Appendix M

Water Supply Assessment / Water Supply Verification
MSA Consulting, Inc.

Water Supply Assessment

and

Water Supply Verification

for the Proposed

BH Properties

Prepared for:

Indio Water Authority

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1 Summary and Requirements

The environmental review of BH Properties (Project) is being prepared in compliance with the California Environmental Quality Act (CEQA) process. The City of Indio is the Lead Agency for the planning and environmental review of the proposed Project. The City of Indio has identified the Indio Water Authority (IWA) as the Public Water System (PWS) that will supply water for the proposed Project and has requested that IWA assist in preparing a Water Supply Assessment/Water Supply Verification (WSA/WSV) as part of the environmental review for the Project.

The Project is located in the eastern portion of the Coachella Valley within the City of Indio, Riverside County. The Project proposes to develop approximately 183 acres of vacant land. There are two options in consideration for the development of the project: Option 1 includes 3,240 units of very high density residential, 20,000 square feet (sf) of proposed commercial, 1,806,290 sf of proposed industrial, and 1,897,843.86 sf of outdoor landscaping. Option 2 includes 1,237 units of high density residential, approximately 71,600 sf of proposed commercial, 1,806,290 sf of proposed industrial, and 2,003,019.48 sf of outdoor landscaping.

This WSA/WSV determined that the total projected water demand for Option 1 is 930.42 AFY, or 5.09 acre-feet per acre. This WSA/WSV demonstrates that sufficient water supplies exist, or will exist based on current water planning assumptions, to meet the projected demands of the Project, in addition to current and future projected water demands within IWA's service area in normal, single-dry, and multiple-dry years over a 20-year projection.

This WSA/WSV determined that the total projected water for Option 2 is 582.05 AFY or 3.18 acre-feet per acre. This WSA/WSV demonstrates that sufficient water supplies exist, or will exist based on current water planning assumptions, to meet the projected demands of the Project, in addition to current and future projected water demands within IWA's service area in normal, single-dry, and multiple-dry years over a 20-year projection.

This WSA/WSV will be reviewed every five years, or in the event that the water planning assumptions have changed, until the Project completes construction to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. This WSA/WSV does not relieve the Project from complying with all applicable state, county, city, and local ordinances or regulations including the City of Indio Landscape and Water Conservation Ordinance, and indoor water use performance standards provided in the California Water Code (CWC).

1.1 Regulatory Requirements

This WSA/WSV provides an assessment and verification of the availability of sufficient water supplies during normal, single-dry, and multiple-dry years over a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of IWA, as required by Senate Bill 610 (SB 610), SB 221, and SB 1262. This WSA/WSV also includes

identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts, and agreements.

This WSA/WSV has been prepared in compliance with the requirements under SB 610, SB 221, and SB 1262 by MSA Consulting, Inc. in consultation with IWA and the City of Indio. This WSA/WSV does not relieve the Project from complying with all applicable state, county, city, and local ordinances or regulations, including the City of Indio Landscape and Water Conservation Ordinances and indoor water use performance standards provided in the California Water Code (CWC). This WSA/WSV will be reviewed every five years, or in the event that the water planning assumptions have changed, until the Project completes construction, to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. The Project applicant shall notify IWA when construction begins. If neither the Project applicant nor the Lead Agency contacts IWA within five years of approval of this WSA/WSV, it will be assumed that the Project no longer exists and the WSA/WSV provided by this document will become invalid.

1.1.1 Senate Bill 610

On January 1, 2002, Senate Bill 610 (SB 610) was enacted and codified in CWC Section 10910 et seq., requiring the preparation of a Water Supply Assessment (WSA) for certain new development projects. As stated in SB 610, the purpose of a WSA is to determine whether the PWS's "total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the PWS's existing and planned future uses, including agricultural and manufacturing uses."

CWC Section 10912 defines a "project" as any of the following:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- 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 space;
- A mixed-use project that includes one or more of the projects specified in this subdivision; or
- 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 (about 250 acre-feet per year).

The intent of SB 610 is to improve the link between information on water supply availability and certain land-use decisions made by cities and counties.

1.1.2 Senate Bill 1262

On January 1, 2017, Senate Bill 1262 (SB 1262) was enacted and amended CWC Section 10910, requiring that information regarding the Sustainable Groundwater Management Act (SGMA) be included in a WSA if the water supply for a proposed project includes groundwater from a basin that is not adjudicated and was designated medium- or high-priority by the California Department of Water Resources (DWR).

