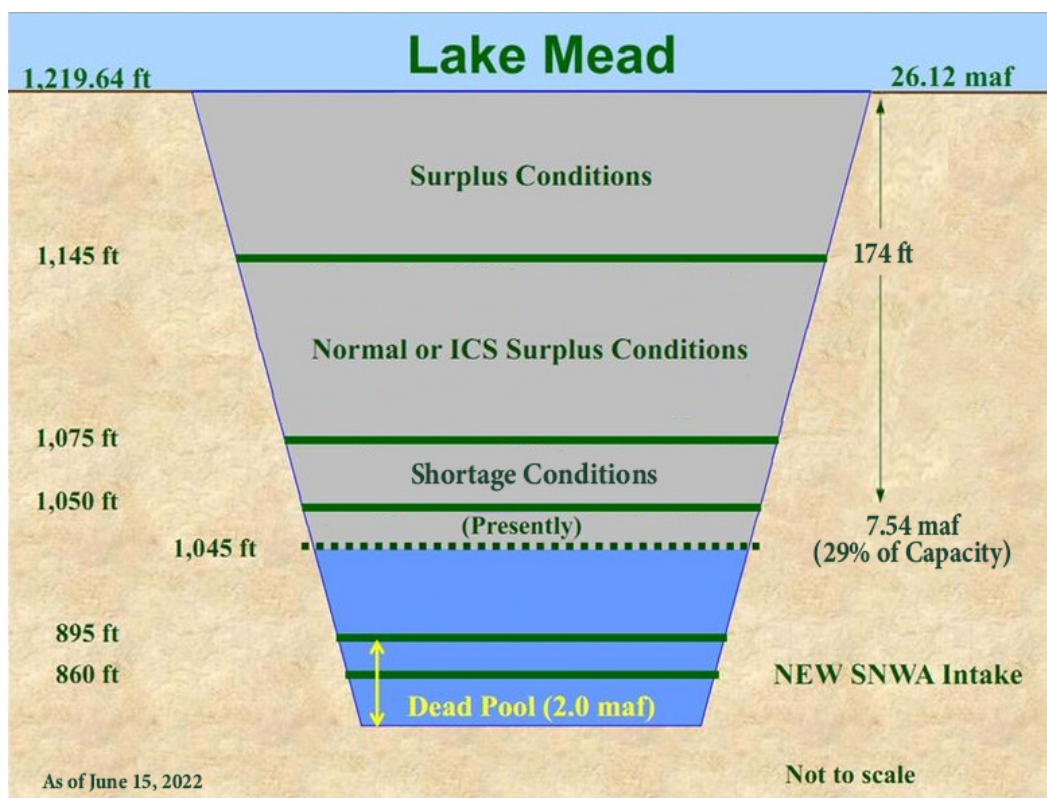
Not all IID QSA programs are shown on this table.

Source: [USBR Decree Accounting reports](#), except IID Total Rainfall and IID Overrun/Underrun is a separate calculation

Source: [2022 IID Annual Water & QSA Implementation Report](#) and [2023 IID SWRCB Report](#); IID Total Rainfall and IID Overrun/ Underrun is a separate calculation

On August 16, 2021, the water level in Lake Mead was 1,060 feet and for the first time since the IOPP came into effect, the Secretary of the Interior declared the first-ever, Tier 1 shortage condition for Colorado River operations, elevations reaching 1,045 as of mid-2022 (Figure 7). For IID, this meant that no overruns would be allowed to IID's approved water order and continues in effect through 2024.

Figure 7. Lake Mead Schematic (June 15, 2022)



The flexibility that IID was allowed in 2013 and 2014 is no longer available to the district. Under the terms of the IOPP, no overruns are allowed in a year when payback is required. IID has not experienced any overrun pay back since 2014 as noted in **Table 13**. Under shortage conditions, IID would use any conserved water stored in a non-System reservoir, if available, to prevent any overrun.

Table 13. IID Inadvertent Overrun Payback to the Colorado River under the IOPP, 2013-2023

Calendar Year of Payback	2011 Overrun Payback (AF)	2012 Overrun Payback (AF)	Payback Total for Calendar Year (AF)
2013	55,710	-	55,710
2014	20,662	134,076	154,738
Total Payback	76,372	134,076	210,448

Notes: All values are consumptive use volumes at Imperial Dam (AF).

2013 Payback Total was 62 KAF, but in 2012 IID had 6,290 AF of early payback, reducing volume to 55,710 AF

The 2013 IOPP payback obligation, prohibition on overruns in payback years, and suspension of this flexibility during shortage conditions led the IID Board to implement an apportionment program pursuant to the 2007 Equitable Distribution Plan (EDP), which has been subsequently revised and modified over the

years. The Revised 2023 EDP is a version approved and adopted by the IID Board on July 26, 2023 (see Attachment B). The Revised 2023 EDP also establishes a water exchange clearinghouse to facilitate the movement of water supply between all water users and water user categories. The established water user categories are 1) agricultural water users, 2) industrial/commercial water users and 3) potable water users. As designed, the clearinghouse will allow IID and its water customers to balance water demands with the water supplies that are available to all users.

Generally, the EDP Apportionment, as discussed in the preceding section, is not expected to impact industrial/commercial uses. However, given the certainty of continuing drought on the Colorado River through 2026 and other stressors, provisions such as the 2012 IWSP Water Agreement as well for dry and multiple dry year water assessment may come into effect. IID has agreed to work with Project proponents to ensure to the extent possible that the IWSP Water Supply Agreement terms will not adversely impact Project operation. For purposes of this WSA, years with a shortage condition that impacts non-agricultural projects such as an IOPP payback obligation constitute “dry” years for IID. For single-dry year and multiple-dry water year assessments, IID’s EDP shall govern.

5.2 Equitable Distribution Plan History

A 2006 study by Hanemann and Brookes suggested that overrun conditions were likely to occur 40-50% of the years during the decade following the report. Under such conditions a supply/demand imbalance would occur resulting in a need to apportion water consistent with state law. Under California state law, water must be distributed equitably as determined by the IID Board of Directors.

On November 28, 2006, the IID Board of Directors adopted Resolution No 22-2006 approving development and implementation of an Equitable Distribution Plan to address times when customers’ demand would exceed IID’s Colorado River supply. The EDP, adopted in 2007 allowed the IID Board to institute an apportionment program. As part of this resolution, the IID Board directed the General Manager to prepare the rules and regulations necessary or appropriate to implement the plan within the district. The EDP Regulations were created to enable IID to implement a water management tool (apportionment) to address years in which water demand is expected to exceed supply.

It was expected that an annual EDP Apportionment would be established for each of the next several years, if not for the duration of the QSA. However, the implementation of the EDP apportionment was legally challenged in 2013 with litigation ensuing through 2017 when a statement of decision was issued by the trial court, followed by a writ of mandate and a declaratory judgment later that year. The writ of mandate directed IID to repeal the EDP. On February 6, 2018, the IID board approved a resolution repealing the EDP while the case was on appeal. On July 16, 2020, the appellate court reversed the writ of mandate and declaratory judgment on almost all grounds, including declaratory relief on the water rights issue and IID’s discretion to determine the method of apportionment except for a provision as to how water was prioritized among water user categories. The court ruled that the district is required to distribute water equitably for all categories of users.

On June 21, 2022, IID adopted a revised EDP to address the single outstanding legal issue with respect to prioritization of apportionments among categories of water users. The revised EDP also updated certain operational provisions and most importantly, to the extent feasible, provides for a defined quantity of available, annual water supply apportioned to each water user to prevent cumulative demands from exceeding IID’s available, authorized annual Colorado River supply (Appendix B-Equitable Distribution Plan). Implementation of the EDP will resume January 1, 2023 and continue annually thereafter consistent with the latest adopted EDP. In July 2023 the EDP was revised again to allow for direct transfer of water through the IID Clearinghouse and among the respective water user categories. For details

regarding the EDP and its implementation, including related forms, please visit IID's website at [Equitable Distribution | Imperial Irrigation District \(iid.com\)](https://iid.com).

5.3 Projected Water Supplies

The projected and continued decline in runoff and prolonged drought conditions in the West are expected to contribute to even lower water elevation levels at Lakes Powell and Mead. The Department of the Interior made the decision in early 2022 to protect critical Lake Powell elevations above Glen Canyon Dam by adding 500,000 AF of water from Flaming Gorge reservoir and temporarily reducing the 2022 annual operational release to Lake Mead by 480,000 AF. These conditions resulted in a reduced water apportionment to most of the Lower Division States and Mexico for 2022 and 2023, but did not affect IID's water supply for consumptive use.

