

**Gran Plaza Phase 2
SB 610 - Water Supply Assessment**



Prepared For:

**Gran Plaza, LP, &
The City of Calexico Community Development Department**

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Acknowledgement Section

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Purpose

This Water Supply Assessment (“WSA”) was prepared for Gran Plaza, LP as the project sponsor/applicant, and the City, as the lead agency under the California Environmental Quality Act (“CEQA”), by Development Design & Engineering, Inc. (“DD&E”), as the consultant, regarding the Gran Plaza Phase 2 Power Center (“GPP2”). 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 SB 610 repealed Section 10913, and added and repealed Section 10657 of the Water Code.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.

Under SB 610, WSAs must be furnished to local governments for inclusion in environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. Due to increased population, land use changes and water demands, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. As per California Department of Water Resources policy, “Even though a water supplier may not be a ‘public water system’ or become a ‘public water system’ as a result of serving the proposed project, it will still be involved, in a consultation role, in the preparation of the assessment.”¹ SB 610 takes a significant step toward managing the demand of California’s water supply as it provides regulations and incentives to preserve and protect future water needs. The intent of this bill is to coordinate local water supply and land use decisions to help provide California’s cities, farms, rural communities and industrial developments with adequate water supplies.

Project Determination According to SB 610

Senate Bill 610- Water Supply Assessment

With the introduction of SB 610, any project under California Environmental Quality Act (CEQA) shall provide a WSA if:

- The project meets the definition of the Water Code Section 10912²

After review of Water Code Section 10912, GPP2 is deemed a “project” because it is a proposed shopping center or business establishment having more than 500,000 square feet of floor space.

¹ Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, pg. 5.

² Water Code Section 10912:

For the purposes of this part, the following terms have the following meanings:

(a) “Project” means any of the following:

- (1) A proposed residential development of more than 500 dwelling units.*
- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.*
- (4) A proposed hotel or motel, or both, having more than 500 rooms.*
- (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.*
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.*
- (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.*
- (b) If a public water system has fewer than 5,000 service connections, then “project” means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system’s existing service connections.*

Executive Summary

The City, Lead Agency under CEQA, requested a WSA as part of the environmental review for GPP2. This study is intended for use by the City during the CEQA process in its evaluation of water supplies for the project, and existing and future land uses. The assessment examines the following water issues:

- Water availability during a normal year (See Section 1)
- Expected water availability during multiple dry years (See Section 2)
- Water availability for a 22-year projection (See Section 3)
- Pre-project water consumption and project water demands (See Section 4)
- Foreseeable planned water demands to be served by City (See Section 5)

This WSA has determined that the City's water supply is sufficient to meet project needs, in addition to existing and planned future uses. City water availability has been assessed for a 22-year projection (2015 - 2037), which is concurrent with the proposed construction and operational life of GPP2¹. Applicant seeks to utilize solely City water to operate GPP2 along with any other private drinking water providers. IID's adoption of the revised Equitable Distribution Plan dated October 28, 2013 enables water supply within the Imperial Unit to be consistent and reliable.

The project site lies within the service area of Imperial Irrigation District ("IID"), which is referred to as the Imperial Unit, specifically within the City of Calexico municipal boundary. IID is a raw water wholesaler that sells untreated Colorado River water to the City, a municipal user, who treats and retails potable water to users like GPP2 within its municipal boundary. The City developed plans like the 2010 Urban Water Management Plan ("UWMP") and others, in order to manage issues relating to present and future water supplies, demands and capacities, in order to adequately service existing and future potable water customers.

This WSA has determined that the City has a combination of existing adequate Water Treatment Plant ("WTP") capacity, and plans and policies in place for expansion of City water facilities that will allow for construction and operation of GPP2 for 22 years along with the ability to service existing and planned future users for 22 years. The 100+ acres that would be graded and built on as GPP2 are estimated to use 106,940 gallons per day (.107 MGD) at build-out during operation. The 100+ acre project site is currently vacant and does not involve any uses or activities that consume water. The applicant proposes to use .53 MGD for construction (22-month estimated construction window). The result is an increase of .107 MGD from the baseline of 0 MGD under pre-project conditions. Construction is estimated to require .53 MGD, being an increase of .53 MGD for 22 months from the 0 MGD pre-project baseline. It is anticipated that the applicant will procure construction water from the City of Calexico. IID offers temporary industrial water service for construction, which the applicant may use as an alternative means of supplying water needed for the GPP2 construction period. Multiple applications may be filed with IID. Section 4 of this report provides a comparison of proposed project water use and pre-project water consumption for GPP2.

¹ Construction is assumed to occupy a 22-month window with a 2015 1st quarter starting date. The construction window and 20 years of project operation were analyzed in this Water Supply Assessment.

Project Description⁴

The proposed development is the latest phase of the overall Gran Plaza commercial center development, and it will consist of approximately 1,069,400 square feet of floor area, and will be constructed in two phases. The first phase (Phase 2a) will consist of approximately 277,000 square feet of floor area, and will be located within the easterly portion of the project site. The second phase (Phase 2b) will consist of approximately 16 buildings with a total floor area of 792,400 square feet, and will be located in the westerly portion of the site. Construction is assumed to occupy a 22-month window with a 2015 1st quarter starting date. The construction window and 20 years of project operation were analyzed in this Water Supply Assessment.

The project site is located in the southernmost portion of Imperial County, California. The project site is located within the incorporated boundary of the City of Calexico. The City of Calexico is located approximately 230 miles southeast of Los Angeles, 125 miles east of San Diego, and is adjacent to the City of Mexicali, Baja California, Mexico. The regional location of the project site is shown in Exhibit 2-1, and the site's location within the City of Calexico is shown in Exhibit 2-2. A vicinity map is provided in Exhibit 2-3, and an aerial photograph of the project site and the surrounding area is provided in Exhibit 2-4. The 100+ acre project site is located in the southwestern portion of the City of Calexico, and is generally bounded by the Calexico International Airport to the north, U.S./Mexico International Border to the south, the Phase 1 Gran Plaza Outlet Center on the east, and vacant parcels and the All American Canal to the west. The Assessor's Parcel Numbers ("APNs") that are applicable to the project site include the following: 058-824-1, 2, 3, 4, 5, 6, 7, 8, 9, 32, 33; 058-825-1, 2, 20, 21; 058-826-1; and, 058-180-20 (portion).¹

The project is estimated to use .5 MGD of water during construction, and .107 MGD of water during operation once built-out, all of which would be supplied by the City. The City of Calexico currently has a water treatment plant and potable water distribution system capable of providing up to 16 MGD. Current maximum daily demand on the City's water system is 9 MGD. The following is a table from the DEIR, which breaks down proposed project water usage by phase:

Table 1: Projected Project Water Consumption

Phase	Consumption Rates	State Standards
Phase 2A (277,000 sq. ft.)	0.10 gals per day/sq. ft.	27,700 gals/day
Phase 2B (792,400 sq. ft.)	0.10 gals per day/sq. ft.	79,240 gals/day
Total		106,940 gals/day

Source: Bloodgett Baylosis Environmental Planning 2014

⁴ The Project Description is a summary of data provided by the applicant.

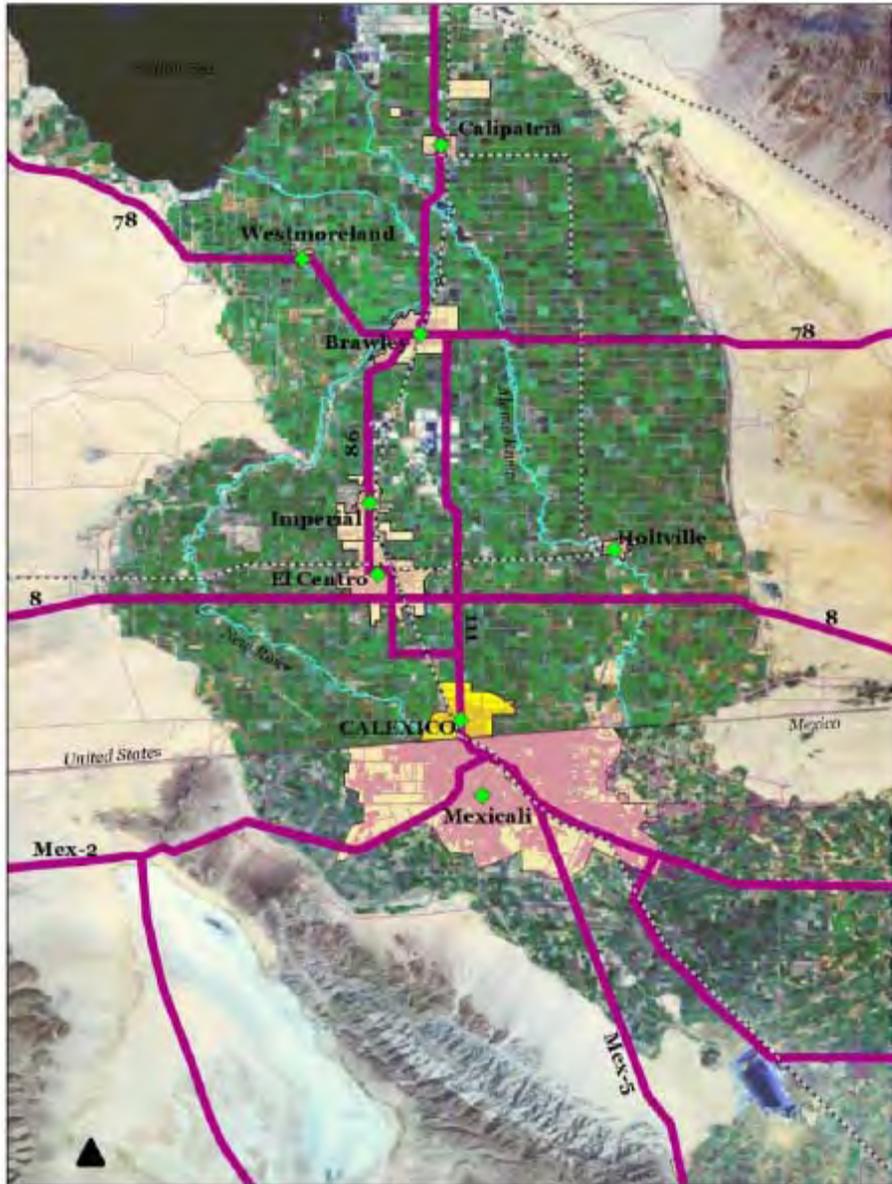
According to the DEIR, proposed on-site project water lines would connect to existing City infrastructure at the intersection of West 5th Street and River Road. The City currently aspires to expand its water treatment capacity to 20 MGD in order to keep servicing its existing potable water users as well as serve future planned development within the City municipal boundary. The City is currently assessing the financing needed to begin such an expansion. As mandated by Calexico Ordinance No. 1036, and as a mitigation measure noted in the DEIR, the project applicant shall pay or otherwise provide for the required commercial development fees related to the expansion of any necessary water or wastewater treatment facilities or infrastructure, as required by the City of Calexico and IID, prior to the issuance of any building permits for the project. Any associated impact to the environment would be less than significant with the implementation of the aforementioned mitigation measure.