1.2 Water Management Planning Documents

IWA has prepared planning documents to better manage the water supplies within its service area. These planning documents can be used for compliance with SB 610, SB 221, and SB 1262, and are discussed in further detail in the following sections.

1.2.1 Urban Water Management Planning Act

The Urban Water Management Planning Act (UWMPA) was established by Assembly Bill 797 (AB 797) on September 21, 1983, and passage of this law recognized that water is a limited resource and that efficient water use and conservation would be actively pursued throughout the State. The UWMPA requires that municipal water suppliers providing either directly or indirectly to more than 3,000 customers or supplying more the 3,000 acre-feet per year (AFY), prepare and adopt an Urban Water Management Plan (UWMP) every five years which defines their current and future water use, source of supply, source reliability, and existing conservation measures.

1.2.1.1 Indio Water Authority Urban Water Management Plan

IWA is required to prepare an Urban Water Management Plan (UWMP) every five years in response to the requirements of the UWMP Act, California Water Code Sections 10610 through 10656. IWA developed a 2015 UWMP to document IWA's projected water demands and plans for delivering water supplies to its water service area during normal, single-dry, and multiple-dry years over a 20-year projection.

The six urban water suppliers in the Coachella Valley (IWA, Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Coachella Water Authority (CWA), Mission Springs Water District (MSWD), and Myoma Dunes Mutual Water Company) collaboratively prepared the 2020 Coachella Valley Regional UWMP, including regional and individual agency content and other necessary elements as set forth in DWR's 2020 UWMP Guidebook. The 2020 Coachella Valley Regional UWMP was submitted to DWR on July 1, 2021.

1.2.2 Sustainable Groundwater Management Act

In September 2014, Governor Brown signed three bills into law: Assembly Bill 1739, Senate Bill 1319, and Senate Bill 1168, which became collectively known as the Sustainable Groundwater Management Act (SGMA), creating a framework for sustainable, local groundwater management for the first time in California history. DWR evaluated and prioritized the 515 groundwater basins

identified in Bulletin 118, and 94 of these groundwater basins were designated as high- or medium-priority basins, as of December 2019, requiring them to be sustainably managed within 20 years. SGMA required local authorities to form local Groundwater Sustainability Agencies (GSAs) by June 30, 2017, to evaluate conditions in their local groundwater basins and adopt locally based Groundwater Sustainability Plans (GSPs), or Alternatives to a GSP (Alternative Plans), tailored to their regional economic and environmental needs.

As defined by DWR, the subbasins of the Coachella Valley Groundwater Basin are the Whitewater River (Indio), Mission Creek, San Gorgonio Pass, and Desert Hot Springs Subbasins. The Indio Subbasin is divided into two sections: the West Whitewater River Management Area and the East Whitewater River Management Area. Supplies for the City of Indio are primarily from the East Whitewater River Management Area. Because the Indio Subbasin is in an unadjudicated basin, IWA does not hold any water rights, but rather pumps supplies from the aquifer as needed to meet demands within its service area. The Indio Subbasin has been designated medium priority by DWR and is subject to the requirements of SGMA.

1.2.2.1 Alternative Plan for the Indio Subbasin

Twenty years before the adoption of SGMA, CVWD began the development of the initial water management plan for the Coachella Valley in 1994 after recognizing the need to sustainably manage the Coachella Valley Groundwater Basin. The original planning document is the 2002 Coachella Valley Water Management Plan (CVWMP). The 2002 CVWMP was updated in 2010 and adopted in 2012.

IWA, DWA, CWA, and CVWD, are the Indio Subbasin GSAs designated by DWR for their respective service areas. On December 29, 2016, IWA, DWA, CWA, and CVWD collaboratively submitted the 2010 CVWMP Update as an Alternative Plan for the Indio Subbasin, with an associated Bridge Document and supporting documents, to DWR for review and evaluation. On July 17, 2019, DWR determined that the Alternative Plan for the Indio Subbasin satisfies the objectives of SGMA and notified the Indio Subbasin GSAs that the Alternative Plan was approved, and that they would be required to submit an assessment and update of the Alternative Plan pursuant to the SGMA by January 1, 2022, and every five years thereafter. The 2022 Alternative Plan Update for the Indio Subbasin was submitted to DWR on December 29, 2021.