Despite the Department's extraordinary actions, the hydrological forecasts and reservoir elevations have continued to decline. Basin states have been asked to develop a plan in 2022 to reduce demands by 2-4 million acre-feet per year through 2026 or the Secretary of the Interior would take regulatory action to force these reductions in order to protect the Colorado River system from the prolonged drought conditions and climate change impacts. California reductions, or the potential for regulatory reductions by the Secretary of the Interior remain undefined as of the date of this water supply assessment for the BRGP.

IID is working diligently with federal agencies and Colorado River contractors to minimize impacts to the local community. In this vein, IID recognizes the need for significant response actions to protect the long-term water supply certainty for the Imperial Valley as the Colorado River operates under these unprecedented conditions. On October 5, 2022 the Colorado River Board of California, in partnership with representatives of the four primary California Section 5 contractors (IID, Palo Verde Irrigation District, Coachella Valley Water District and Metropolitan Water District of Southern California) submitted a letter to the Department of Interior proposing for California to conserve up to an additional 400,000 AF of water in Lake Mead each year, beginning in 2023 and extending through 2026, to assist with stabilizing Colorado River reservoir elevations. IID has gone on record that its share of the California proposal would not exceed 250,000 AFY. IID proposes to conserve its contribution to Lake Mead via system and on-farm efficiency conservation and temporary fallowing.

6. Project Water Availability for a 20-Year Period to Meet Projected Demands

The proposed Project will obtain drinking water from a certified State of California provider. Potable water is needed to supply drinking water, wash basin water, eyewash equipment water, water for showers and lavatories in crew change quarters, restrooms and kitchen facilities in the control building, and sink water in the sample laboratory. The potable water will be supplied through a reverse osmosis system or an equivalent system, and/or delivered through a commercial water service. If delivered, the provider will be certified in the State of California, authorized to haul potable water to the project site, and verified through purchase agreement to Imperial County Public Health Department, Division of Environmental Health.

Untreated Colorado River water will be supplied to the project via the Vail 4A Lateral, Gate V4A-460-001, with a backup delivery point, when the primary canal is out of service and IID has been notified, at a new gate from Vail Lateral 4, in the vicinity of Gate V4-417-001, under an Industrial Water Supply agreement with IID. The zoning designation at the Plant Site is Heavy Agriculture with a Geothermal Overlay (A-3-G). The purpose of the Heavy Agriculture (A-3) Zone is to designate areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses. The A-3 designation is used to promote the heaviest of agricultural uses in the most suitable land areas of Imperial County. Uses in the A-3 zoning designation are limited primarily to agricultural related uses and agricultural activities that are compatible with agricultural uses. Per Code Section § 90509.02, major geothermal projects which meet the requirements of Division 17 are conditionally permitted in the A-3 zoning. Further, the Geothermal Overlay identifies the parcel as suitable for geothermal activities. Adjacent parcels to the east and south are similarly zoned A-3-G. It is unknown what condition the delivery gates are in.

As noted previously, under the terms of California legislation adopted to facilitate the QSA/Transfer Agreements and enacted in [CWC Section 1013](#), the IID board adopted the [TLCFP](#) to address how to deal with any such temporary reduction of water use by projects such as solar projects that are developed under a CUP.

While conserved water generated from the TLCFP is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the TLCFP serves to reduce the need for efficiency conservation and other water use reduction practices on the part of IID and its water users providing the district with wide benefits. One of the considerations in developing the TLCFP was to provide agricultural land owners with long-term assurances from IID that, at Project termination, irrigation service would be available for them to resume farming operations.

6.1 IWSP Water

At the present time, IID is providing water delivery service for use by solar energy generation projects under Water Rate [Schedule 7 General Industrial Use](#). If IID determines that the proposed Project should obtain water under IID's Interim Water Supply Policy (IWSP) for non-agricultural projects in addition to delivery rates under [Schedule 7 General Industrial Use](#), the Applicant may need to initiate the process to secure a water supply agreement. IID will determine whether the Project should obtain water under IID's Interim Water Supply Policy (IWSP) for non-agricultural projects in addition to Schedule 7 General Industrial Water.

The IWSP, provided herein as Attachment A, designates up to 25,000 AFY of water for potential Non-Agricultural Projects within IID's water service area. As of January 2024, IID has up to 18,620 AF that

it may make available under the IWSP for new projects such as the proposed project. The IWSP establishes a schedule for Processing Fees, Reservation Fees, and Development Fees that change each year for all non-agricultural projects, and annual Water Supply Development fees for some non-agricultural projects. The proposed Project's water use will be subject to the annual Water Supply Development fee if IID determines that water for the Project is to be supplied under the IWSP.

Given the Colorado River conditions, the likelihood that IID will not receive its annual 3.1 MAF apportionment less QSA/Transfer Agreement obligations of Colorado River water is no longer low despite the high priority of the IID entitlement relative to other Colorado River contractors, see IID's Water Rights section on page 2-1 and projected water supplies. Given the prolonged drought conditions and recent communication from the Department of the Interior, reductions to all basin contractors, including IID, are increasingly likely. If such obligatory reductions were to come into effect within the 20-year Project life, the Applicants are to work with IID to ensure any anticipated reduction can be managed.

The County of Imperial as the lead agency has a responsibility to determine if the current and projected demands and water supply conditions, including projected uncertainties of Colorado River hydrology are sufficient to enable the County to make the findings necessary to approve this WSA. IID, like any water provider, has jurisdiction to manage the water supply within its service area and impose conservation measures during a period of temporary water shortage, such as the one we are experiencing now.

Water for construction (primarily for dust control) would be obtained from IID canals or laterals in conformance with IID rules and regulations for MCI temporary water use.²¹ Water would be picked up from a nearby canal or lateral and delivered to the construction location by a water truck capable of carrying approximately 4,000 gallons per load. To obtain water delivery service, the Project proponent will complete an [IID-410 Certificate of Ownership and Authorization](#) (Water Card), which allows the Water Department to provide the district with information needed to manage the district apportioned water supply. Water cards are used for Agriculture, Municipal, Industrial and Service Pipe accounts. If water is to be provided under IWSP in addition to Schedule 7. General Industrial Use, the Applicant may also need to enter into a IWSP Water Supply Agreement.

²¹ Complete the Application for Temporary Water Use and submit to Division office. Complete encroachment permit through Real Estate – non-refundable application fee of \$250, see IID website: [Real Estate](#) / Encroachments, Permissions, and Other Permitting. Fee for temporary service water: Schedule No. 7 General Industrial Use/Temporary Service Minimum charge for up to 5 AF, pay full flat fee for 5 AF at General Industrial Use rate (\$425); use more than 5 AF, pay fee for actual use at General Industrial Rate (\$85/AF).

7. Expected Water Demands for the Proposed Project

Water for the proposed Project will be needed on-site primarily for the cooling tower makeup water to offset water lost through evaporation. The cooling tower makeup water is usually provided by condensed geothermal steam from the main condenser except during high ambient conditions when supplemental water will be used from the service water pond. Approximately 80% of the operational water required by the facility will be generated by steam condensed in the main condenser. IID canal water will also serve as the water source for maintenance activities, the fire protection system, and to fill the cooling tower prior to startup. use. Untreated Colorado River water will be supplied to the project via the Vail 4A Lateral, Gate V4A-460-001 with a backup delivery point, when the primary canal is out of service and IID has been notified, at a new gate from Canal Vail Lateral 4, in the vicinity of Gate V4-417-001, under an Industrial Water Supply Agreement water agreement with IID.²² As mentioned in the Project Water Availability Section, the current land use designation is Heavy Agriculture with a Geothermal Overlay (A-3-G) where major geothermal projects that meet the requirements of Division 17 are conditionally permitted in A-3 zoning. It is unknown what condition the delivery gates are in.

Project raw water uses are summarized in **Table 14**.

Table 14. Project Operational Water Uses (AFY)

Use	Acre-Feet per Year
Raw Water for Dust Control.	0 afy
Raw Water for Cooling Tower	793 AFY
Raw Water for Auxiliary Operating Water Demand (maintenance, fire system)	332 AFY
Average Annual Use During Operation	1,125 AFY

¹⁾ Based on an Average Ambient Use Rate of 700 gpm assuming 8,322 hours of operation. Peak Use Rate assumed as 1,400 gpm

IID delivers untreated Colorado River water to the proposed Project site for agricultural uses through the following gates and laterals. The 10-year record for 2013-2022 of water delivery accounting is shown in **Table 15**. The data documents a 10-year of 320 AFY average.