Figure 1: State of California Project Location Map



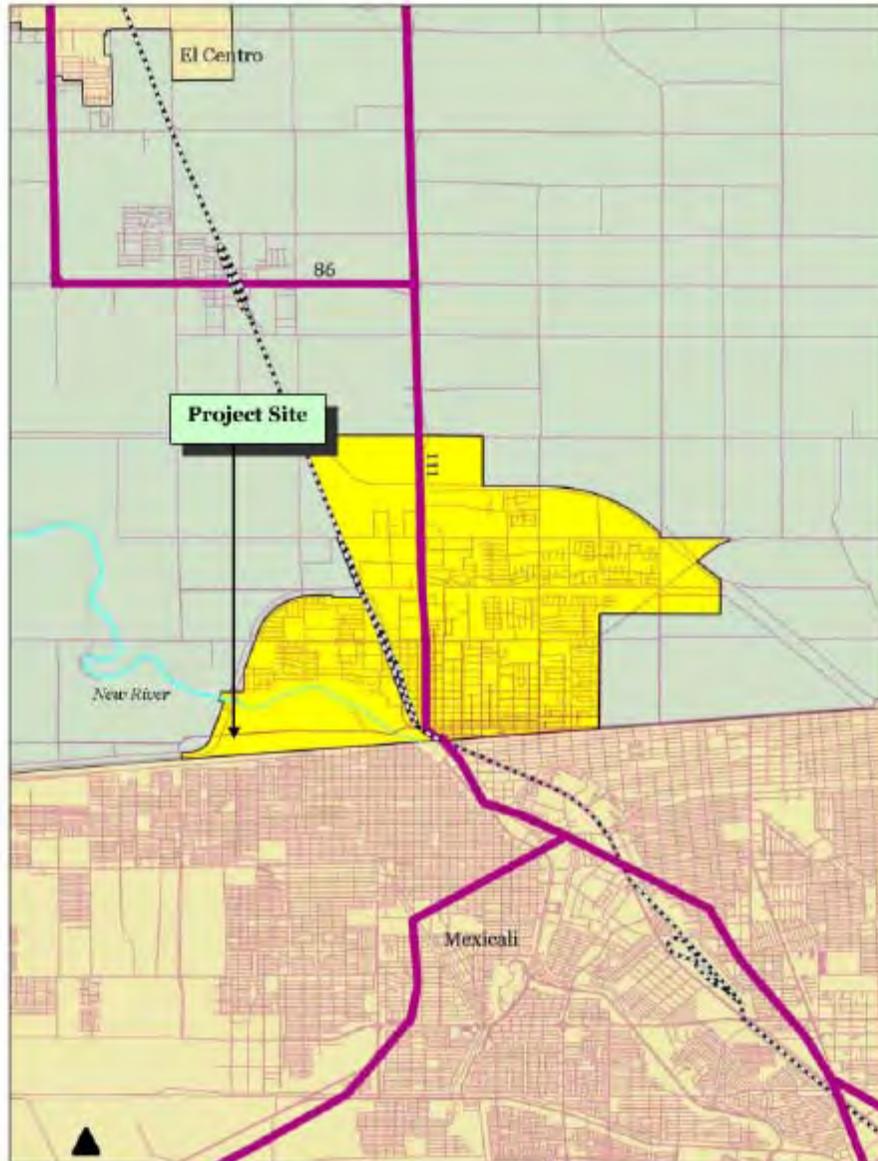
 Project Area

Figure 2: Regional Location



Source: Quantum GIS

Figure 3: Project Site Location in the City



Source: Quantum GIS

Figure 4: Focused Project Location in the City



Source: Delorme

Figure 5: Aerial Photograph of Project Site



Source: United States Geological Survey

Description of IID Service Area

The 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 acres.⁵ 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 fifty percent of Imperial County is undeveloped land under federal ownership and jurisdiction. The Salton Sea accounts for approximately 11 percent of Imperial County's surface area. In 2011, 16 percent of the area was in irrigated agriculture (469,916 acres), including 14,676 acres of the Yuma Project, some 35 sections or 5,600 acres served by Palo Verde Irrigation District (PVID), and 440,650 acres served by IID.^{6,7}

The area served by IID is located in the Imperial Valley, which is generally geographically synonymous with IID's Imperial Unit, lying south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 658,942 acre area between IID's Westside Main and East Highline canals.⁸ In 2011, IID delivered untreated water to 440,650 net irrigated acres, predominantly in the Imperial Valley along with small areas of East and West Mesa land.⁴ The developed area consists of seven incorporated cities (Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmodand), three unincorporated communities (Heber, Niland, Seeley), and three institutions (Naval Air Facility [NAF] El Centro, Calipatria CDCR, and Centinela CDCR) and supporting facilities. Figure 3 provides a map of the IID Imperial Unit boundary, as well as cities, communities and main canals.

Water users in the Imperial Valley depend on the Colorado River for virtually all of their 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 Southern California Water Company (which serves Calipatria, Niland, and Calipatria CDCR) 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 4,000 raw water service accounts required by the California Department of Public Health (CDPH) to have alternate drinking water service. The District maintains a small-acreage pipe and drinking water database, and provides an annual compliance update to CDPH.

Agricultural development in the Imperial Valley began at the turn of the twentieth century. In 2011, gross agricultural production for Imperial County was valued at \$1,964,087,000, of which approximately \$1,859,227,000 was produced in the IID water service area. While the agriculture-

⁵ *Imperial County General Plan, Land Use Element 2008 Update*

⁶ USBR Yuma Project <http://www.usbr.gov/projects/Project.jsp?proj_Name=Yuma+Project> 7 June 2013

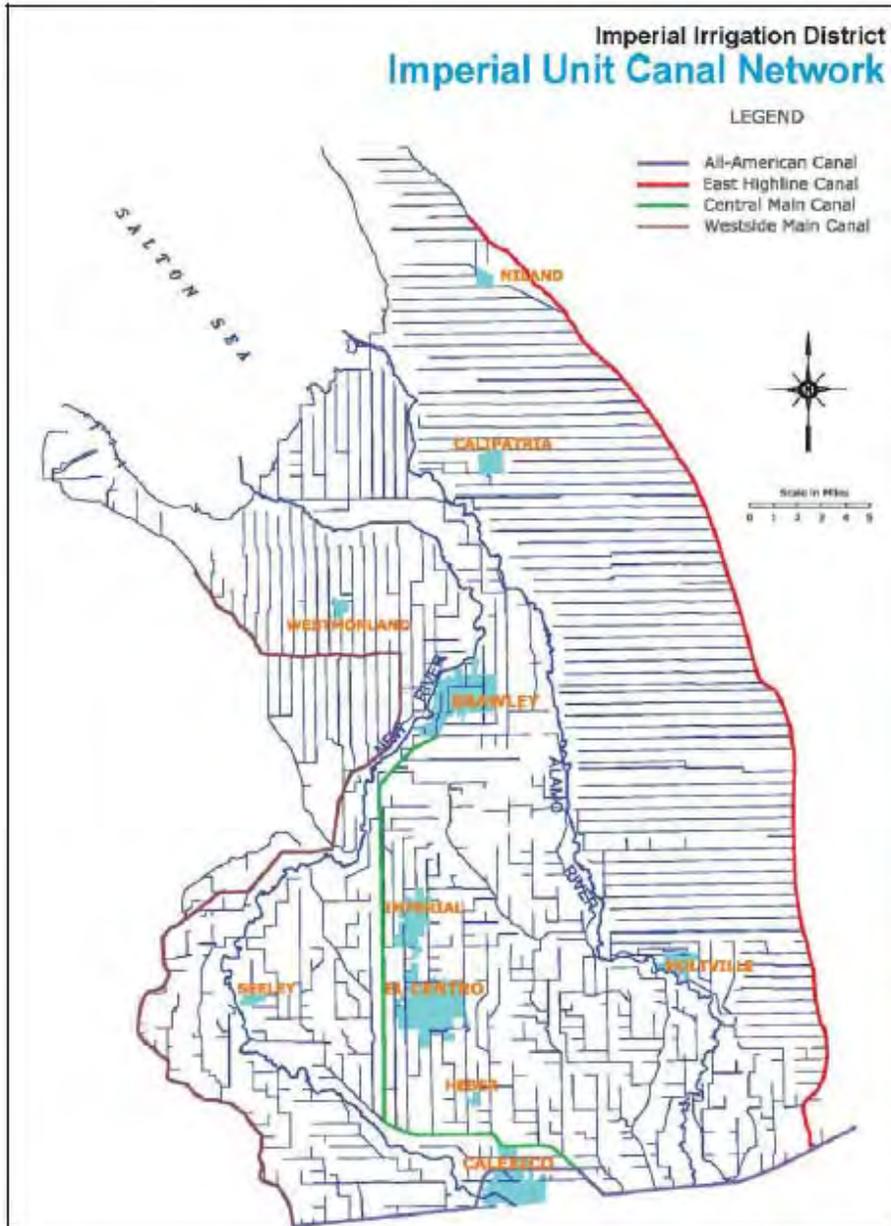
⁷ Palo Verde Irrigation District Acreage Map <http://www.pvid.org/pviddocs/acreage_2012.pdf> 7 June 2013