On February 1, 2018, DWR notified all GSAs who submitted Alternative Plans that they would be required to submit annual reports pursuant to SGMA by April 1, 2018, and every year thereafter. IWA, DWA, CWA, and CVWD have collaboratively prepared and submitted the Indio Subbasin Annual Reports for Water Years 2016-2017 through 2021-2022.

1.2.3 Groundwater Replenishment

State Water Code (SWC) 31630-31639 provides CVWD with the authority to levy and collect water replenishment assessments to implement groundwater replenishment programs (GRPs) within its jurisdictional boundary. Groundwater replenishment is necessary to mitigate overdraft of the groundwater basin and associated undesirable results. The jurisdictional areas that benefit

from the GRPs, and where CVWD levies replenishment assessments on groundwater production, are termed Areas of Benefit (AOBs). There are three AOBs within CVWD's boundary: the Mission Creek Subbasin AOB, the West Whitewater River Subbasin AOB, and the East Whitewater River Subbasin AOB. The GRP for the West Whitewater River Subbasin AOB was formed in 1976, the GRP for the Mission Creek Subbasin AOB was formed in 2003, and the GRP for the East Whitewater River Subbasin AOB was formed in 2004. The Project is located within the East Whitewater River Subbasin AOB.

1.2.3.1 Annual Engineer's Reports

CVWD is required to prepare and present to its Board of Directors annually an Engineer's Report on Water Supply and Replenishment Assessment reporting on the conditions of the groundwater supplies and recommend Replenishment Assessment Charges (RACs) to be levied upon groundwater production greater than 25 AFY within each AOB in accordance with SWC 31630-31639. The Engineer's Report must include the following information: a summary of the conditions of groundwater supplies; the need for replenishment; a description of the replenishment programs, including the source and amount of replenishment waters, the costs associated with the GRP, the areas directly and indirectly benefited by the GRP, and the amount of groundwater produced in each area during the prior year; and a recommendation for the RAC to be levied on each AOB. The 2023-2024 Engineer's Report on Water Supply and Replenishment Assessment was prepared and presented to CVWD's Board of Directors on April 25, 2023.

2 Public Water System

The City of Indio is the Lead Agency for the planning and environmental review of the proposed BH Properties (Project). The City of Indio has identified the IWA as the Public Water System (PWS) that will supply water for the proposed Project and has requested that IWA assist in preparing a Water Supply Assessment/Water Supply Verification (WSA/WSV) as part of the environmental review for the Project.