Table 15. Ten-Year Historic Delivery (AFY), 2013-2022

Canal/Gate	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Vail Lateral 4A/V4A460-001 (Primary)	0.0	344.6	278.7	408.0	443.3	405.3	405.5	281.4	346.2	282.5
V4A-417-TBD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	344.6	278.7	408.0	443.3	405.3	405.5	281.4	346.2	282.5

Source: IID Staff, 2022 (Contact Jose Moreno)

The proposed Project has an estimated total operational water demand of 22,500 AF or 1,125 AFY amortized over a 20-year term (for all delivery gates for Project). Thus, the proposed Project demand is an increase of 805 AFY from the historical 10-year average or 252% more than the historic 10-year average annual delivery for agricultural uses at the proposed Project site. The proposed Project's estimated

²² The gates and laterals used in this Water Supply Assessment may be revised due to dedication to other users and/or a separate Water Capacity Assessment conducted by IID.

operational water demand represents only 6% of the 18,620 AYF balance of water supply that may be available for contracting under the IWSP.

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8. IID's Ability to Meet Demands With Water Supply

Under normal operating conditions, non-agricultural water demands for the IID water service area are projected for 2025-2055 in **Table 5**, and IID agricultural demands including system operation are projected for 2025-2055 in **Table 6**, all volumes within the IID water service area. IID water supplies available for consumptive use after accounting for mandatory transfers are projected to 2077 in **Table 11** (Column 11), volumes at Imperial Dam.

To assess IID's ability to meet future water demands, IID historic and forecasted demands are compared with CRWDA Exhibit B net availability under its water supply entitlement, volumes at Imperial Dam **Table 11** (Column 11). The analysis requires accounting for system operation consumptive use within the IID water service area, from AAC at Mesa Lateral 5 to Imperial Dam, and for water pumped for use by the USBR Lower Colorado Water Supply Project (LCRWSP), an IID consumptive use component in the USBR Decree Accounting Report. IID system operation consumptive use for 2020 is provided in **Table 16** to show the components to be included in the calculation of 2023 volumes in comparison to 2020.

Table 16. IID System Operations Consumptive Use within IID Water Service Area and from AAC at Mesa Lateral 5 to Imperial Dam, (KAF), 2023

	2020 Operational Consumptive Use (KAF)	2023 Operational Consumptive Use (KAF)
IID Delivery System Evaporation	24.4	24.9
IID Canal Seepage	90.8	98.3
IID Main Canal Spill	10.1	10.3
IID Lateral Canal Spill	121.5	147.6
IID Seepage Interception	-39.0	-41.9
IID Unaccounted Canal Water	-40.0	-154.2
Total IID System Operational Use, within water service area	167.8	85.0
"Losses" from AAC @ Mesa Lat 5 to Imperial Dam	9.2	28.5
LCWSP pumpage	-10	-10.0
Total System Operational Use in 2020 and 2023	167.0	103.5

Sources: 2023 IID Water Balance Rerun 03/27/2024

Notwithstanding any regulatory water supply cuts from the Secretary of Interior, IID's ability to meet customer water demands through 2055 as shown in **Table 17** is based on the following:

- Non-agricultural use from **Table 5**.
- Agricultural and Salton Sea mitigation uses from **Table 6**.
- CRWDA Exhibit B net available for IID consumptive use from **Table 101**.
- System operation consumptive use from **Table 16** for 2020.

Table 17. IID Historic and Forecasted Consumptive Use vs CRWDA Exhibit B IID Net Available Consumptive Use, volumes at Imperial Dam (KAFY), 2015-2055

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Non-Ag Delivery	107.4	113.2	133.1	142.9	151.4	163.2	175.4	188.4	199.3
Ag Delivery	2,158.9	2,165.4	2,259.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5
QSA SS Mitigation Delivery	153.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Op CU in IID & to Imperial Dam	61.3	167.0	230.5	225.4	225.4	225.4	225.4	225.4	225.4
IID CU at Imperial Dam	2,533.6	2,554.6	2,623.1	2,577.8	2,586.3	2,598.1	2,610.3	2,623.3	2,634.2
Exhibit B IID Net Available for CU at Imperial Dam	2,623.7	2,652.7	2,617.8	2,612.8	2,612.8	2,612.8	2,612.8	2,665.8	2,665.8
IID Underrun / (Overrun) at Imperial Dam	90.02	98.07	(5.30)	35.00	26.50	14.70	2.50	42.50	31.60

Notes: 2015 and 2020 have been updated to reflect actual consumptive use with respective USBR decree accounting

Non-Ag Delivery CI 15.0%, Ag Delivery CI 3.0%, QSA SS mitigation CI 15%

QSA Salton Sea Mitigation Delivery terminated on 12/31/2017

Underrun / Overrun = IID CU at Imperial Dam minus CRWDA Exhibit B Net Available

Notes: Ag Delivery for 2025-2055 does not take into account land conversion for solar use nor reduction in agricultural land area due to urban expansion.

As shown above, IID forecasted demand has the potential to exceed CRWDA Exhibit B Net Consumptive Use volumes during several time intervals through the lifespan projection for the Project. However, due to temporary land conversion for solar use and urban land expansion that will reduce agricultural acres in the future, a water savings of approximately 217,000 AFY will likely be generated into the future and for the lifetime of the proposed Project, assuming no regulatory cutbacks are enforced upon IID.

In addition, USBR 2020 Decree Accounting Report states that IID Consumptive Use was 2,493.7 KAF (excludes 1,579 AF of ICS for storage in Lake Mead and an additional 49,444 AF of conserved water left on the Colorado River system) with an underrun of 98.1 KAF, as reported by IID in [2020 Annual SWRCB Report per WRO 2002-2013](#); that is, IID uses less than the amount in its approved Water Order (2,615,300 AF).

Table 18. 2020 Approved Water Order, Actual CU (Decree Accounting Report) and IID Underrun, KAF at Imperial Dam

IID Approved Water Order	2,625.3 less 10 supplied by LCWSP and less 26 of additional conserved water
IID Consumptive Use	2,493.7
IID Underrun / (Overrun)	98.1

Sources:

2020 IID Revised Water Order, approved on March 10, 2020, [2020 Decree Accounting Report](#), and [2020 Annual Report of IID Pursuant to SWRCB Revised Order WRO 2002-2013](#)

As reported in the [2022 Annual Water & QSA Implementation Report](#) and [2023 SWRCB Report](#) and presented in **Table 12**, from 2013 to 2023 IID consumptive use (CU) resulted in underruns; i.e., annual CU was less than the district's QSA Entitlement of 3.1 MAFY minus QSA/Transfer Agreements obligations. This would indicate that even though **Table 17** shows IID Overrun/Underrun at Imperial Dam exceeding CRWDA Exhibit B Net Available for CU, for the 30-year life of the proposed Project, IID consumptive use may be less than forecasted.

Meanwhile, forecasted Ag Delivery reductions presented in **Table 6** are premised on implementation of on-farm practices that will result in efficiency conservation. These reductions do not take into account land conversion for solar projects nor reduction in agricultural land area due to urban expansion; that is to say, the forecasted Ag Delivery is for acreage in 2003 with reduction for projected on-farm conservation efficiency. Thus, Ag Delivery demand may well be less than forecasted in **Table 6**.

In the event that IID has issued water supply agreements that exhaust the 25 KAFY IWSP set aside for conservation, and it becomes apparent that IID delivery demands due to non-agriculture use are going to cause the district to exceed its quantified 3.1 MAFY entitlement less QSA/Transfer Agreements obligations, IID has identified options to meet these new non-agricultural demands. These options include (1) tracking water yield from temporary land conversion from agricultural to non-agricultural land uses (renewable solar energy); and (2) only if necessary, developing conservation projects to expand the size of the district's water supply portfolio.

These factors will be discussed in the next two sections, Tracking Water Savings from Growth of Non-Agricultural Land Uses and Expanding Water Supply Portfolio.