⁸ IID Annual Inventory of Areas Receiving Water Years 2011, 2010, 2009,

<<http://www.iid.com/index.aspx?page=119>> 7 June 2013

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.

Figure 6: IID Imperial Unit Boundary and Canal Network



Source:

IID

Imperial Unit Future Land and Water Uses

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. Increases in urban growth will require additional energy both locally and in the South Coast. Local resources include geothermal, wind, biomass and solar; and plans have been made to develop energy production centers or energy parks within Imperial County.⁹ Alternative energy facilities will help California meet its statutory and regulatory goals for increasing renewable power generation and use.

The majority of Imperial Valley's urban development is expected to remain concentrated near the established urban centers (incorporated cities and unincorporated communities) for efficient infrastructure layout. Part of the anticipated urban growth is due to the two U.S./Mexico International border crossings into the Imperial Valley – Calexico West Port of Entry, between Calexico and Mexicali and Calexico East Port of Entry, to the east of these cities. The Calexico East facility is expected to generate development in the Imperial Valley, since movement of goods and services has increased dramatically since January 1994 implementation of the North American Free Trade Agreement (NAFTA).

Undeveloped areas that are being or could likely be developed include both lands that surround the incorporated cities and unincorporated communities and unincorporated areas defined by specific plans. Specific plans are used to implement the Imperial County General Plan for large development projects such as planned communities or to designate an area where further studies are needed for development like Mesquite Lake. When adopted, a specific plan serves as an amendment to Imperial County's General Plan for a defined and detailed area. IC does not trigger the need for a Specific Plan or General Plan Amendment, but rather, a conditional use permit since the property is already zoned A2, A-2R, and A-3.

In 2011, the total urban area in the Imperial Valley was 30,013 acres or 4.46 percent of the Imperial Unit's 658,942 acres.¹⁰ Urban areas to be developed will be characterized by a full level of urban services, with a broad range of residential, commercial and industrial land uses. It is anticipated that most new urban development will eventually be annexed and incorporated into existing municipal areas, or form new County Service Areas (CSAs), and be provided with a full range of public infrastructure normally associated with urban areas. This includes public sewer and water, drainage improvements, streetlights, fire hydrants, and fully improved paved streets with curbs, gutters and sidewalks that are consistent with respective municipal standards.

⁹ *Imperial County General Plan, Geothermal/ Alternative and Transmission Element, revised 2006*

¹⁰ Total acreage for Imperial Unit and for urban areas in the unit are based on in *IID 2009-2011 Annual Inventory of Areas Receiving Water* <http://www.iid.com/Modules/ShowDocument.aspx?documentid=5607> > 8 Feb 2013

Imperial Valley baseline (2005) and forecasted future non-agricultural water demand, with and without conservation, are provided in Table 2 in five-year increments for 2010 through 2050. Without conservation, total water demand for non-agricultural uses is forecasted to be 302,000 AF annually (1,076 MGD) in the year 2050. With conservation, total future water demand for the Imperial Valley is forecasted to be 255,000 acre-feet (KAF) annually (957 MGD). This is a forecasted increase in the use of non-agricultural water from around 138 KAF to around 185 KAF, with and without conservation, respectively, for the period of 2010 to 2050.

Table 2: Non-Ag. Water Demand within IID Water Service Area, 2005-2050 (AFY)

	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Without Conservation										
Municipal	30,617	37,543	43,159	48,833	53,011	57,272	59,748	66,652	74,412	83,139
Geothermal	31,931	48,383	64,835	81,287	97,739	114,192	130,644	147,096	163,548	180,000
Other Industrial	7,092	7,092	7,092	7,092	7,092	7,092	7,092	7,092	7,092	7,092
Feedlots/Dairies	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Envr Resources	0	3,840	7,930	12,020	12,020	12,020	12,020	12,020	12,020	12,020
Total	89,640	116,858	143,016	169,232	189,862	210,576	229,504	252,860	277,072	302,251
With Conservation										
Municipal	30,617	37,543	41,984	42,275	46,018	49,846	52,175	58,305	65,183	72,909
Geothermal	31,931	48,383	58,352	65,030	78,192	91,353	104,515	117,677	130,838	144,000
Other Industrial	7,092	7,092	6,699	6,306	6,306	6,306	6,306	6,306	6,306	6,306
Feedlots/Dairies	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Envr Resources	0	3,840	7,930	12,020	12,020	12,020	12,020	12,020	12,020	12,020
Total	89,640	116,858	134,964	145,631	162,536	179,525	195,016	214,308	234,347	255,235

Note: Future geothermal demand is based on assumed 20% conservation savings to meet CA 20 X 2020 goal and use of BMPs.
 Source: Imperial IAWMP Vol. 1, Table 5.22, (Oct 2012)

Climate Factors

Imperial Valley has a subtropical desert climate characterized by hot, dry summers and mild winters. Summer temperatures typically exceed 100 degrees Fahrenheit (°F), while winter low temperatures rarely drop below 32°F. The remainder of the year has a relatively mild climate with temperatures averaging in the mid-70s. For the 30 years from 1977-2006, average annual air temperature was 73.8°F, and average annual rainfall period was 3.15 inches (Table 3). The majority of rainfall occurs from November through March, along with periodic summer thunderstorms. As a rule of thumb, rainfall in the Imperial Valley contributes around 50,000 AF of effective agricultural water per inch of rain.

Table 3: Climate Summary: 30-Year Monthly and 30-Year Annual Averages, 1977-2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Max. Temp (°F)	80	84	91	99	105	112	114	113	110	101	89	78	114
Avg. Min. Temp (°F)	31	35	40	46	52	58	67	67	60	49	37	32	47.8
Avg. Temp (°F)	57	60	65	72	78	86	92	92	87	76	64	56	73.8
Avg. Rainfall (in)	.51	.49	.40	.06	.04	.00	.11	.37	.26	.29	.19	.43	3.15

Source: IID Imperial Weather Station Record

Imperial Irrigation District's Water Rights¹¹

IID was formed in 1911, under the California Irrigation District Act, to acquire properties of the bankrupt California Development Company and its Mexican subsidiary to import raw Colorado River water and distribute it. By 1922, IID had acquired 13 mutual water companies, which had developed and operated distribution canals in the Imperial Valley. By the mid-1920s, IID was delivering water to nearly 500,000 acres. Since 1942, water has been diverted at Imperial Dam on the Colorado River into the All-American Canal (AAC), both of which IID operates and maintains. IID ended its fifty-year operation in Mexico by selling its holdings to the Mexican government in 1961.¹²

California Law

IID's 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.

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 (1921)

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)

¹¹ Information in this section is from IID 2009 Annual Water Report, pages 12-15; and October 2012 Imperial Integrated Regional Water Management Plan, Chapter 5.

<<http://www.iid.com/Modules/ShowDocument.aspx?documentid=4214>>

¹² IID 2010 Annual Water Report, page 5 <<http://www.iid.com/Modules/ShowDocument.aspx?documentid=5057>>

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)

Colorado River Compact (1924)

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 the Republic of Mexico with 1.5 MAF annually.

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.

California Seven-Party-Agreement (1931)

After implementation of the Boulder Canyon Project Act, the Secretary requested that California create recommendations regarding distribution of its allocation of Colorado River water. Under the direction of the State Engineer, the California Seven-Party Agreement was developed and authorized by the affected parties to prioritize the State's water rights in August 1931. In September 1931, the Secretary accepted this agreement and established these priorities through general regulations. As shown in Table 4, allocation to Priorities 1-4 account for California's annual apportionment of 4.4 MAF, with agricultural entities entitled to use 3.85 MAF of that total. Priorities 5-7 are defined for years in which the Secretary proclaims that surplus water is available for distribution.