2.1 Indio Water Authority (IWA)

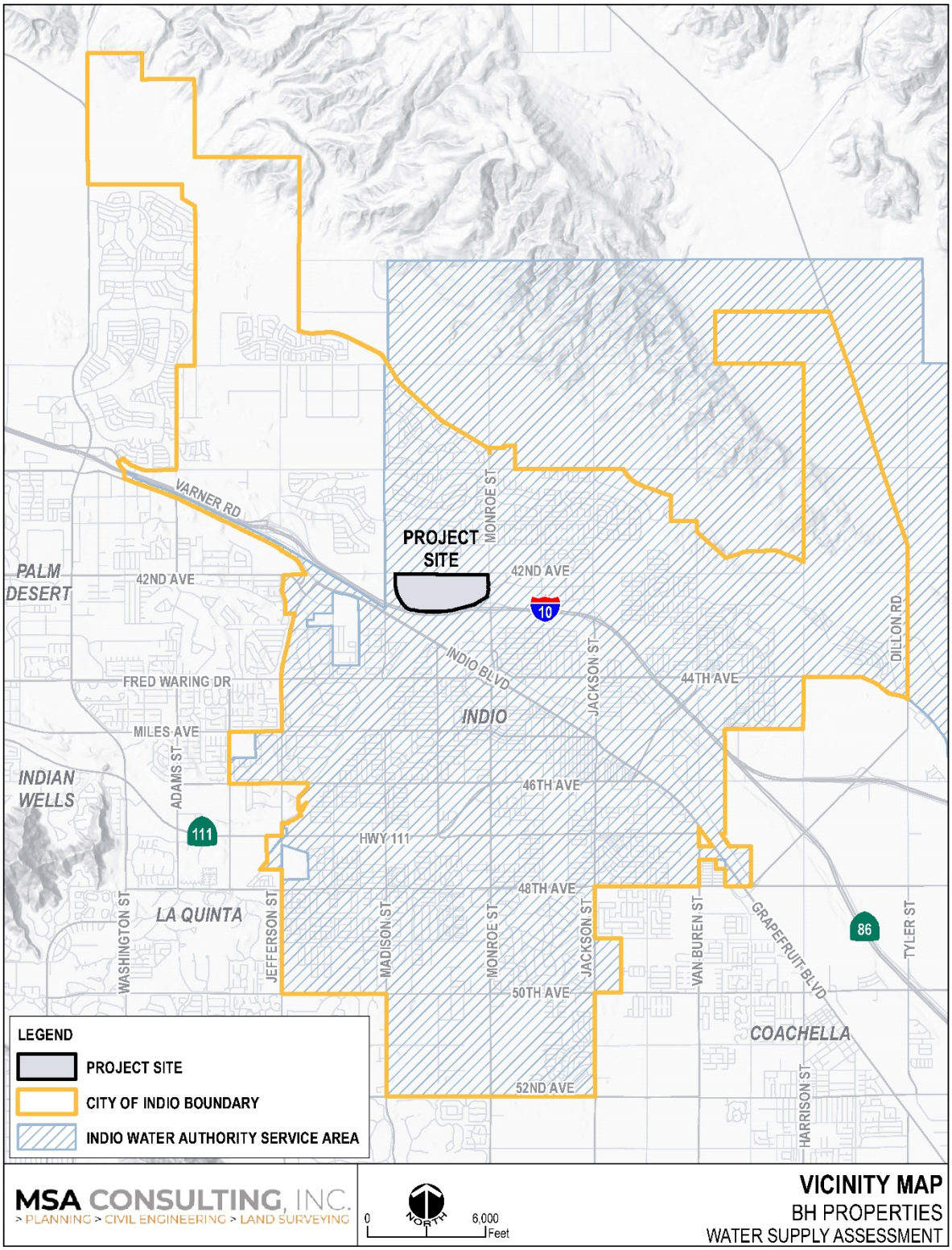
IWA was established in 2000 as a Joint Powers Authority, owned entirely by the City of Indio Redevelopment Agency. Its main purpose is to oversee the legislative and policy aspects of water delivery for all municipal water programs and services to the city's residents. Since its formation, IWA has experienced significant growth, with the number of service connections increasing from around 12,100 to over 23,000 active meter accounts. Most of this growth has occurred north of the Interstate-10 Freeway. In 2020, IWA supplied approximately 20,000 acre-feet of water to businesses and residents, making it one of the fastest growing municipal utilities in the Coachella Valley.

To meet the water needs of its customers, IWA extracts groundwater from the Indio Subbasin and distributes it through a pressurized system consisting of 326 miles of pipes and 20 active wells. Additionally, IWA has established emergency intertie connections with the CVWD and the City of Coachella.

Since 2005, IWA has actively pursued water conservation, reuse, and groundwater recharge to ensure a sustainable water supply and meet growing demands. Initiatives encompass landscape and irrigation rebates, water audits, conservation kits, washing machine and toilet rebates, a water wastage reporting app and hotline, a budget-tiered rate structure, conservation workshops, a water misuse program, and a collaborative Memorandum of Understanding with the Valley Sanitation District (VSD) for groundwater recharge projects. In 2013, IWA and VSD established the East Valley Reclamation Authority (EVRA) through a Joint Powers Agreement. The primary objective of EVRA is to enhance local water resources through beneficial water reuse, specifically through indirect potable reuse (IPR), which involves using advanced treated wastewater to replenish and manage groundwater storage. Currently, IWA does not provide recycled water, and all the water supplied in the IWA service area comes from the potable groundwater basin.

While IWA is responsible for the water supply to its residents, the City of Indio pays a replenishment charge to the CVWD for the management of the Coachella Valley Groundwater Basin. The boundary of IWA encompasses most of the City of Indio, as illustrated in **Figure 2-1.**

Figure 2-1: Indio Water Authority Service Area Boundary



2.1.2 Potable Water Distribution Systems

Since the establishment of IWA, service connections have increased from approximately 12,100 to over 23,000 active meter accounts, with the majority of the new growth occurring north of the Interstate 10 Freeway. In 2020, IWA supplied approximately 20,000 AF of water to businesses and residents. As one of the fastest growing municipal utilities in the Coachella Valley, IWA is committed to maintaining a sustainable water supply for its residential and commercial customers. Based on the Coachella Valley Regional Urban Water Management Plan (RUWMP), IWA will supply 24,792 AFY to the City by 2025.