8.1 Tracking Water savings from Growth of Non-Agricultural Land Uses

The Imperial County Board of Supervisors has targeted up to 25,000 acres of agricultural lands, about 5% (5%) of the farmable acreage served by IID, for temporary conversion to solar farms; because the board found that this level of reduction would not adversely affect agricultural production. As reported for IID's [Temporary Land Conversion Following Program](#), existing solar developments at the end of 2023 have converted 13,177 acres of farmland. Solar projects had a total yield at-river of 69,898 AF of water in 2023. The balance of the 25,000-acre agriculture-to-solar policy is 11,823 acres. On average, each agricultural acre converted reduces agricultural demand by 5.1 AFY, which results in a total at-river yield (reduction in consumptive use) of 127,500 AFY.

However, due to the nature of the conditional use permits under which solar farms are developed, IID cannot rely on this supply being permanently available. In fact, should a solar project decommission early, that land may go immediately back to agricultural use (it remains zoned an agricultural land). Nevertheless, during their operation, the solar farms do ameliorate pressure on IID to implement projects to meet demand from new non-agricultural projects.

Unlike the impact of solar projects, other non-agricultural uses are projected to grow, as reflected in the nearly 85.6 percent (85.6%) increase in non-agricultural water demand from 107.4 KAF in 2015 to 199.3 KAF in 2055 reflected herein in **Table 17**. This increase in demand of 92 KAFY is likely to be offset by reductions in agricultural lands; however, as the land remains zoned as agricultural land, that source is not reliable to be permanently available to IID.

The amount of land developed for residential, commercial, and industrial purposes is projected to grow by 55,733 acres from 2015 to 2050²³ within the sphere of influence of the incorporated cities and specific plan areas in Imperial County. A conservative estimate is that such development will displace at least another 24,500 acres of farmland based on the Imperial Local Agency Formation Commission (LAFCO) sphere of influence maps and existing zoning and land use in Imperial County. At 5.13 AFY yield at-river, there would be a 125,000 AFY reduction IID net consumptive use. However, the total acreage from actual annexations that have resulted in reductions to agricultural acreage between 2015 and 2021 has been 2,224 acres, according to IID's annual inventory of total farmable land which is consistent with the acreage gain to non-agricultural land uses (2,224 acres) and based off of annexation records obtained through the Imperial County Local Agency Formation Commission. This shift in acreage documents a growth rate of approximately 50% of the originally projected rate.

The total foreseeable solar project temporary yield at-river (91,800 AFY) and municipal development permanent yield at-river, conservatively adjusted (65,000 AFY) is to reduce forecasted IID net consumptive use at-river 156,800 AFY, which is more than enough to meet the forecast Demand minus Exhibit B Net Available volumes shown in **Table 17**. This Yield at-river is sufficient to meet the forecasted excess of non-agricultural use over Net Available supply within the IID service area for the next 20 years, as is required for SB 610 analysis (assuming there are no regulatory cuts to IID's full entitlement).

Farmland retirement associated with municipal development would reduce IID agricultural delivery requirements beyond the efficiency conservation projections shown in **Table 6** and **Table 15**. Therefore, in the event that [Schedule 7 General Industrial Use](#) water has exhausted its apportioned amount, the Applicants will rely on IID IWSP water to supply the Project, as discussed above in the Projected Water Availability section.

8.2 Expanding Water Supply Portfolio

While forecasted long-term annual yield-at-river from the reduction in agricultural acreage due to municipal development in the IID service area is sufficient to meet the forecasted excess of non-agricultural use over CRWDA Net Available supply (**Table 17**) without regulatory cuts and without expanding IID's Water Supply Portfolio, IID has also evaluated the feasibility of a number of capital projects to increase its water supply portfolio.

As reported in [2012 Imperial IRWMP Chapter 12](#), IID contracted with GEI Consultants, Inc. to identify a range of capital project alternatives that the district could implement. Qualitative and quantitative screening criteria and assumptions were developed in consultation with IID staff. Locations within the IID water service area with physical, geographical, and environmental characteristics most suited to implementing short- and long-term alternatives were identified. Technical project evaluation criteria included volumes of water that could be delivered and/or stored by each project, regulatory and permitting complexity, preliminary engineering components, land use requirements, and costs.

After preliminary evaluation, a total of 27 projects were configured:

- 17 groundwater or drain water desalination
- 2 groundwater blending
- 6 recycled water
- 1 groundwater banking
- 1 IID system conservation (concrete lining)

²³ IRWMP, Chapter 5, Table 5-14.

Projects were assessed at a reconnaissance level to allow for comparison of project costs. IID staff and the board identified key factors to categorize project alternatives and establish priorities. Lower priority projects were less feasible due to technical, political, or financial constraints. Preferential criteria were features that increased the relative benefits of a project and grant it a higher priority. Four criteria were used to prioritize the IID capital projects:

1. **Financial Feasibility.** Projects whose unit cost was more than \$600/AF were eliminated from further consideration.
2. **Annual Yield.** Project alternatives generating 5,000 AF or less of total annual yield were determined not to be cost-effective and lacking necessary economies of scale.
3. **Groundwater Banking.** Groundwater banking to capture and store underruns is recognized as a beneficial use of Colorado River water. Project alternatives without groundwater banking were given a lower priority.
4. **Partnering.** Project alternatives in which IID was dependent on others (private and/or public agencies) for implementation were considered to have a lower priority in the IID review; this criterion was reserved for the IRWMP process, where partnering is a desirable attribute.

Based on these criteria, the top ten included six desalination, two groundwater blending, one system conservation, and one groundwater storage capital projects. These capital projects are listed in **Table 19** which follows.

Table 19. IID Capital Project Alternatives and Cost (May 2009 price levels \$)

Name	Description	Capital Cost	O&M Cost	Equivalent Annual Cost	Unit Cost (\$/AF)	In-Valley Yield (AF)
GW 18	Groundwater Blending E. Mesa Well Field Pumping to AAC	\$39,501,517	\$198,000	\$2,482,000	\$99	25,000
GW 19	Groundwater Blending: E. Mesa Well Field Pumping to AAC w/Percolation Ponds	\$48,605,551	\$243,000	\$3,054,000	\$122	25,000
WB 1	Coachella Valley Groundwater Storage	\$92,200,000	\$7,544,000	\$5,736,746	\$266	50,000
DES 8	E. Brawley Desalination with Well Field and Groundwater Recharge	\$100,991,177	\$6,166,000	\$12,006,000	\$480	25,000
AWC 1	IID System Conservation Projects	\$56,225,000	N/A	\$4,068,000	\$504	8,000
DES 12	East Mesa Desalination with Well Field and Groundwater Recharge	\$112,318,224	\$6,336,000	\$12,831,000	\$513	25,000
DES 4	Keystone Desalination with IID Drainwater/ Alamo River	\$147,437,743	\$15,323,901	\$23,849,901	\$477	50,000
DES 14	So. Salton Sea Desalination with Alamo River Water and Industrial Distribution	\$158,619,378	\$15,491,901	\$24,664,901	\$493	50,000

Name	Description	Capital Cost	O&M Cost	Equivalent Annual Cost	Unit Cost (\$/AF)	In-Valley Yield (AF)
DES 15	So. Salton Sea Desalination with Alamo River Water and MCI Distribution	\$182,975,327	\$15,857,901	\$26,438,901	\$529	50,000
DES 2	Keystone Desalination with Well Field and Groundwater Recharge	\$282,399,468	\$13,158,000	\$29,489,000	\$590	50,000

Source: Imperial IRWMP, Chapter 12; see also Imperial IRWMP Appendix N, IID Capital Projects

8.3 IID Near Term Water Supply Projections

As mentioned above, IID's quantified Priority 3(a) water right under the QSA/Transfer Agreements secures 3.1 MAF per year, less transfer obligations of water for IID's use from the Colorado River, without relying on rainfall in the IID service area. Even with this strong entitlement to water, IID actively promotes on-farm efficiency conservation and is implementing system efficiency conservation measures including seepage recovery from IID canals and the All-American Canal (ACC) and measures to reduce operational discharge. As the IID website [Water Department](#) states:

Through the implementation of extraordinary conservation projects, the development of innovative efficiency measures and the utilization of progressive management tools, the IID Water Department is working to ensure both the long-term viability of agriculture and the continued protection of water resources within its service area.

Overall, agricultural water demand in the Imperial Valley will decrease due to IID system and grower on-farm efficiency conservation measures that are designed to maintain agricultural productivity at pre-QSA levels while producing sufficient yield-at-river to meet IID's QSA/Transfer Agreements obligations. These efficiencies combined with the conversion of some agricultural land uses to non-agricultural land uses (both solar and municipal), ensure that IID can continue to meet the water delivery demand of its existing and future agricultural and non-agricultural water users, including this Project for the next 20 years and for the life of the proposed Project under a water supply consistent with the district's full entitlement.