Table 4: California Seven-Party Agreement for Apportionments and Priorities (AFY)10F¹³

Priority Order	Description	Annual Apportionment (Acre-feet)	Annual Present Perfected Rights (PPRs) (Acre-feet)
1	Palo Verde Irrigation District – for use exclusively on a gross area of 104,500 acres of land within and adjoining the district	3,850,000	219,790 (or consumptive use for 33,604 acres)
2	Yuma Project (Reservation District) – for use on California Division, not exceeding 25,000 acres of land		38,270 (or consumptive use for 6,294 acres)
3(a)	Imperial Irrigation District - for use on lands served by All-American Canal in Imperial and Coachella Valleys		2,600,000 (or consumptive use for 424,145 acres) - (IID only)
3(b)	Palo Verde Irrigation District – for use exclusively on an additional 16,000 acres of mesa lands		A.
4	Metropolitan Water District and/or City of Los Angeles and/or others – for use by themselves and/or others on Southern California coastal plain	550,000	
	Subtotal	4,400,000	
5(a)	Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain	550,000	
5(b)	City and County of San Diego	112,000	
6(a)	Imperial Irrigation District - lands served by the All-American Canal (AAC) in Imperial and Coachella Valleys	300,000	
6(b)	Palo Verde Irrigation District – for exclusive use on 16,000 acres of mesa lands		
	Total	5,362,000	
7	California Agricultural Use - Colorado River Basin lands in California	All remaining available water	

Source: October 2012 Imperial IRWMP, Chapter 5

¹³ IID 2010 Annual Water Report < <http://www.iid.com/Modules/ShowDocument.aspx?documentid=5057>>, p 14.

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.

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.

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 and 6 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 200,000 AF,
- to CVWD and MWD combined 103,000 AF, and
- to certain San Luis Rey Indian Tribes 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.

Colorado River Water Delivery Agreement (2003)¹⁴

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.

¹⁴ USBR LCR website: CRWDA <<http://www.usbr.gov/lc/region/e4000/crwda/crwda.pdf>>

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 for a period of 35 to 75 years between IID and CVWD, with provisions for transfer of supplies involving IID, CVWD, MWD and SDCWA are quantified in the CRWDA.

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 5). As specified in the QSA/Transfer Agreements, by 2026, IID annual use within its water service area (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 5: CRWDA Annual 4.4 MAF Apportionment (Priorities 1 to 4) for CA Agencies (AFY)

User	Apportionment (AFY)
Palo Verde Irrigation District and Yuma Project*	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

* FVID 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 the Colorado River diversion: Palo Verde Diversion Dam (FVID), Imperial Dam (IID and CVWD), and Parker Dam (MWD).

Source: IID 2009 Annual Water Report, p 15. <<http://www.iid.com/Module/ShowDocument.aspx?documentid=4214>>

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 Secretary.¹⁵ The CRWDA provides that the underlying water delivery contract 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.

¹⁵ When water levels in the Colorado River reservoirs are low, Priority 5, 6 and 7 apportionments are not available for diversion.

Inadvertent Overrun Payback Policy

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.¹⁶ 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 percent of its Colorado River water entitlement.

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 percent of the entitlement holder’s maximum allowable cumulative overrun account or 33.3 percent of the total account balance, whichever is greater. However, when Lake Mead is below 1125 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).¹⁷

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 4 identifies the major storage facilities at the upper and lower basin boundaries.

¹⁶ USBR. 2003 *Colorado River Water Delivery Agreement ROD*. Section IX. Implementing the Decision A. Inadvertent Overrun and Payback Policy. Pages 16-19 of 34. <http://www.usbr.gov/lc/region/e4000/crwda/crwda_rod.pdf> . 7 Feb 2013.

¹⁷ 2003 ROD CRWDA IOPP:< http://www.usbr.gov/lc/region/e4000/crwda/crwda_rod.pdf>

Annual Operating Plan for Colorado River Reservoirs

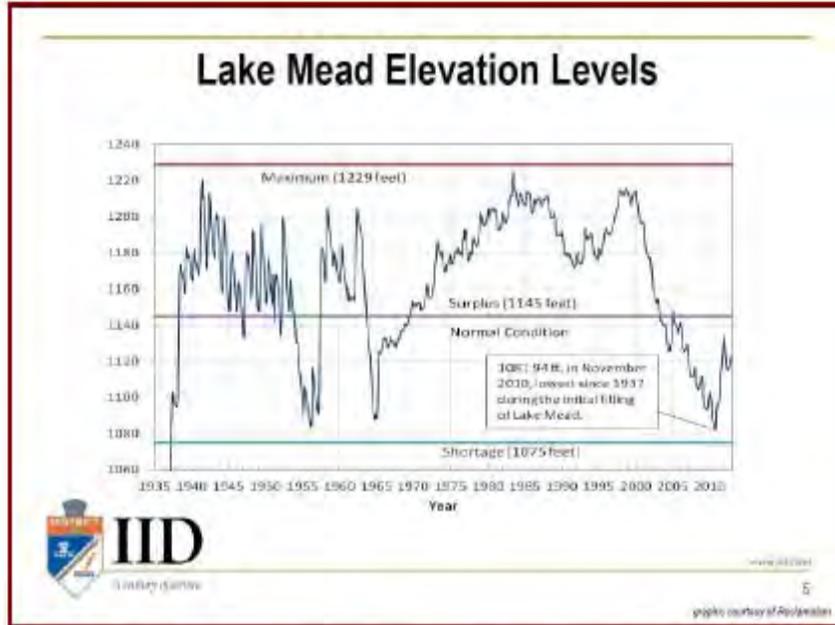
The AOP is developed in accordance with Section 602 of the Colorado River Basin Project Act (Public Law 90-537); the Criteria for Coordinated Long-Range Operations of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of 1968, as amended, promulgated by the Secretary of the Interior; 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.

Figure 7: 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. <<http://www.usbr.gov/lc/region/programs/strategies/FEIS/Chp1.pdf>>

Figure 8: Lake Mead Water Elevation Levels



For graph of latest elevations visit <<http://www.stachnoid.com/NaturalResources/index.html>>

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.¹⁹

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.
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

¹⁹ 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>>

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:

5. 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.
6. 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.
7. 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.
8. 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.

Importantly for long-term stable management of the Colorado River, adoption of the 2007 Interim Guidelines activates a critical provision in the legal agreement among the basin states: the basin states have agreed to mandatory provisions to address future controversies on the Colorado River through consultation and negotiation before resorting to litigation. With respect to the various interests, positions and views of each of the seven basin states, this provision adds an important element to the evolution of the legal framework for the 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, while, keeping the 2007 Interim Guidelines in place through 2026 provides an opportunity to gain operating experience

for the management of Lake Powell and Lake Mead and to improve the basis for making additional future operational decisions, whether during the interim period or thereafter.²⁰

Finally, the Intentionally Created Surplus (ICS) water conservation mechanism encourages efficient use and management of Colorado River water, and enhances conservation opportunities in the Lower Basin and the retention of water in Lake Mead.

²⁰ For a discussion of the 2007 Interim Guidelines, see: Intermountain West Climate Summary by The Western Water Assessment, issued Jan. 21, 2008, Vol. 5, Issue 1, *January 2009 Climate Summary*, Feature Article, pages 5-7. <http://www.colorado.edu/climate/nwca/archive/IWCS_2009_Jan.pdf> 22 Mar 2013

City of Calexico – Potable Water Supplier

The City of Calexico receives raw water from the Imperial Irrigation District. Approximately three percent (3%) of IID untreated water is ultimately used for urban purposes, and is generally provided indirectly to consumers through a variety of public and private treatment agencies.

The City of Calexico's sphere of influence is located within the Imperial Unit of the Imperial Irrigation District's Irrigation (IID) service area. The 699,092-acre Imperial Unit serves the Imperial Valley including the urban areas for the cities of El Centro, Calexico, Imperial and Brawley, and approximately a quarter of Imperial County's unincorporated area. In total, IID delivers water to an area of just over 520,000 acres, including cities, cemeteries, schools, parks, golf courses, etc., in addition to the irrigated agricultural land. The Imperial Irrigation District's total service area, lying entirely within Imperial Valley is divided into four units: Imperial, West Mesa, East Mesa, and Pilot Knob, with a gross acreage of 1,061,637 acres.

Approximately 97 percent of the water demand in the Imperial Unit is for irrigation. Agriculture is successful in this region for two reasons: 1) rich soils which have accumulated on the valley floor over thousands of years; and 2) the large quantity of water that is transported 80 miles from the Colorado River via the All-American Canal, then distributed to farmlands by a complex system of smaller canals.

Recycled water low in salinity could be used for agricultural; however, treatment and distribution of recycled wastewater low in salinity is not cost effective option at this time. Colorado River water salinity has averaged 760 parts per million over the last 20 years, and treated municipal wastewater is approximately 200-300 ppm higher in salinity. In addition, agricultural producers are averse to using treated wastewater due to consumer perceptions that the crops might be tainted.

A description of City water facilities has been described in the City of Calexico's UWMP. The City provides potable water to homes and businesses by treating Colorado River water imported by the IID. The imported water is a surface water source. Its treatment must comply with the Surface Water Rule of the Federal and State Safe Drinking Water Act. The California Department of Public Health (CDPH) granted a permit to the City of Calexico to supply water for domestic purposes to its users. The treatment facility must meet all applicable United States Environmental Protection Agency domestic water quality standards.