Groundwater is drawn from the Indio Subbasin to meet the needs of IWA's existing customers and is delivered to the service area via a pressurized distribution system of 326 miles of pipe supplied by 20 active wells. IWA also has emergency intertie connections with CVWD and the City of Coachella. Because groundwater supplies have not been vulnerable to seasonal or climatic conditions, the supplies are limited only by available IWA pumping capacity. The water quality of IWA's water supply, consisting entirely of pumped groundwater, meets applicable regulatory criteria.

The RUMWP projected that population in IWA's water service area would increase as shown in **Table 2-1**.

Table 2-1: Current and Projected Population for IWA's Service Area

Population Served	2020	2025	2030	2035	2040	2045
	78,940	93,762	99,659	105,557	111,454	117,351

Source: 2020 Coachella Valley Regional Urban Water Management Plan

2.2 Coachella Valley Hydrology

The bulk of natural groundwater replenishment comes from runoff from the adjacent mountains. Climate in the Coachella Valley is characterized by low humidity, high summer temperatures, and mild dry winters. Average annual precipitation varies from 3 to 6 inches of rain on the Coachella Valley floor to more than 30 inches in the surrounding mountains. Most of the precipitation occurs between December and February, except for summer thundershowers. Prevailing winds in the area are usually gentle, but occasionally increase to velocities as high as 30 miles per hour or more. Mid-summer temperatures commonly exceed 100 degrees Fahrenheit (°F), frequently reach 110 °F, and periodically reach or exceed 120 °F, and the average winter temperature is approximately 60 °F as shown in **Table 2-2** and **Table 2-3**.

Table 2-2: Monthly Average Climate Data for Palm Springs

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max (°F)[1]	71	73	80	86	94	104	108	107	102	90	78	69	89
Min (°F)[1]	47	49	54	59	65	73	80	79	74	64	53	46	62

Rain (in)[1]	0.95	0.92	0.36	0.10	0.02	0.00	0.25	0.14	0.20	0.20	0.26	0.70	3.80
ETo (in)[2]	2.5	3.4	5.6	7.1	8.3	8.7	8.1	7.5	6.2	4.7	2.9	2.2	67.2

Source: 2020 Coachella Valley Regional Urban Water Management Plan

[1] National Weather Service Forecast, Station Palm Springs Airport, 1998-2020

[2] CIMIS Station 208 – La Quinta II, 2007-2020

Table 2-3: Monthly Average Climate Data for Thermal

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max (°F) [1]	71	74	81	87	95	103	107	106	101	91	79	69	89
Min (°F) [1]	39	43	49	55	63	69	76	75	68	57	45	38	56
Rain (in)[1]	0.64	0.61	0.34	0.08	0.01	0.01	0.13	0.12	0.32	0.19	0.17	0.34	2.96
ETo (in) [2]	2.7	3.9	6.4	8.0	9.3	9.3	9.6	9.1	7.1	5.3	3.2	2.4	70.2

Source: 2020 Coachella Valley Regional Urban Water Management Plan

[1] National Weather Service Forecast, Station Desert Resorts Regional Airport, 1990-2020

[2] CIMIS Station 218 – Thermal South, 2010-2020

3 Public Water System – Existing Supply and Demand

Currently, all of IWA's urban potable water uses are supplied using groundwater from the Indio Subbasin, which is continually replenished by CVWD. In addition to groundwater, CVWD has imported water supplies from the State Water Project (SWP) and the Colorado River, and recycled water from water reclamation plants. These imported and recycled water supplies are used to replenish the groundwater basin.

3.1 Groundwater

The primary source of potable water supply in the Coachella Valley is groundwater. The Coachella Valley Groundwater Basin encompasses the entire floor of the Coachella Valley and consists of five subbasins: San Gorgonio Pass, Whitewater (Indio), Garnet Hill, Mission Creek, and Desert Hot Springs subbasins. The largest groundwater subbasin in the valley is the unadjudicated Whitewater River Subbasin, designated the Indio Subbasin. The Indio Subbasin extends from the northwest edge of the Upper Valley near Whitewater to the Salton Sea in the Lower Valley. The Indio Subbasin is estimated to have a storage capacity of approximately 30 million AF. Much of the groundwater in the Indio Subbasin originated from the deep percolation of rainfall and stream runoff from the adjacent mountains.

The Indio Subbasin is composed of four subareas: Palm Springs, Thermal, Thousand Palms, and Oasis subareas. From a management perspective, the subbasin is divided into two management areas designated the West Whitewater River Subbasin Area of Benefit (AOB) and the East Whitewater River Subbasin AOB. CVWD manages the East Whitewater River Subbasin AOB, while DWA and CVWD jointly operate a groundwater replenishment program in the West Whitewater River Subbasin AOB.