9. Imperial County Planning and Development Services and California Energy Commission Findings

IID serves as the regional wholesale water supplier, importing raw Colorado River water and delivering it, untreated, to agricultural, municipal, industrial, environmental and recreational water users within its water service area. ICPDS serves as the responsible agency with land use authority over the proposed project, with the exception of project's subject to the CEC's jurisdiction like the Black Rock Geothermal Project. Therefore, CEC/ICPDS Water Assessment findings are summarized as follows, based on the information contained herein and as supported by IID water supply data:

1. IID's annual entitlement to consumptive use of Colorado River water is capped at 3.1 MAF less water transfer obligations, pursuant to the QSA and Related Agreements. Under the terms of the CRWDA, IID is implementing efficiency conservation measure to reduce net consumptive use of Colorado River water needed to meet its QSA/Transfer Agreements obligations while retaining historical levels of agricultural productivity.
2. In 2023 IID consumptively used 2,417,024 AF of Colorado River water (volume at Imperial Dam); 2,265,468 AF were delivered to customers (including recreational and environmental water deliveries) of which 2,149,900 AF or 95% went to agricultural users as per IID's Water Balance run on 3/27/2024.
3. Reduction of IID's net consumptive use of Colorado River water under the terms of the Colorado River Water Delivery Agreement is to be the result of efficiency conservation measures. Crop water use in the Imperial Valley will not decline under these conditions, however IID operational spill and tailwater from field runoff will decline as efficiency conservation measures are implemented, impacting the Salton Sea.
4. The dependability of IID's water rights, Colorado River flows, and Colorado River storage facilities for Colorado River water alone are not sufficient to assure water availability for the Project. The prolonged drought conditions on the Colorado River Basin have made it increasingly likely that the water supply of IID may be disrupted, in dry years or/and under shortage conditions. Mexico, Arizona and Nevada, which have lower priority than IID, have already experienced Tier 1 and Tier 2a reductions in 2022 and 2023 as a result of the declared Colorado River water shortage.
5. Due to ongoing Colorado River drought conditions, Lake Mead's declining elevation, reduced inflows from Lake Powell, and the suspension of the federal Inadvertent Overrun and Payback Policy, which eliminates IID's ability to overrun its 3.1 MAF annual entitlement during water shortage conditions, the IID Board has implemented an annual apportionment program (otherwise known as the Equitable Distribution Plan or EDP).
6. IID's EDP apportions the available water supply among all its water users equitably and among three water user categories based on historical use: 1) agricultural water users, 2) commercial/industrial water users, and 3) potable water users. Apportionment into these categories as a whole is initiated after deducting from the available water supply water for operational system needs, system conservation yields, environmental mitigation requirements, recreational uses, and similar unmeasured small pipe account water uses. See Attachment B -Equitable Distribution Plan.
7. Historically, IID has never been denied the right to use the annual volume of water it has available for its consumptive uses under its entitlement. Nevertheless, IID is participating in discussions for possible actions in response to continued extreme drought on the Colorado River.

8. The proposed Project has an estimated total operational water demand of 22,500 AF or 1,125 AFY amortized over a 20-year term (for all delivery gates for Project). Thus, the proposed Project demand is an increase of 805 AFY from the historical 10-year average or 252% increase from the historic 10-year average annual delivery for agricultural uses at the proposed Project site.
9. The Project's water delivery will be covered under the [Schedule 7 General Industrial Use](#). In the event that IID determines that the proposed Project is to utilize IWSP for Non-Agricultural Projects water, the Applicant will also need to enter into an IWSP Water Supply Agreement with IID. In which case, the proposed Project would use 6.0% of the 18,620 of IWSP water.
10. Based on the Application for Certification (AFC) and subsequent filings and information prepared for this proposed Project, CEC/ICPDS hereby find that the IID projected water supply, together with water conservation measures required, is sufficient to satisfy the demands of this proposed Project in addition to existing and planned future uses, including agricultural and non-agricultural uses for a 20-year Water Supply Assessment period and for up to 30 years of the anticipated 40-year proposed Project life.

10. Assessment Conclusion

This Water Supply Assessment has determined that IID water supply is adequate for the Black Rock Geothermal Project (proposed Project). The Imperial Irrigation District's IWSP for Non-Agricultural Projects dedicates 25,000 AF of IID's annual water supply to serve new projects. As of January 2024, a total of 18,620 AF per year remain available for new projects providing reasonably sufficient supplies for new non-agricultural water users that enter into a Water Supply Agreement with IID over the next 5-year period, at minimum. ICPDS estimates a cumulative, non-agricultural project water supply demand increase of up to 40,000 AFY within the foreseeable 20-year planning period, however, all new non-agricultural projects, including BRGP, are required to mitigate their respective water supply demand via conservation programs or conservation projects in order to receive future water apportionments.

New, non-agricultural projects may be susceptible to delivery cutbacks when an EDP Apportionment is exhausted, thus all approved projects require best management practices and water use efficiency at all times. Given the prolonged drought conditions and recent communication to IID from the Department of the Interior, reductions to all basin contractors, including IID and its water customers, are increasingly likely. If such reductions were to come into effect within an approved project's 20-year life, the Applicants are to work with IID to ensure any anticipated reduction can be managed via the means identified herein or other equivalent measures.

Under an authorized water supply agreement, the BRGP will be required to acknowledge and accept as a condition of water service that to the extent that IID receives an order or directive from a governmental authority, having appropriate jurisdiction, that reduces the total volume of water available to IID from the Colorado River during all or any part of their water service agreement, IID may reduce the water service agreement amount, as directed by the IID Board, as a proportionate reduction of the total volume of water available to IID. This reduction is separate from and in addition to any allocation authorized pursuant to the EDP.

The Project's operational water demand of approximately 1,125 AF represents 6.0% of the unallocated supply available for additional conservation and contracting under the IWSP for non-agricultural projects, and approximately 0.6% of forecasted future non-agricultural water demands planned in the Imperial IRWMP through 2055. The water demand for the proposed Project represents a 252% increase from the 10-year average historic average agricultural water use for 2013-2022 at the proposed Project site, an increase in water use of 805 AFY at full build-out. It is further recognized that two other indirect wholly owned subsidiaries of BHER, Elmore North Geothermal LLC and Morton Bay Geothermal LLC, are concurrently seeking permits for two additional geothermal projects: Elmore North Geothermal Project and Morton Bay Geothermal Project. The cumulative annual water supply demand from all three geothermal projects would be 13,165 AFY. The combined water supply of all three projects represents 70.7% of the unallocated water supply available for additional conservation and contracting under the IWSP for non-agricultural projects.

For all the reasons described herein, the historical stability of the IID water supply, the amount of foreseeable water available, along with on-farm and system efficiency conservation and other measures being undertaken by IID and its customers suggest that the BRGP's water needs will be reasonably met for the next 20 years as assessed for compliance under SB-610.

11. Resources and References

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Attachment A
IID Interim Water Supply Policy for
Non-Agricultural Projects



Appendix A. IID Interim Water Supply Policy for Non-Agricultural Projects²⁴

A.1 Purpose

Imperial Irrigation District (the District) is developing an Integrated Water Resources Management Plan (IWRMP) 26F²⁵ that will identify and recommend potential programs and projects to develop new water supplies and new storage, enhance the reliability of existing supplies, and provide more flexibility for District water department operations, all in order to maintain service levels within the District's existing water service area. The first phase of the IWRMP is scheduled to be completed by the end of 2009 and will identify potential projects, implementation strategies and funding sources. Pending development of the IWRMP, the District is adopting this Interim Water Supply Policy (IWSP) for Non-Agricultural Projects, as defined below, in order to address proposed projects that will rely upon a water supply from the District during the time that the IWRMP is still under development. It is anticipated that this IWSP will be modified and/or superseded to take into consideration policies and data developed by the IWRMP.

A.2 Background

The IWRMP will enable the District to more effectively manage existing water supplies and to maximize the District's ability to store or create water when the available water supplies exceed the demand for such water. The stored water can be made available for later use when there is a higher water demand. Based upon known pending requests to the District for water supply assessments/verifications and pending applications to the County of Imperial for various Non-Agricultural Projects, the District currently estimates that up to 50,000 acre feet per year (AFY) of water could potentially be requested for Non-Agricultural Projects over the next ten to twenty years. Under the IWRMP the District shall evaluate the projected water demand of such projects and the potential means of supplying that amount of water. This IWSP currently designates up to 25,000 AFY of water for potential Non-Agricultural Projects within IID's water service area. Proposed Non-Agricultural projects may be required to pay a Reservation Fee, further described below. The reserved water shall be available for other users until such Non-Agricultural projects are implemented and require the reserved water supply. This IWSP shall remain in effect pending the approval of further policies that will be adopted in association with the IWRMP.