The City of Calexico takes its water from the All American Canal. Water is conveyed from the canal to the pond/reservoir. Water from the pond/reservoir is pumped to the treatment plant. Once the raw water is treated, potable water is distributed to the City of Calexico via a complex network of pressurized main and service water lines. The treatment plant is currently sized at 14 MGD, and along with a 6 MG potable water storage tank, the City has a total potable water capacity of 16 MGD. The City currently has a maximum/peak daily demand of 9 MGD. The City anticipates making WTP expansion improvements in City fiscal year 2016-2017.

Conservation & Planning through the City Urban Water Management Plan²¹

The City of Calexico has adopted an Urban Water Management Plan (UWMP). The Urban Water Management Act (California Water Code §10610 et seq.) requires urban water suppliers to report, describe, and evaluate:

- Water deliveries and uses
- Water supply sources
- Efficient water uses
- DMMs, including implementation strategy and schedule

In addition, the Water Conservation Bill of 2009 requires urban water suppliers to report in their UWMPs base daily per capita water use (baseline), urban water use target, interim urban water use target, and compliance daily per capita water use. The baseline daily per capita water use in gallons (GPCD) (consecutive 10-year average for 2001 through 2010) is 180 gallons.

Table 7: Base Daily Per Capita Water Use in the City

Base period year		Distribution System Population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
Year 1	2001	28,020	2,298.0	225
Year 2	2002	29,757	2,310.0	213
Year 3	2003	32,003	2,330.0	199
Year 4	2004	34,240	2,340.0	187
Year 5	2005	36,003	2,350.0	179
Year 6	2006	36,533	2,303.0	173
Year 7	2007	37,151	2,260.0	167
Year 8	2008	38,558	2,221.0	158
Year 9	2009	39,380	2,217.0	154
Year 10	2010	40,075	2,091.0	143
Base Daily Per Capita Water Use¹				180

Figure 1 - City of Calexico Average Per Capita per Day Use (2001-2010)
¹population estimates from the State of California Department of Finance

²¹ City of Calexico's 2010 Urban Water Management Plan

The City's Urban Water Use Target for 2020 is 172 GPCD. In 2010, the use was 143 GPCD, already in compliance. The City will be required to meet the goal of 172 GPCD by 2020 to be eligible for future state funding unless revised in the 2015 UWMP update.

The UWMP Act directs water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands (CWC 10612 (b)). Urban water suppliers are required to assess current demands and supplies over a 20-year planning horizon and consider various drought scenarios.

The UWMP Act also requires that water shortage contingency planning and drought response actions be included in a UWMP. UWMPs are to be prepared every five years by urban water suppliers with 3,000 or more service connections, or supplying 3,000 or more acre-feet of water per year.

There is no foreseeable water shortage in the City of Calexico for the next 22 years. The City of Calexico uses Colorado River water that can supply the City with sufficient water to meet all currently projected demands.

Service Area Population

The UWMP has identified the Service Area Population. The table below shows the 2000 through 2010 population from the California Department of Finance (DoF) for Imperial County and the cities within Imperial County.

Table 8: Population Estimates for Cities and County, 2001-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brawley	22,052	22,342	22,477	22,722	23,390	23,863	25,342	25,421	26,391	26,970	27,743
Calexico	27,109	28,020	29,757	32,003	34,240	36,003	36,533	37,151	38,958	39,380	40,075
Calipatria	7,289	7,277	7,608	7,649	7,780	7,876	7,807	7,738	7,757	8,111	8,233
El Centro	38,025	38,436	38,704	39,344	39,841	40,728	41,766	41,828	43,119	44,303	45,365
Holtville	5,612	5,669	5,690	5,709	5,724	5,703	5,813	6,232	6,437	6,521	6,641
Imperial	7,560	7,758	8,105	8,521	9,277	9,496	10,083	11,726	12,693	12,985	13,374
Westmorland	2,131	2,172	2,192	2,200	2,209	2,424	2,380	2,349	2,394	2,429	2,418
Unincorporated	32,583	33,135	33,281	33,697	33,960	34,774	36,117	38,801	38,147	38,723	39,192
Incorporated Imperial Valley	109,778	111,674	114,533	118,148	122,470	126,093	129,704	132,241	137,346	140,705	143,847
Total	142,261	144,809	147,814	151,845	156,430	160,867	165,821	171,042	175,496	179,420	183,029

Source: State of California Department of Finance

Future Population

California Department of Finance developed population estimates for Imperial County through 2035. See the below table.

Table 9: Forecasts through 2035 based on DOF Population Projections

	2005	2010	2015	2020	2025	2030	2035
Brawley	23,915	28,547	32,271	35,994	39,345	42,698	46,555
Calexico	36,079	41,705	47,144	52,583	57,480	62,377	68,013
Calipatria	7,884	8,371	9,483	10,554	11,537	12,520	13,651
El Centro	40,817	46,640	52,723	58,805	64,282	69,758	76,060
Holtville	5,715	6,963	7,871	8,779	9,597	10,415	11,356
Imperial	9,516	13,730	15,521	17,312	18,924	20,536	22,392
Westmorland	2,430	2,581	2,929	3,266	3,571	3,875	4,225
Other*	36,116	37,055	38,018	39,007	40,021	41,062	42,129
Total	162,472	185,602	205,938	226,300	244,757	263,241	284,380

City of Calexico – Water System Demands

Baselines and Targets

Per capita water usage varies seasonally dependent largely due to increased landscape irrigation during the hot summer months. Winter usage by all residences is only 55% of that during summer months while residences consume more than all other users, and have the most fluctuation in monthly usage. Commercial and governmental customers reduce water consumption during cooler months. Industrial consumption increases substantially during winter; however, industrial usage accounts for less than 2% of the total annual usage. As a result, it appears that nearly all of the summer increase in consumption is caused by landscape irrigation.

The existing City's water billing system identifies customers' categories, so that accounts can be classified by use class and can identify each customer by sector and usage category. The total amount of water delivered into the system is metered at the water treatment plant and is shown in Table 10. Un-metered flows include park irrigation and system losses. For 2010 unmetered flows and system losses account for approximately 25% of the total water pumped into the City system. It is anticipated that this will be reduced to less than 10% over the next 20 years. The treated water flows from 2005 to 2010 decreased 12.5% over the five-year period. This is probably mostly due to increased water rates within the City.

2010 Actual Water Deliveries & Estimated Future Water Demands

Table 10: 2010 Actual Water Deliveries

Water deliveries — actual, 2010, in MG/year					
Water use sectors	2010				
	Metered		Not metered		Total
	# of accounts	Volume	# of accounts	Volume	Volume
Single family	7,065	1,150	0	0	1,150
Multi-family	510	163	0	0	163
Commercial	570	213	0	0	213
Industrial	3	0	0	0	0
Institutional/governmental	0	0	0	0	0
Landscape	2	38	0	0	38
Agriculture	0	0	0	0	0
Other	0	2	0	0	2
Total	8,150	1,566	0	0	1,566

Units (circle one): million gallons per year

Table 11: Estimated Future Water Demands

Year	DoF Calexico Population Estimates	Average Per Capita Per Day Use (Gallons)	Calculated Gross Water Use (Million Gallons)	Calculated Gross Water Use (Acre Feet)	Calculated Estimated Daily Water Use (Gallons Per Day) Average
2015	45,563	176	2,926.967	8,983	8,019,088
2020	51,802	172	2,860.445	8,778	7,836,836
2025	58,896	172	3,252.130	9,980	8,909,944
2030	66,960	172	3,697.491	11,347	10,130,112

Section 1: Water Availability – Normal Year

The project's proposed water supply source is the City of Calexico, which receives its water from IID. As municipal water use represents less than 3% of water used within the Imperial Unit, this section of the WSA will focus on IID's raw Colorado River entitlement in terms of normal year water availability. Due to IID annual consumptive use limits under the QSA/Transfer Agreements, water supplies during a normal year are best represented by the CRWDA net consumptive use amount (Table 12, Column 11). These annual values plus an adjustment for normal rainfall of 3 inches/year, represent the maximum available supply for each year. IID suggests Table 13, which assumes full use of IID's quantified water supply be used in determining base normal year water availability.

USBR annual Colorado River Accounting and Water Use (Decree Accounting) report tabulations, which include QSA/Transfer Agreement deductions, are the official record of IID Consumptive Use of Colorado River water at Imperial Dam. These consumptive use volumes for IID, MWD and CVWD include system "losses" (canal seepage, evaporation and phreatophyte use, and operational spill), because these districts are not adjacent to the river and return flow is minimal if there is any.

IID water use values from USBR Decree Accounting records are shown in Table 12. The sum of these values plus some others such as Miscellaneous PPR (11.5 KAFY) and Lower Colorado River Water Supply Project (LCRWSP) wellfield pumpage (around 5 KAFY) when summed are IID Consumptive Use at Imperial Dam. IID Consumptive Use for 1988 through 2012 at Imperial Dam include AAC and IID system "losses" attributable to water diverted for IID, but does not include net volumes of water conserved for transfer programs (IID/MWD transfer began in 1990, other QSA transfers were initiated in 2003), Salton Sea mitigation, Miscellaneous PPRs, LCRWSP, and other IID QSA programs.

Prior to 2003, IID had a dynamic water right and received flows that matched usage. As previously noted, given the 3.1 MAF cap agreed to by IID as a part of the QSA/Transfer Agreements, this WSA focuses on accounting from 2003 forward. The IID Net Consumptive Use Amount shown Table 12, Column 11, characterizes normal year supplies for IID. To determine water availability for delivery in the Imperial Valley, the quantified amount must be reduced to account for AAC and IID system seepage, evaporation and phreatophyte use, and IID operational spill; and be increased for effective precipitation, if any.