Supplies for the City of Indio are primarily from the lower aquifer in the East Whitewater River Subbasin. Because the Indio Subbasin is an un-adjudicated basin, IWA does not hold specific

water rights, but rather pumps supplies from the aquifer as needed to meet demands within the service area. CVWD has statutory authority to replenish local groundwater supplies and collect assessments necessary to support a groundwater replenishment program as provided in the County Water District Law (California Water Code section 30000, et seq.) and as a Groundwater Sustainability Agency (GSA) under the Sustainable Groundwater Management Act (SGMA).

3.1.1 Coachella Valley Groundwater Basin

The Coachella Valley Groundwater Basin is bounded on the north and east by the San Bernardino and Little San Bernardino Mountains, on the south and west by the Santa Rosa and San Jacinto Mountains, and on the south by the Salton Sea. At the west end of the San Gorgonio Pass, between Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana Drainage Area.

The southern boundary is formed primarily by the watershed of the Mecca Hills and by the northwest shoreline of the Salton Sea running between the Santa Rosa Mountains and Mortmar. Between the Salton Sea and Travertine Rock, at the base of the Santa Rosa Mountains, the southern boundary crosses the Riverside County Line into Imperial and San Diego Counties.

Although there is interflow of groundwater throughout the Coachella Valley Groundwater Basin, fault barriers, constrictions in the basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the Coachella Valley Groundwater Basin has been divided into subbasins and subareas as described by DWR in 1964 and 2003, and by the United States Geological Survey (USGS) in 1974.

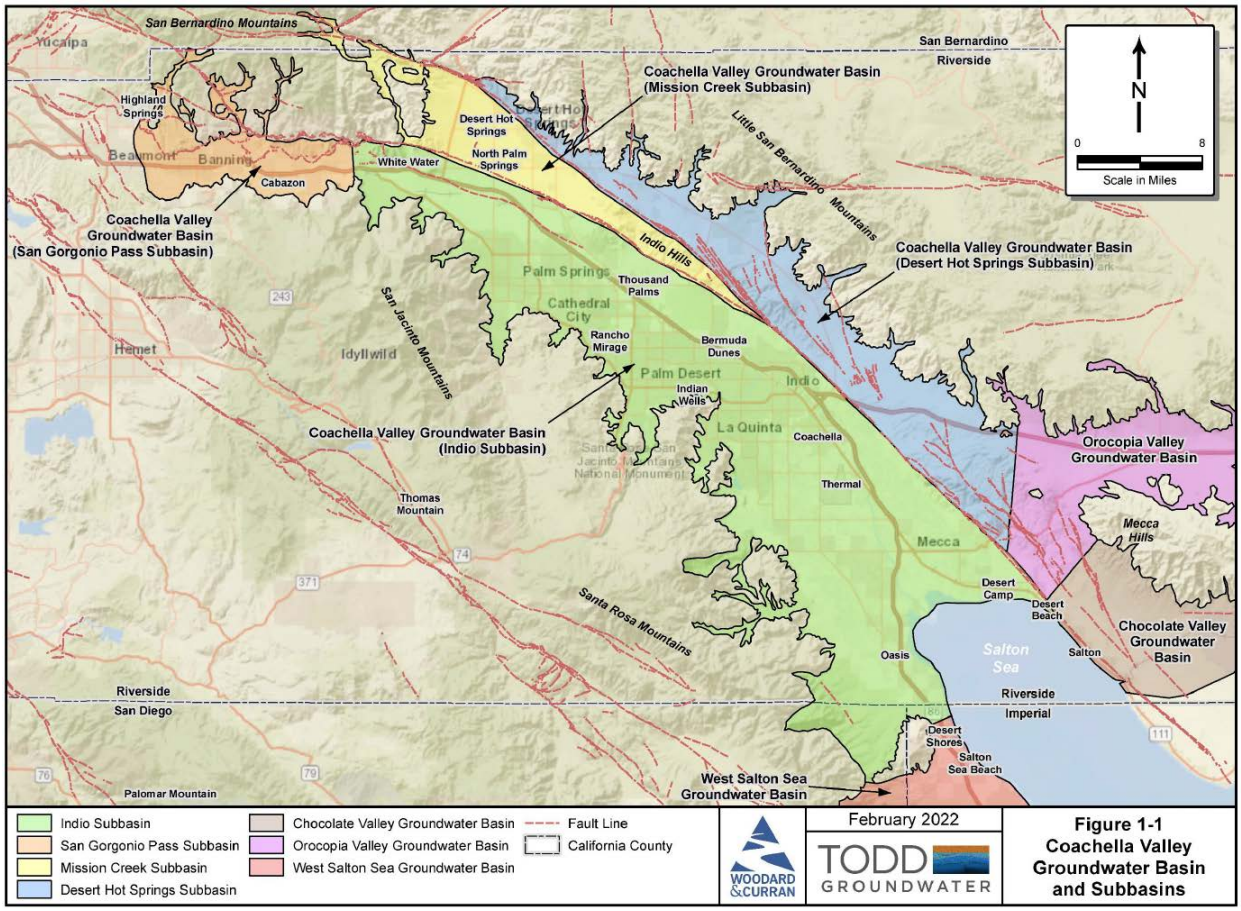
3.1.1.1 Coachella Valley Groundwater Basin – Subbasins