A.3 Terms and Definitions.

Agricultural Use. Uses of water for irrigation, crop production and leaching.

Connection Fee. A fee established by the District to physically connect a new Water User to the District water system.

Industrial Use. Uses of water that are not Agricultural or Municipal, as defined herein, such as manufacturing, mining, cooling water supply, energy generation, hydraulic conveyance, gravel washing, fire protection, oil well re-pressurization and industrial process water.

²⁴ IID Board Resolution 31-2009. Interim Water Supply Policy for New Non-Agricultural Projects. September 29, 2009. < [IID Interim Water Supply Policy for Non-Agricultural Projects](#) >

²⁵ The 2009 Draft IID IWRMP has been superseded by the October 2012 Imperial IRWMP, which incorporates the conditions of the IWSP by reference.

Municipal Use. Uses of water for commercial, institutional, community, military, or public water systems, whether in municipalities or in unincorporated areas of Imperial County.

Mixed Use. Uses of water that involve a combination of Municipal Use and Industrial Use.

Non-Agricultural Project. Any project which has a water use other than Agricultural Use, as defined herein.

Processing Fee. A fee charged by the District Water Department to reimburse the District for staff time required to process a request for water supply for a Non-Agricultural Project.

Reservation Fee. A non-refundable fee charged by the District when an application for water supply for a Non-Agricultural Project is deemed complete and approved. This fee is intended to offset the cost of setting aside the projected water supply for the project during the period commencing from the completion of the application to start-up of construction of the proposed project and/or execution of a water supply agreement. The initial payment of the Reservation Fee will reserve the projected water supply for up to two years. The Reservations Fee is renewable for up to two additional two-year periods upon payment of an additional fee for each renewal.

Water Supply Development Fee. An annual fee charged to some Non-Agricultural Projects by the District, as further described in Section 5.2 herein. Such fees shall assist in funding IWRMP or related water supply projects,

Water User. A person or entity that orders or receives water service from the District.

A.4 CEQA Compliance.

The responsibility for CEQA compliance for new development projects within the unincorporated area of the County of Imperial attaches to the County of Imperial or, if the project is within the boundaries of a municipality, the particular municipality, or if the project is subject to the jurisdiction of another agency, such as the California Energy Commission, the particular agency. The District will coordinate with the County of Imperial, relevant municipality, or other agency to help ensure that the water supply component of their respective general plans is comprehensive and based upon current information. Among other things, the general plans should assess the direct, indirect and cumulative potential impacts on the environment of using currently available water supplies for new industrial, municipal, commercial and/or institutional uses instead of the historical use of that water for agriculture. Such a change in land use, and the associated water use, could potentially impact land uses, various aquatic and terrestrial species, water quality, air quality and the conditions of drains, rivers and the Salton Sea.

When determining whether to approve a water supply agreement for any Non-Agricultural Project pursuant to this IWSP, the District will consider whether potential environmental and water supply impacts of such proposed projects have been adequately assessed, appropriate mitigation has been developed and appropriate conditions have been adopted by the relevant land use permitting/approving agencies, before the District approves any water supply agreement for such project.

A.5 Applicability of Fees for Non-Agricultural Projects.²⁶

Pursuant to this Interim Water Supply Policy, applicants for water supply for a Non-Agricultural Project shall be required to pay a Processing Fee and may be required to pay a Reservation Fee as shown in

²⁶ The most recent fee schedules can be found in a link at IID/Water/ Municipal, Industrial and Commercial Customers; or visit by URL at [Imperial Irrigation District : Water Rate Schedules](#)

Table A. All Water Users shall also pay the applicable Connection Fee, if necessary, and regular water service fees according to the District water rate schedules, as modified from time to time.

A Non-Agricultural Project may also be subject to an annual Water Supply Development Fee, depending upon the nature, complexity, and water demands of the proposed project. The District will determine whether a proposed Non-Agricultural Project is subject to the Water Supply Development Fee for water supplied pursuant to this IWSP as follows:

A proposed project that will require water for a Municipal Use shall be subject to an annual Water Supply Development Fee as set forth in Table B if the projected water demand for the project is in excess of the project's estimated population multiplied by the District-wide per capita usage. Municipal Use projects without an appreciable residential component will be analyzed under sub-section 5.2.3.

A proposed project that will require water for an Industrial Use located in an unincorporated area of the County of Imperial shall be subject to an annual Water Supply Development Fee as set forth in Table B.

The applicability of the Water Supply Development Fee set forth in Table B to Mixed Use projects, Industrial Use projects located within a municipality, or Municipal Use projects without an appreciable residential component, will be determined by the District on a case-by-case basis, depending upon the proportion of types of land uses and the water demand proposed for the project.

A proposed Water User for a Non-Agricultural Projects may elect to provide some or all of the required water supply by paying for and implementing some other means of providing water in a manner approved by the District, such as conservation projects, water storage projects and/or use of an alternative source of supply, such as recycled water or some source of water other than from the District water supply. Such election shall require consultation with the District regarding the details of such alternatives and a determination by the District, in its reasonable discretion, concerning how much credit, if any, should be given for such alternative water supply as against the project's water demand for purposes of determining the annual Water Supply Development Fee for such project.

The District Board shall have the right to modify the fees shown on Tables A and B from time to time.

Water Supply Development Fees collected by the District under this IWSP shall be accounted for independently, including reasonable accrued interest, and such fees shall only be used to help fund IWRMP or related District water supply projects.

Any request for water service for a proposed Non-Agricultural Project that meets the criteria for a water supply assessment pursuant to Water Code Sections 10910-10915 or a water supply verification pursuant to Government Code Section 66473.7 shall include all information required by Water Code Sections 10910 –10915 or Government Code Section 66473.7 to enable the District to prepare the water supply assessment or verification. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

Any request for water service for a proposed Non-Agricultural Project that does not meet the criteria for a water supply assessment pursuant to Water Code Section 10910-10915 or water supply verification pursuant to Government Code Section 66473.7 shall include a complete project description with a detailed map or diagram depicting the footprint of the proposed project, the size of the footprint, projected water demand at full implementation of the project and a schedule for implementing water service. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

All other District rules and policies regarding a project applicant or Water User's responsibility for paying connection fees, costs of capital improvements and reimbursing the District for costs of staff and consultant's time, engineering studies and administrative overhead required to process and implement projects remain in effect.

Municipal Use customers shall be required to follow appropriate water use efficiency best management practices (BMPs), including, but not limited to those established by the California Urban Water Conservation Council BMP's (see <http://www.cuwcc.org/mou/exhibit-1-bmp-definitions-schedules-requirements.aspx>), <https://calwep.org/our-work/conservation/bmp-guidebooks/>], or other water use efficiency standards, adopted by the District or local government agencies.

Industrial Use customers shall be required to follow appropriate water use efficiency BMP's, including but not limited to those established by the California Urban Water Conservation Council and California Energy Commission, as well as other water use efficiency standards, adopted by the District or local government agencies.

The District may prescribe additional or different BMPs for certain categories of Municipal and Industrial Water Users.

Attachment B

IID Equitable Distribution Plan



Appendix B. IID Equitable Distribution Plan²⁷

Adopted December 11, 2007

Revised November 18, 2008

Revised April 07, 2009

Revised April 23, 2013

Revised May 14, 2013

Revised October 28, 2013

Revised June 21, 2022

Revised July 26, 2023 (attached)

DRAFT

²⁷ Equitable Distribution Plan documents. July 26, 2023 <https://www.iid.com/water/rules-and-regulations/equitable-distribution>

Equitable Distribution Plan

Adopted December 11, 2007

Revised November 18, 2008

Revised April 07, 2009

Revised April 23, 2013

Revised May 14, 2013

Revised October 28, 2013

Revised June 21, 2022

Revised July 26, 2023



1.0 **Purpose.**

1.1 **Purpose.** The Imperial Irrigation District ("District" or "IID") is authorized by the Irrigation District Law, specifically California Water Code Section 22252, to adopt rules and regulations for the equitable distribution of water within the District. The IID Board of Directors has approved this plan for the equitable distribution of the available water supply (the "Equitable Distribution Plan"). This Equitable Distribution Plan is for the management of the District's available water supply and does not transfer water and/or water rights outside the IID service area, but does allow for an intra-district clearinghouse for the movement of water within the IID water service area. Pursuant to Resolution No. 31-2022, the IID Board of Directors has adopted this revised Equitable Distribution Plan.