Table 12: IID Net Consumptive Use, 2003 – 2037, et seq. (KAF, CRWDA Exhibit B)

IID Quantification and Transfers, as of 2011 (KAF) 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)
	IID3(a) Quantified Amount	1988 MWD Transfer ²	II. 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	2872.7
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2825.1
2009	3,100	105.0	60.0	65.5	30.2	8.0	0.0	11.5	280.2	2566.7
2010	3,100	105.0	70.0	67.7	33.7	12.0	0.0	11.5	299.9	2545.6
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	246.4	2915.8
2012	3,100	105	90	67.7	45	21	100	11.5	440.2	2,659.8
2013	3,100	105	100	67.7	70	26	100	11.5	480.2	2,619.8
2014	3,100	105	100	67.7	90	31	100	11.5	505.2	2,594.8
2015	3,100	105	100	67.7	110	36	100	11.5	530.2	2,569.8
2016	3,100	105	100	67.7	130	41	100	11.5	555.2	2,544.8
2017	3,100	105	100	67.7	150	45	91	11.5	570.2	2,529.8
2018	3,100	105	130	67.7	0	63	0	11.5	377.2	2,722.8
2019	3,100	105	160	67.7	0	68	0	11.5	412.2	2,687.8
2020	3,100	105	193	67.7	0	73	0	11.5	450.2	2,649.8
2021	3,100	105	205	67.7	0	78	0	11.5	467.2	2,632.8
2022	3,100	105	203	67.7	0	83	0	11.5	470.2	2,629.8
2023	3,100	105	200	67.7	0	88	0	11.5	472.2	2,627.8
2024	3,100	105	200	67.7	0	93	0	11.5	477.2	2,622.8
2025	3,100	105	200	67.7	0	98	0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
29-37	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
38-47 ⁶	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
48-77 ⁷	3,100	105	200	67.7	0	50 ⁸	0	11.5	434.2	2,665.8

¹ Information conveyed is volume at Imperial Dam from USBR CRWDA Exhibit B, volumes in KAF at Imperial Dam. For 2003-2011 volumes are adjusted for USBR Decree Accounting actual values. For 2003-2011, IID Net Available for Consumptive Use may not equal Col 2 minus Col 10, due to IID uses not reported in this table.

² Second Amendment to IID/ MWD 1988 agreement provides that, starting in 2007, MWD transfer is fixed at 105 KAFY and can be reduced to 101.5 KAFY depending on tailwater return systems: conservation and potable water project potentially funded by MWD. IID Total Reduction and IID Net Available for Consumptive Use have been recalculated to reflect this change.

³ Salton Sea Mitigation volume: may vary based on conservation volumes and method of conservation.

⁴ Would transfer water to MWD subject to satisfaction of certain conditions and to appropriate federal approvals, may also be subject to state approvals. *Note: This transfer is not likely to occur given lack of progress on Salton Sea restoration as of 2012.*

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), and Misc. PPRs. Amounts are independent of increases and reductions as allowed under the IOFP.

⁶ Assumes SDCWA does not elect termination in year 35.

⁷ Assumes SDCWA and IID mutually consent to renewal terms of 30 years.

⁸ Modified from 100 KAFY shown in CRWDA Exhibit B as MWD will provide CVWD 50 KAFY of the 100 KAFY starting in year 46.

Notes: Substitute transfers can be made provided total volume of water to be transferred remains equal or greater than amounts shown consistent with applicable federal approvals. Shaded columns represent amounts of water that may vary.

Source: QSA CRWDA Exhibit B, p 13 <<http://www.usbr.gov/lc/region/g4000/QSA/crwda.pdf>>

Table 13: IID Historical Consumptive Use Amounts, 1988-2012 (AF)

Year	IID Water Users (USBR Report)	IID/MWD Transfer Program	IID/SDCWA Transfer Program	Salton Sea Mitigation	IID End of Year Overrun/Underrun (USBR Report)	IID/CVWD Transfer Program	AAC Lining
1988	2,947,581						
1989	3,009,451						
1990	3,054,188	6,110					
1991	2,898,963	26,700					
1992	2,575,659	33,929					
1993	2,772,148	54,830					
1994	3,048,076	72,870					
1995	3,070,582	74,570					
1996	3,159,609	90,880					
1997	3,158,486	97,740					
1998	3,101,548	107,160					
1999	3,088,980	108,500					
2000	3,112,770	109,460					
2001	3,089,911	106,880					
2002	3,152,984	104,940					
2003	2,978,223	105,130	10,000	0	6,555		
2004	2,743,909	101,900	20,000	15,000	166,408		
2005	2,756,846	101,940	30,000	15,000	159,881		
2006	2,909,680	101,160	40,000	20,000	8,957		
2007	2,672,754	105,000	50,000	25,021	6,358		
2008	2,825,116	105,000	50,000	26,085	47,999	4,000	8,898
2009	2,566,713	105,000	60,000	30,158	237,767	8,000	65,577
2010	2,545,593	105,000	70,000	33,736	207,925	12,000	67,700
2011	2,915,784	103,940	63,278	0	82,662	16,000	67,700
2012	2,903,216	104,140	106,722	15,182	161,973	21,000	67,700

Notes: Volumes in AF at Imperial Dam; not all IID QSA programs are shown on this table

Section 2: Expected Water Availability – Single Dry and Multiple Dry Years

The project's proposed water supply source is the City of Calexico, which receives its water from IID. As municipal water use represents less than 3% of water used within the Imperial Unit, this section of the WSA will focus on IID's raw Colorado River entitlement in terms of expected water availability during single dry and multiple dry years.

Because of the low rainfall in the IID water service area, dry and multiple-dry water year analysis assumes one of the following scenarios is in effect:

1. USBR has declared a normal condition for deliveries to the Colorado River Lower Basin, and rainfall is scarce and creates drier than normal local conditions in the IID water service area. The year of 2006 with 0.43 inches of rain – well below the 93-year average of 3.15 inches – and relatively high IID consumptive use of Colorado River water is deemed the “dry” water year.²²
2. USBR has declared a normal condition for deliveries to the Colorado River Lower Basin, and an apportionment has been declared by IID's Board of Directors for the year.
3. USBR has declared a shortage for deliveries to the Colorado River Lower Basin, IID has outstanding overruns to pay back to the river, and an apportionment is in effect.

On November 28, 2006, the IID Board of Directors adopted Resolution No 22-2006 approving development and implementation of an Equitable Distribution Plan to deal with times when customers' demand would exceed IID's Colorado River supply – scenarios such as 2 and 3, above. 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, which the board adopted in November 2006. The 2009 Regulations for EDP were created to enable IID to implement a water management tool (apportionment) to address years in which water demand is expected to exceed supply. A 2006 study by Hanemann and Brookes suggested that such conditions were likely to occur 40-50% of the years during the decade following the report. So far, for the ten years from 2003 through 2012, demand has exceeded supply by some amount for a total of six years (see Table 13 above).

The EDP adopted in 2007 allows the IID Board to institute an apportionment program. The 2006 Hanemann-Brookes study stated supply was likely to exceed demand “4 or 5 times out of the next 10 years”.²³ In the eight years from 2004 through 2011, IID was accounted as overrunning its annual water limit four times and as noted above, as of 2013, IID had an outstand overrun balance of over 200,000 AF.

²² Of course, commodity prices could have been down, in which case water use may *not* have been high.

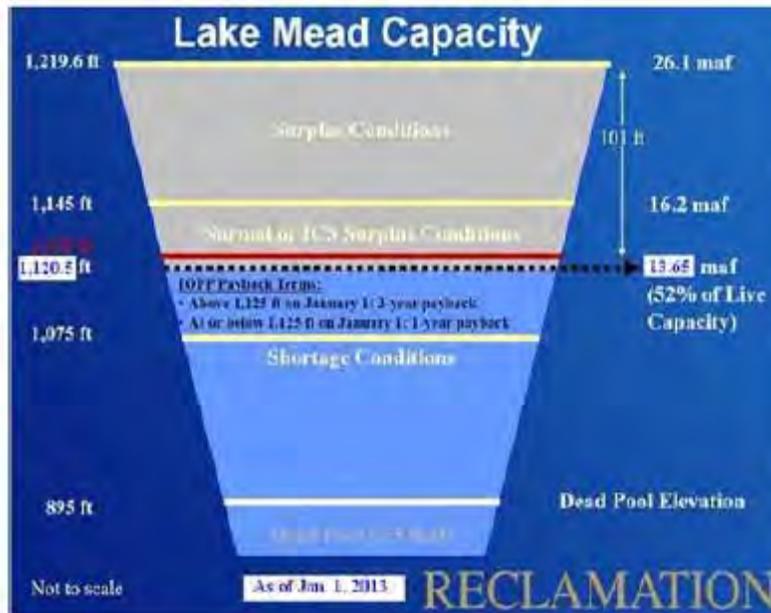
²³ *Regarding the Equitable Distribution of Water in the Imperial Irrigation District Draft Final Report*, Hanemann & Brookes, 2006, <<http://www.iid.com/Modules/ShowDocument.aspx?documentid=116>> 8 Feb 2013

The IID 2013 Revised EDP adopted by the Board on October 28, 2013 allows IID to pay back its outstanding overruns using EDP Apportionment, and it is expected that an annual EDP Apportionment will be established for each of the next several years, if not for the duration of the QSA/Transfer Agreements. For the purpose of this WSA, years with a shortage condition that impacts non-agricultural projects such as an IOPP payback obligation constitute “dry” years for IID.