As shown on **Figure 3-1,** the subbasins of the Coachella Valley Groundwater Basin are the Indio, Mission Creek, San Gorgonio Pass, and Desert Hot Springs Subbasins. The subbasins are defined without regard to water quantity or quality. They delineate areas underlain by formations which readily yield stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies.

The boundaries between subbasins within the Coachella Valley Groundwater Basin are generally defined by faults that impede the lateral movement of groundwater. Minor subareas have also been delineated based on one or more of the following geologic or hydrologic characteristics: types of water-bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides, and surface drainage divides.

IWA overlies the Indio Subbasin, the largest groundwater subbasin in the Coachella Valley Groundwater Basin system. The Subbasin is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from Garnet Hill, Mission Creek, and Desert Hot Springs Subbasins to the north and east by the Garnet Hill and San Andreas faults.

Figure 3-1: Coachella Valley Groundwater Basin and Subbasins



Source: Indio Subbasin Annual Report for Water Year 2020-2021

The following is a list of the subbasins in the Coachella Valley Groundwater Basin as designated by DWR in Bulletin 118:

- Indio Subbasin (Subbasin 7-21.01)
- Mission Creek Subbasin (Subbasin 7-21.02)
- San Gorgonio Pass Subbasin (Subbasin 7-21.03)
- Desert Hot Springs Subbasin (Subbasin 7-21.04)

DWR designated the Indio, Mission Creek, and San Gorgonio Pass Subbasins as medium-priority, and the Desert Hot Springs Subbasin as very low priority. None of the subbasins are adjudicated or in a state of overdraft.

In 1964, DWR estimated that the subbasins in the Coachella Valley Groundwater Basin contained approximately 39,200,000 acre-feet (AF) of water in the first 1,000 feet below the groundwater surface. The capacities of the subbasins are shown in **Table 3-1**.

Table 3-1: Groundwater Storage in the Coachella Valley Groundwater Basin

Subbasin/Subarea	Storage (AF) [1]
Indio Subbasin	
Palm Springs Subarea	4,600,000
Thousand Palms Subarea	1,800,000
Oasis Subarea	3,000,000
Garnet Hill Subarea	1,000,000
Thermal Subarea	19,400,000
Indio Subbasin Subtotal	**29,800,000**
Mission Creek Subbasin	2,600,000
San Gorgonio Subbasin	2,700,000
Desert Hot Springs Subbasin	4,100,000
Total	**39,200,000**

Source: DWR Bulletin 108 (1964)

[1] First 1,000 feet below ground surface. (DWR, 1964)

3.1.2 Groundwater Demand

Groundwater is the principal source of potable supply in the Coachella Valley and IWA obtains groundwater from the Indio Subbasin of the Coachella Valley Groundwater Basin. IWA's groundwater demand in the Coachella Valley Groundwater Basin for 2016 through 2020 is shown in **Table 3-2**.