2.0 **Terms and Definitions.**

2.1 **Agricultural Water.** Water used for irrigation, related to agricultural purposes, duck ponds, and algae farming. Pipe and small parcel water service as identified by the District's *Rules and Regulations Governing the Distribution and Use of Water* is not included in this definition pursuant to Section 2.22.

2.2 **Agricultural Water User(s).** A District Water User that uses Agricultural Water.

2.3 **Agricultural Water Users Category.** A category of District Water Users comprised of Agricultural Water Users.

2.4 **Apportionment.** The amount of water equitably apportioned among District Water Users within each Water User Category pursuant to Sections 3.2, 3.3, and 3.4.

2.5 **Available Water Supply.** Water available each Calendar Year for Apportionment, which shall not include Operational and System Water and may be subject to a Water Management Reduction.

2.6 **Calendar Year.** Each 12-month period that begins on January 1 and ends on December 31.

2.7 **Category Apportionment.** The amount of water equitably apportioned to each Water User Category as a category, which is calculated by the Calendar Year average of the historical water use for that Water User Category as a whole during the years 2003 to 2012, eliminating the highest Calendar Year and lowest Calendar Year of water use history.

2.8 **Clearinghouse.** A mechanism administered by the District or other entity authorized by the IID Board of Directors to provide a means by which qualified

District Water Users can transfer water within the IID water service area during a Calendar Year pursuant to Section 6.0.

2.9 Cropland. Irrigable acreage within the District service area divided into fields based on the [proprietary] District Geospatial Data Base compiled from IID records, inspections and U.S. Consolidated Farm Service Agency (CFSA) Common Land Unit (CLU) standards, or other defined acreage database such as the assessor's parcel records.

2.10 District or IID. The Imperial Irrigation District.

2.11 District Conservation Assignment. Apportionment contractually or automatically assigned to IID for water conservation purposes from lands participating in or designated for participation in any District On-Farm Efficiency Conservation Program, District Fallowing Program or other District conservation programs, or subject to the Temporary Land Conversion Fallowing Policy or Interim Water Supply Policy per the terms and conditions set forth in those program agreements and/or IID policies.

2.12 District Fallowing Program. Any program administered by the District to create conserved water by fallowing agricultural lands per the terms and conditions set forth in those program agreements and/or IID policies, including the Temporary Land Conversion Fallowing Policy.

2.13 District On-Farm Efficiency Conservation Program. Any program administered by the District to create conserved water by on-farm efficiency conservation measures and/or projects per the terms and conditions set forth in those program agreements and/or IID policies.

2.14 District System Conservation Program/Projects. An integrated package of system improvements to existing infrastructure and construction of new facilities designed to conserve water.

2.15 District Water User. Any user of water supplied by the District receiving an Apportionment.

2.16 Eligible Agricultural Acre(s). Acreage that is subject to the Temporary Land Conversion Fallowing Policy or meets all the following:

- a. Cropland greater than 5 acres;
- b. Used for crop production, duck ponds or algae farming;
- c. Current with water availability charges and water bills; and
- d. Connected to District water distribution system.

2.17 Farm Unit. A grouping of two or more Agricultural Water accounts of one or more fields leased or owned by the same Agricultural Water User; a single Agricultural Water account is automatically a Farm Unit.

2.18 Hybrid Apportionment. A Method of Apportionment used to calculate the Apportionment per Eligible Agricultural Acre within the Agricultural Water Users Category as set forth in Section 3.2.

2.19 Industrial/Commercial Water User(s). District Water Users receiving water directly from the District, and not from a Potable Water User, for industrial and commercial uses.

2.20 Industrial/Commercial Water Users Category. A category of District Water Users comprised of Industrial/Commercial Water Users.

2.21 Method of Apportionment. The method of apportionment used to calculate the Apportionment for District Water Users within each Water User Category during a Calendar Year.

2.22 Operational and System Water. Water not available for Apportionment because it is: (i) required by law, contract, and/or regulatory order or permit to be delivered or used for another use or user and failure to do so would impact the District's operations, maintenance and/or Available Water Supply; (ii) required for the District's operations and maintenance, including operational carriage and discharge water, system losses, seepage (excluding water from seepage interception conservation projects), evaporation or other losses in the District's distribution system, such as unmetered uses which cannot otherwise be calculated, including small parcel and pipe water service, recreation/lakes, and feedlots, adjusted for calculated losses from the District's point of diversion; or (iii) created by District System Conservation Program/Projects and absent the District System Conservation Program/Projects the water would not have been available for Apportionment because it would have been otherwise lost, such as through seepage or discharge.

2.23 Other District Conservation Program. Any program administered by the District to create conserved water by any means identified by the District per the terms and conditions set forth in program agreements and/or IID policies.

2.24 Overrun Payback Program. A program consistent with the federal Inadvertent Overrun and Payback Policy or other federal policies or programs to which the District may be subject, by which the cost of and/or responsibility for any District payback obligation will be borne by those District Water Users responsible for exceeding the Apportionment in a Calendar Year (adjusted for any Clearinghouse water transferred) should a District overrun occur in that Calendar Year; provided that this Overrun Payback Program shall not be available to District Water Users in any Calendar Year the federal

Inadvertent Overrun and Payback Policy is suspended and/or the District is not allowed to overrun pursuant to a federal law, rule, or regulation.

2.25 Potable Water User(s). District Water Users receiving water from the District and treating that water through a water treatment system to deliver potable water to its water users, including but not limited to municipalities and special districts.

2.26 Potable Water Users Category. A category of District Water Users comprised of Potable Water Users.

2.27 Take-or-Pay Basis. An obligation that District Water Users pay, pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*, for all of the Apportionment accepted by the District Water User and not used during the Calendar Year.

2.28 Three-Year Average Apportionment. A Method of Apportionment used to calculate the Apportionment for each District Water User within the Potable Water Users Category and the Industrial/Commercial Water Users Category as set forth in Sections 3.3 and 3.4.

2.29 Water Card. The common term for the "Certificate of Ownership and Authorization of Owner Designee or Tenant" described in Regulation No. 3 of the District's *Rules and Regulations Governing the Distribution and Use of Water*. The Water Card provides information i.e., Cropland, name and address of owner and any lessees, APN, gate and canal providing water service, identity of person authorized to order water/receive notices from the District, who is obligated to pay, and similar information.

2.30 Water Management Reduction. A reduction in Available Water Supply for Apportionment, or a percentage reduction in each Category Apportionment, because of a District-wide overrun payback requirement mandatory program, or regulatory limitation of or reduction in the District's Colorado River water supply.

2.31 Water Users Category(ies). The Agricultural Water Users Category, the Potable Water Users Category, and the Industrial/Commercial Water Users Category.

3.0 **Equitable Distribution**.

3.1 Category Apportionment and District Water User Apportionment. Each Water User Category shall receive a Category Apportionment from the Available Water Supply to be distributed to the District Water Users within that Water User Category. Once the Category Apportionment is calculated for each Water User Category, each District Water User within each Water User Category will be apportioned water in accordance with Sections 3.2, 3.3, and 3.4, provided that the aggregate apportioned water to District Water Users within each Water User Category shall not exceed the Category Apportionment for that Water User Category.

3.2 Agricultural Water User Apportionment. Apportionment models understood and discussed to date are historical, straight line, soil type and hybrids of a combination of these methods. The default Method of Apportionment for Agricultural Water Users is the Hybrid Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Hybrid Apportionment is comprised of a historical use component and a straight line component and is calculated for each Eligible Agricultural Acre as the sum of:

a. One-half of the average amount of water used each Calendar Year between 2003 to 2012, excluding the highest and lowest Calendar Years, up to a maximum of 10 acre-feet (i.e., 5 acre-feet will be maximum 1/2 of 10 acre-feet limit); and

b. After the historical use component is calculated for every Eligible Agricultural Acre within the Agricultural Water User Category and that amount is subtracted from the Category Apportionment, the remaining amount of Category Apportionment for the Agricultural Water User Category is divided by the Eligible Agricultural Acres resulting in a flat amount for each Eligible Agricultural Acre.