Water Management under EDP Apportionment

On January 1, 2013, the water level in Lake Mead was 1120.5 feet, and for the first time since the IOPP came into effect Lower Colorado River Basin water users face a shortage condition (Figure 9). For IID, this means outstanding overruns must be paid back to the river in calendar years 2013 and 2014 as described below and shown in Table 14.

Figure 9 Lake Mead IOPP Schematic



IID’s maximum allowable cumulative overrun account is 62,000 AF.²⁴ For IID’s 2011 overrun of 82,662 AF (which was published in 2012), 62,000 AF are to be paid back at the river in calendar year 2013, with the remaining 20,662 AF to be paid back in 2014; however, due to an early payback of 6,290 AF in 2012, IID has 55,710 AF to pay back in 2013 and 20,662 AF of the 2011 overrun to pay

²⁴ For IID Quantified Amount: 3.1 MAFY * 10 percent = 310,000 AF allowable cumulative overrun account amount; minimum repayment in a calendar year is the less of 310,000 * 20 percent = 62,000 or the amount in the account, if less than 62,000 AF.

back in 2014. In addition, because of the low level of Lake Mead on Jan 1, 2013, IID's entire 2012 overrun of 134,076 AF must be paid back in 2014, for a total of 154,738 AF in 2014. Furthermore, under the terms of the IOPP, no overruns are allowed in year when payback is required.

Table 14: IID Inadvertent Overrun Payback under the IOPP, 2012-2014

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 and prohibition on overruns in payback years, led the IID Board to implement an apportionment program pursuant to the 2009 Regulations for EDP, which were subsequently revised and modified. The Revised 2013 EDP was version approved and adopted by the IID Board on October 28, 2013. The Revised 2013 EDP also establishes an agriculture water clearinghouse to facilitate the movement of apportioned water between agricultural water users and between farm units. This is to allow growers and IID to balance water demands for different types of crops and soils with the apportionments that are made. IID's Water Conservation Committee agreed on a July 1, 2013 start date for the agricultural water clearinghouse

Dry Year Demand

In the case of demand, IID notes that in general, an inch of rainfall over the IID service area can result in 40,000 to 60,000 AF of reduction in IID's consumptive use of Colorado River water as measured at Imperial Dam. Calendar year 2003 had rainfall of 2.72 inches – the closest in recent years to the 93-year average of 3.05 inches. For this reason, 2003 is deemed a “normal” year. IID's projected Net Consumptive Use (CRWDA Exhibit B) amount that year (2003) was 2,963.5 KAF, see Table 12.

Note: USBR 2003 Decree Accounting Report shows actual IID Net Consumptive Use for 2003 as 2,978,223 AF, with an overrun of 14,700 AF, See Table 12.

For the selected “dry” water year of 2006, with 0.43 inches of rainfall, IID projected Net Consumptive Use was 2,909,500 AF (Table 12 – CRWDA Exhibit B); actual Net Consumptive Use was 2,909,680 AF (USBR 2006 Decree Accounting report), with an overrun of 8,957 AF, see Tables 12 & 13. Agronomic and/or agricultural economic conditions influence individual farm management decisions and practices.

Assumption:

For this WSA it is assumed that during a “dry” year, water availability to Imperial Valley water users will be 50,000 AF less for every inch of rainfall less than normal year rainfall (93-year annual average of 3.05 inches). That in turn, could reduce consumptive use of Colorado River water, especially in a

year an inadvertent overrun is not allowed because a payback is in effect, and an EDP Apportionment is in effect.

Given:

IID system and AAC “losses” are the same in normal, wet or dry years, and using 2003 as a base, the following give “Normal Year” and “Dry Year” values:

Normal Year:

- 2003 Projected Net Consumptive Use (CRWDA Exhibit B, at Imperial Dam) =2,978,233 AF
- 2003 Effective Rainfall (Imperial Valley) = (3.05 inches) x (50,000 AF) = 152,500 AF
- 2003 “Normal Year” Water Availability = 2,978,233 AF + 152,500 AF = 3,130,733 AF less “losses”

Dry Year:

- 2006 Net Consumption Use (USBR Decree Accounting, at Imperial Dam) =2,909,680 AF
- 2006 Rainfall = 0.43 inches (the driest year since 1956)
- 2006 Effective Rainfall = (0.43 inches) x (50,000 AF) = 21,500 AF
- 2006 “Dry Year” Water Availability = 2,909,680 AF + 21,500 AF = 2,931,180 AF less “losses”

This illustrates that water availability in a Dry Year could be around 131,000 AF less than in a Normal Year and that an overrun might be less likely in a Normal Year than in a Dry Year. However, due to the small difference in rainfall in a Dry and Normal year in the arid Imperial Valley, the impact of agricultural economic decisions may override this distinction.

Note that while effective rainfall may or may not reduce the amount of Colorado River water needed by agricultural and urban users, it will positively impact the Salton Sea. Effective rainfall has no impact on GPP2’s use of Colorado River water.

Dry Year Supply

On October 28, 2013, in Board Resolution No. 26-2013, the IID Board approved and adopted modifications to the Revised 2013 Equitable Distribution²⁵. The modified Revised 2013 EDP is the mechanism by which EDP Apportionment is being administered, with specifics for non-agricultural users, as follows:

²⁵ IID Board Resolution 26-2013, approving and adopting the modified Revised 2013 Equitable Distribution Plan. <<http://www.iid.com/Modules/ShowDocument.aspx?documentid=8319>>

3.1 Apportionment of Supply. The District shall annually apportion the Available Water Supply among the types of water users in the District using the following criteria:

- a. Municipal Users – Base amount of 2006 usage plus current District-wide average use per capita multiplied by the increase in population since 2006.
- b. Industrial Users – For existing contracts, estimated based on past use, not to exceed contracted amount and contract terms. For new contracts, estimated based on anticipated use, not to exceed contract amount and contract terms, taking into consideration the Integrated Water Resources Management Plan.
- c. Lots, Dairies and Fish Farms – Estimated based upon past use and consideration of future changes.
- d. Environmental Resources Water – Estimated based upon the amount reasonably necessary to achieve the purposes of the District's commitments, taking past use into account.²⁶
- e. Agricultural Lands – Subtract the estimated demand for categories in Subsections (a) through (d) above from the Available Water Supply. Under a Straight Line Apportionment, divide the remaining Available Water Supply by the total number of Eligible Agricultural Acres to determine the Apportionment per Eligible Agricultural Acre. Under a different Method of Apportionment, the Apportionment will be calculated for Eligible Agricultural Acres based on that Method of Apportionment. The full Apportionment of Eligible Agricultural Acres that are no longer receiving agricultural water service (such as renewable energy generation projects) and have been designated as suitable for the Temporary Land Conversion Following Policy²⁷, is subject to a District Conservation Assignment.

3.2 Non-Agricultural Water Users

- a. District shall notify Non-Agricultural Users of their Apportionment no later than December 1, prior to the beginning of the Water Year.
- b. Non-Agricultural Water Users shall be allowed to use that amount of water needed for reasonable and beneficial use. If a Non-Agricultural Water User's

²⁶ Environmental Resources Water is water that IID agrees to provide to habitat or other resource areas pursuant to regulatory permits (excluding water to the Salton Sea relating to transferred water), contract, or voluntarily.

²⁷ IID Board Resolution 17-2012. Approving Temporary Land Conversion Following Policy Under Water Code Section 1013 for QSA. May 8, 2012. <<http://www.iid.com/Modules/ShowDocument.aspx?documentid=5630>>

usage exceeds the amount of apportionment quantified for its usage, the fee for the excess amount of water shall be the Water User's standard water rate plus the Conserved Water Rate [rate specified in the District's Rate Schedule 13].

3.3 Agricultural Water Users

[Text not included in this section, as does not pertain to this Project.]

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

6.2 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.

As GPP2 would receive its water from the City of Calexico, an IID municipal user, supply for the project is deemed reliable with the IID Equitable Distribution Plan in place, being that municipal water users are the 1st priority in the EDP apportionment structure. This covers the worst case scenario, which is being subject to multiple dry years.

Section 3: Water Availability for a 22-Year Period to Meet Projected Demands

IID's quantified Net Consumptive Use at Imperial Dam is documented in CRWDA Exhibit B (Table 12), through the year 2057. The decrease in Net Consumptive Use during these years is the result of the AAC lining and on-farm and system efficiency conservation projects by IID and Imperial Valley agricultural water users. Therefore, the reduction in use is designed not to impact the productivity of the Imperial Valley, however, the Salton Sea will be impacted.

IID's Priority 3(a) Quantified Amount of 3.1 MAF annually is guaranteed under the QSA/Transfer Agreements; and the Net Consumptive Use Amount (Table 12) is generally considered a reliable yield, especially with the ability to overrun and payback the overruns in subsequent years. This becomes problematic only when Lake Mead's elevation is at or below elevation 1,125 feet, and IID has a large volume of overruns to payback in one calendar year instead of three calendar years. This occurred in 2012 such that in 2013 and 2014 IID was required to pay back over 200,000 AF to the river.

Water availability for this project for a 22-year period is no different from water availability during a single dry year, due to the stability of the water supply. With the Equitable Distribution Plan in place, or an alternative IID mechanism with a similar apportionment structure during times of supply demand imbalance, there is no foreseeable constraint in limiting the City's access to raw Colorado River water, for its use in treating and retailing to customers like GPP2.

Section 4: Pre-project Water Consumption and Project Water Demands

This section provides a comparison summary of the expected water demand for GPP2 during construction and operation against the average annual historical consumption of water for the GPP2 project area. Project design data was used to calculate the project's water consumption during construction and during operation after build-out. Construction is estimated to take approximately 22 months with a 2015 1st quarter starting date. To be conservative, this WSA assumes a construction period going through 2016, followed by a 20 year analysis of operational water use, for a 22-year total analysis, which is above and beyond the 20-year SB 610 mandate. This section also includes a discussion with respect to project water conservation objectives.

Pre-project Water Consumption

The GPP2 site is not currently consuming water, and therefore has an average annual historical consumption of 0 MGD.

Construction Water Service

It is anticipated that the applicant will procure construction water from the City of Calexico. It is projected that the project will use up to .53 MGD of water during construction.

IID offers temporary industrial water service for construction, which the applicant may use as an alternative means of supplying water needed for the GPP2 construction period. Multiple applications for several draw-points from IID canals may be filed with IID.

Operational Water Service

The applicant plans to procure its operational water from the City of Calexico, and has estimated that the project will use .107 MGD. The City WTP and related facilities enable the City to have a potable water service capacity of 16 MGD. The City has peak/maximum daily demand of 9 MGD, which provides for 7 MGD of unused potable water service capacity. As the GPP2 project area lies within the existing City of Calexico incorporated boundary, the City shall be the sole supplier of potable water for the operation of GPP2, with the exception of any private agreements set up with drinking water providers.

The following table summarizes annual project water use based on the information in the Project Description component of this WSA. The GPP2 area has been analyzed for a total of twenty-two years, including construction. See Table 15.

Year	Construction (MGD)	Operational (MGD)	Total (MGD)
2015 → 2016	.5	.03 ²⁸	.53 ²⁹
2017 → 2037	N/A	.107	.107

²⁸ The project is to be developed in 2 phases; 2a and 2b, comprised of 277,000 and 792,400 square feet respectively. The 2015 through 2016 operational amount of .03 MGD was determined based on being 25.90% of .107 MGD, rounded up to the nearest hundredth. 25.90% is equal to the 2a square footage divided by the total project square footage, which is 1,069,400 square feet.

²⁹ This assumes that 2a is operational while 2b is under construction, and that even while 2a is operational, 2b will use .5 MGD during construction.

There is an increase in consumption in the amount of .107 MGD during operation at build-out, and an increase in consumption during construction of .53 MGD, which has been estimated to be for 22 months with a first quarter 2015 starting date. Construction use assumes operation of 2a concurrently with construction of 2b.

Project Water Conservation

Applicant intends to be conservative with water consumption. The following are conservation measures being considered by applicant, which may be implemented during project construction/operation:

- Interior roadways consisting of pavement or similar in lieu of dirt surfacing that would require on-going water application for dust suppression.
- Soil binders on stockpiles in lieu of residual water application.
- Drought tolerant landscaping.

Section 5: Foreseeable Planned Demands to be served by IID

In an effort to prepare this Water Supply Assessment in compliance with SB 610 by addressing foreseeable planned water demands to be served by IID, this section summarizes the projected Imperial Unit water consumption through 2040. IID is the wholesale water provider for the project, and the City is the potable water retailer that will treat and distribute the water to GPP2. IID water supplies are projected to cover total water demands through 2037 (end of the 22 year WSA window). This WSA has determined that the City has a combination of existing adequate WTP and related facility capacity, and plans and policies in place for expansion of City water facilities that will allow for construction and operation of GPP2 for 22 years along with the ability to service existing and planned future users for 22 years.

As mandated by Calexico Ordinance No. 1036, and as a mitigation measure noted in the DEIR, the project applicant shall pay or otherwise provide for the required commercial development fees related to the expansion of any necessary water or wastewater treatment facilities or infrastructure, as required by the City of Calexico and IID, prior to the issuance of any building permits for the project. Any associated impact to the environment would be less than significant with the implementation of the aforementioned mitigation measure.

Table 16 (same as Table 12) summarizes the projected water consumption for Imperial Valley from 2015 through 2040.

Year	IID Priority 3a Quantified Amount	IID Reduction: Total Amount	IID Net Consumptive Use Amount (Col 2 - Col 3)	Total County Consumption*	Beyond Projected Use**
2015	3,100,000	530,200	2,569,800	2,569,800	0
2020	3,100,000	450,200	2,649,800	2,649,800	0
2025	3,100,000	482,200	2,617,800	2,617,800	0
2030	3,100,000	487,200	2,612,800	2,612,800	0
2035	3,100,000	487,200	2,612,800	2,612,800	0
2040	3,100,000	487,200	2,612,800	2,612,800	0

*Based on IID QSA CRWDA obligation to reduce consumptive use in each year

**Beyond Projected Use for each year was calculated by subtracting the total county consumption from IID's Net Consumptive Use Amount, based on CRWDA Exhibit B, adjusted for updated IID/MWD Agreement for transfer of 105,000 acre-feet per year.

Assessment Findings

1. IID serves as the regional raw water wholesaler importing raw Colorado River water and delivering it, untreated, to agricultural, municipal, industrial, environmental and recreational water users within its Imperial Unit water service area.
2. IID is not a public water system and does not treat or supply potable water. The City is a municipal water user that procures water from IID, and treats and retails potable water to customers within its municipal boundary.
3. IID's entitlement to consumptive use of Colorado River water is capped at 3.1 million acre-feet (MAF) pursuant to the Quantification Settlement Agreement.
4. Roughly 97% of IID's Colorado River water entitlement goes to agricultural water users, with relatively very little going to municipal water users like the City of Calexico.
5. Due to the dependability of IID's water rights, Colorado River flows, and Colorado River storage facilities for Colorado River water, it is unlikely that the water supply of IID would be disrupted, even in dry years or under shortage conditions.
6. The IID Board of Director implemented an annual apportionment program (otherwise known as the Equitable Distribution Plan or EDP).
7. IID's EDP apportions water to its municipal, commercial and industrial users prior to calculating the agricultural apportionment. The agricultural apportionment ranges from 2.86 AF/AC to 7.86 AF/AC for calendar year 2014.
8. This Project is estimated to use .107 MGD during operation. This is an increase of .107 MGD from the baseline of 0 MGD under pre-project conditions. Construction is estimated to require .53 MGD, being an increase of .53 MGD for 22 months from the 0 MGD pre-project baseline.
9. Based on the entire record and the environmental document prepared for this Project pursuant to the California Environmental Quality Act, Cal. Public Resources Code sections 21000, et seq., the City of Calexico hereby finds that the projected water supplies will be sufficient to satisfy the demands of this Project, in addition to existing and planned future uses.

Assessment Conclusion

This WSA has determined that the City has a combination of existing adequate Water Treatment Plant (“WTP”) capacity and related facilities, and plans and policies in place for expansion of City water facilities that will allow for construction and operation of GPP2 for 22 years along with the ability to service existing and planned future users for 22 years. The 100+ acres that would be graded and built on as GPP2 are estimated to use .107 MGD at build-out. The 100+ acre project site is currently vacant and does not involve any uses or activities that consume water. The applicant proposes to use .53 MGD for construction (22-month estimated construction window). The result is an increase in usage at build-out during operation in the amount of .107 MGD when compared to pre-project water consumption. Construction water use is an increase in consumption of .53 MGD when compared to pre-project consumption.

According to the DEIR, proposed on-site project water lines would connect to existing City infrastructure at the intersection of West 5th Street and River Road. The City currently aspires to expand its water treatment capacity to 20 MGD in order to keep servicing its existing potable water users as well as serve future planned development within the City municipal boundary. The City is currently assessing the financing needed to begin such an expansion. As mandated by Calexico Ordinance No. 1036, and as a mitigation measure noted in the DEIR, the project applicant shall pay or otherwise provide for the required commercial development fees related to the expansion of any necessary water or wastewater treatment facilities or infrastructure, as required by the City of Calexico and IID, prior to the issuance of any building permits for the project. Any associated impact to the environment would be less than significant with the implementation of the aforementioned mitigation measure. The amount of water available and the stability of the water supply chain ensure that this facility’s water needs, and all other existing and planned future uses will be met for the next 22 years.

Acronyms

AAC	All-American Canal
AF	Acre-Foot or Acre-feet
AFY	Acre-Feet per Year
CEQA	California Environmental Quality Act
CSA	County Service Area
CVWD	Coachella Valley Water District
DDE	Development Design & Engineering, Inc.
DHS	Department of Homeland Security
DOF	California Department of Finances
EDP	Equitable Distribution Plan
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
GPP2	Gran Plaza Phase 2
IID	Imperial Irrigation District
IIWRMP	Imperial Integrated Water Resources Management Plan
MGD	Million Gallons per Day
MWD	Metropolitan Water District
NAFTA	North American Free Trade Agreement
OA	Operational Area
PVID	Palo Verde Irrigation District
QSA/ Transfer Agreements	Quantification Settlement Agreement and Related Agreements
REOC	Regional Emergency Operations Center
SB	Senate Bill
SDWA	Safe Drinking Water Acts
SDCWA	San Diego County Water Authority
SDI	Supply Demand Imbalance
SOC	Site Operations Center
SWRCB	California State Water Resources Control Board
TDS	Total Dissolved Solids
WSA	Water Supply Assessment
WTP	Water Treatment Plant

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