3.3 Potable Water User Apportionment. The default Method of Apportionment for Potable Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as up to the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Potable Water User Category.

3.4 Industrial/Commercial Water User Apportionment. The default Method of Apportionment for Industrial/Commercial Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as up to the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Industrial/Commercial Water User Category.

4.0 **Apportionment Acceptance on Take-Or-Pay Basis.**

4.1 A written notice of the Apportionment for each District Water User shall be sent no later than October 31 prior to the beginning of the next Calendar Year. For Agricultural Water Users, the written notice of the Apportionment will be identified per Eligible Agricultural Acre and the number of Eligible Agricultural Acres per landowner, which shall be sent to the landowner, lessee and the authorized representative.

4.2 Prior to the start of the Calendar Year, the District Water User and/or, as applicable, the landowner or authorized representative (of Eligible Agricultural Acres

for the Agricultural Water Users Category), with written consent of the lessee (if any), must, using a District form:

a. Accept some, all or none of the Apportionment on a Take-or-Pay Basis.

b. Reserve some or all of the Apportionment on a Take-or-Pay Basis for the use of a future lessee, if applicable. The landowner remains responsible for payment on a Take-or-Pay Basis for the amount reserved for the future lessee, if applicable, unless and until payment is made by the future lessee.

c. Designate the person or entity responsible for payment of accepted and unused Apportionment on the Take-or-Pay Basis.

For Agricultural Water Users only, approve or disapprove the use of the Apportionment on other fields within the Farm Unit.

a. Allow or disallow a lessee to offer accepted and unused Apportionment to the Clearinghouse.

4.3 The District Water User and/or landowner will only be responsible for payment on a Take-or-Pay Basis for Apportionment that is accepted and remains unused in the water account at the end of the Calendar Year. On December 31 of the Calendar Year, payment for any remaining amount of the unused Apportionment will be included in the year end invoice.

4.4 Apportionment not affirmatively rejected is considered accepted. In the event a District form accepting Apportionment is not received for a field, IID will provide water delivery service to an owner or lessee with a valid Water Card in an amount not to exceed the Apportionment.

5.0 **Farm Units.**

5.1 The Farm Unit allows for the creation of a master Agricultural Water account under which individual Agricultural Water accounts are aggregated. The District will continue to bill for delivered water by individual Agricultural Water account and not by the Farm Unit or "master water account."

5.2 The primary purpose of a Farm Unit is to allow an Agricultural Water User to order water on any field within the Farm Unit as long as there is a remaining water balance for the Farm Unit greater than the water order. If water is not available within the Farm Unit, the water order will not be accepted, unless and until procedures are developed and implemented under this Equitable Distribution Plan, including procedures for the Overrun Payback Program, that allow for the acceptance of the water order.

5.3 The District will account for water and track a water balance for each field. Fields can move between Agricultural Water accounts when there is a change to the Water Card and the water balance for the field will move with the field.

5.4 Agricultural Water Users must complete and keep current the Water Card and any Farm Unit designations to receive an Apportionment and delivery of water. It is the Agricultural Water User's responsibility to keep Farm Unit designations current.

5.5 An Agricultural Water account may only be associated with a single Farm Unit at any one time. Any Agricultural Water account not designated as part of a Farm Unit will be tracked and identified as an individual Farm Unit comprised solely of that Agricultural Water account.

5.6 The amount of Apportionment available to an Agricultural Water User on leased fields included in a Farm Unit must be approved by the landowner and lessee of those fields.

5.7 Water can be added to a Farm Unit by transferring water through the Clearinghouse, but the transfer must be made to individual fields within the Farm Unit. If no particular fields are specified, the District will select a field within the Farm Unit to initially receive the water or (as closely as possible) equally divide the water among all Eligible Agricultural Acres within the Farm Unit.

5.8 An Agricultural Water User may designate multiple Farm Units. Apportionment may only be transferred between Farm Units via the Clearinghouse.

5.9 The priority of water use within a Farm Unit is (a) accepted Apportionment authorized for use on the field, (b) water from other fields authorized for transfer within the Farm Unit, and (c) water from the Clearinghouse; or as otherwise provided in procedures developed and implemented under and pursuant to this Equitable Distribution Plan. Water from a higher-priority category must be fully-used before water from a lower-priority category may be used within a Farm Unit.

6.0 **Clearinghouse.**

6.1 **Purpose.** The Clearinghouse is a mechanism to facilitate the movement of water between District Water Users and/or between Farm Units. Administration of the Clearinghouse may be delegated by the District to an entity authorized by the IID Board of Directors on a non-profit basis under rules approved by the IID Board of Directors, however all final transactions must be reported to the District for implementation.

6.2 **Eligibility.** Any District Water User may be a transferee. Any District Water User may be a transferor. All transferees and transferors must be current on their District water accounts and billings, including water availability charges.

6.3 Transfers. Water made available to the Clearinghouse for transfer will be assigned to Clearinghouse accounts and water shall be transferred through the Clearinghouse pursuant to procedures developed and implemented under and pursuant to this Equitable Distribution Plan. Water available for transfer will be made on a first-come, first-serve basis for those District Water Users that have submitted an offer to transfer water or submitted a request for additional water; except that a District Water User may direct the transfer of their offered water to a designated requesting District Water User within the same Water User Category.

6.4 Clearinghouse Transfer Form. The transfer form will be the Clearinghouse form used to document all transfers of water including the relevant transactional information to execute the transaction between the transferor and transferee.

6.5 Water Transferred Through the Clearinghouse. The transferee shall be billed and shall pay the District for the transferred water when ordered for delivery in the same manner, time and amount as any other water ordered pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*. After the District processes the Clearinghouse transfer form, the transferor shall have no further obligation for payment of that water on a Take-or-Pay Basis. Any supplemental transactional information or fees associated with the transfer of the water between the transferor and transferee but not relevant to the implementation of the transaction are a private matter and shall not be reported to the District. Any transfers of water, whether within the Farm Unit or via the Clearinghouse, are only for the Calendar Year in which they occur and do not constitute a permanent transfer of water, or create a right to be apportioned water in future years.

6.6 Offers Remaining at Calendar Year End. Any offers for water to be transferred through the Clearinghouse not transferred by the end of the Calendar Year may be used by the District to meet the needs of other District Water Users, fulfilling conservation responsibilities, or for other District purposes. Use by the District in this manner will not relieve the District Water Users of payment required on the Take-or-Pay Basis.

7.0 On-Farm Conservation and Land Fallowing Programs.

7.1 An Agricultural Water User that participates in the District On-Farm Efficiency Conservation Program, District Fallowing Program, or Other District Conservation Program is subject to a District Conservation Assignment of the Agricultural Water User's accepted Apportionment for the Farm Unit equal to the amount of water conserved for which the Agricultural Water User is contracted.

7.2 If the Agricultural Water User's Apportionment is less than the District On-Farm Efficiency Conservation Program, District Fallowing Program, or Other District Conservation Program contracted amount, the Agricultural Water User must procure this

difference from either: the Agricultural Water User's accepted Apportionment on other Eligible Agricultural Acres within the Farm Unit, or the Clearinghouse.

7.3 If the Agricultural Water User's Apportionment is more than the District Following Program contracted amount, the Agricultural Water User may use the difference on other Eligible Agricultural Acres within the Farm Unit not participating in a District Following Program, on the fallowed field after the term of the District Following Program, or offer it to the Clearinghouse.

8.0 **Miscellaneous.**

8.1 The IID Board of Directors, at its sole discretion, which may include consideration of recommendations by the Agricultural Water Advisory Committee, may declare a 15-day period in which all offers of water received by the Clearinghouse, of up to 7% (seven percent) of the District Water User's Apportionment, shall be accepted by the District thereby relieving the District Water Users of payment of that water on the Take-or-Pay Basis. This water accepted by the District will be offered back for transfer to other District Water Users via the Clearinghouse.

8.2 The General Manager is authorized and directed to do any and all things necessary to implement and effectuate these Regulations in a manner consistent with this policy, including the temporary modification of any dates necessary to facilitate implementation.

8.3 In the event of a Water Management Reduction, the IID Board of Directors, at its sole discretion, may take any actions it determines and finds are necessary to protect the public health and safety.

8.4 The IID Board of Directors may terminate the implementation of an annual Apportionment at any time at its discretion or upon recommendation of the Agricultural Water Advisory Committee. The District shall track actual water demands during the Calendar Year.