Table 3-2: IWA Groundwater Demand in the Coachella Valley Groundwater Basin

Groundwater Production (AF)	2016	2017	2018	2019	2020
Indio Subbasin	17,072	18,267	19,567	18,793	19,880

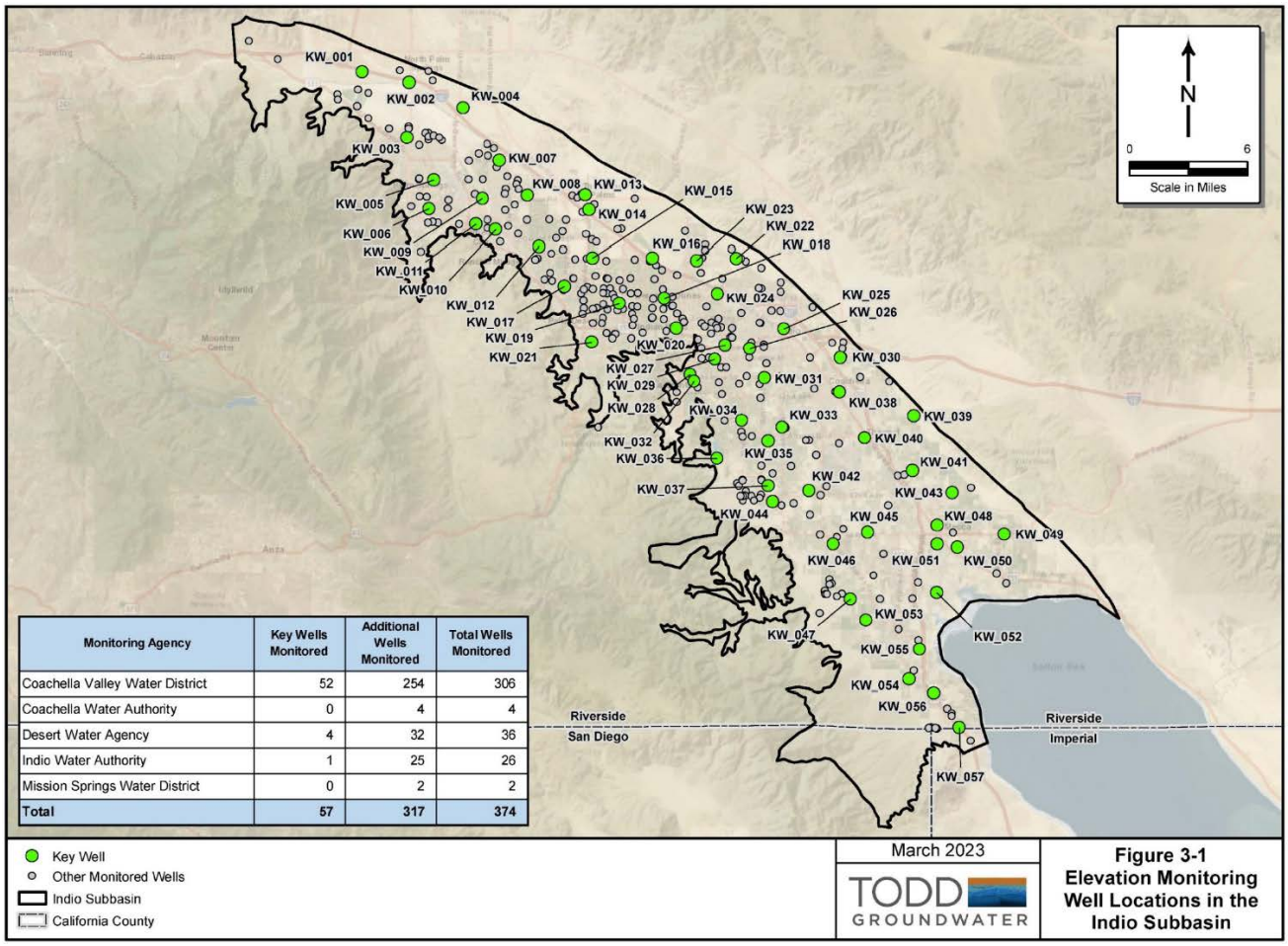
3.1.3 Groundwater Sustainability

Long-term sustainability is typically assessed based on changes in groundwater storage over a historical period on the order of ten to twenty years that includes wet and dry periods.

3.1.3.1 Indio Subbasin

The 2022 Indio Subbasin Alternative Plan Update identified 57 Key Wells across the subbasin to represent local groundwater levels, shown in **Figure 3-2**. The plan set metrics to demonstrate sustainability, including a Minimum Threshold (MT) at each Key Well. MTs are numeric values used to define undesirable results under SGMA. In WY 2021-2022, water levels in all 57 Key Wells remained above their respective MTs. This confirms that the significant undesirable results of chronic lowering of groundwater levels, depletion of groundwater storage, and potential subsidence are not occurring in the Indio Subbasin.

Figure 3-2: Water Level Monitoring Wells in the Indio Subbasin



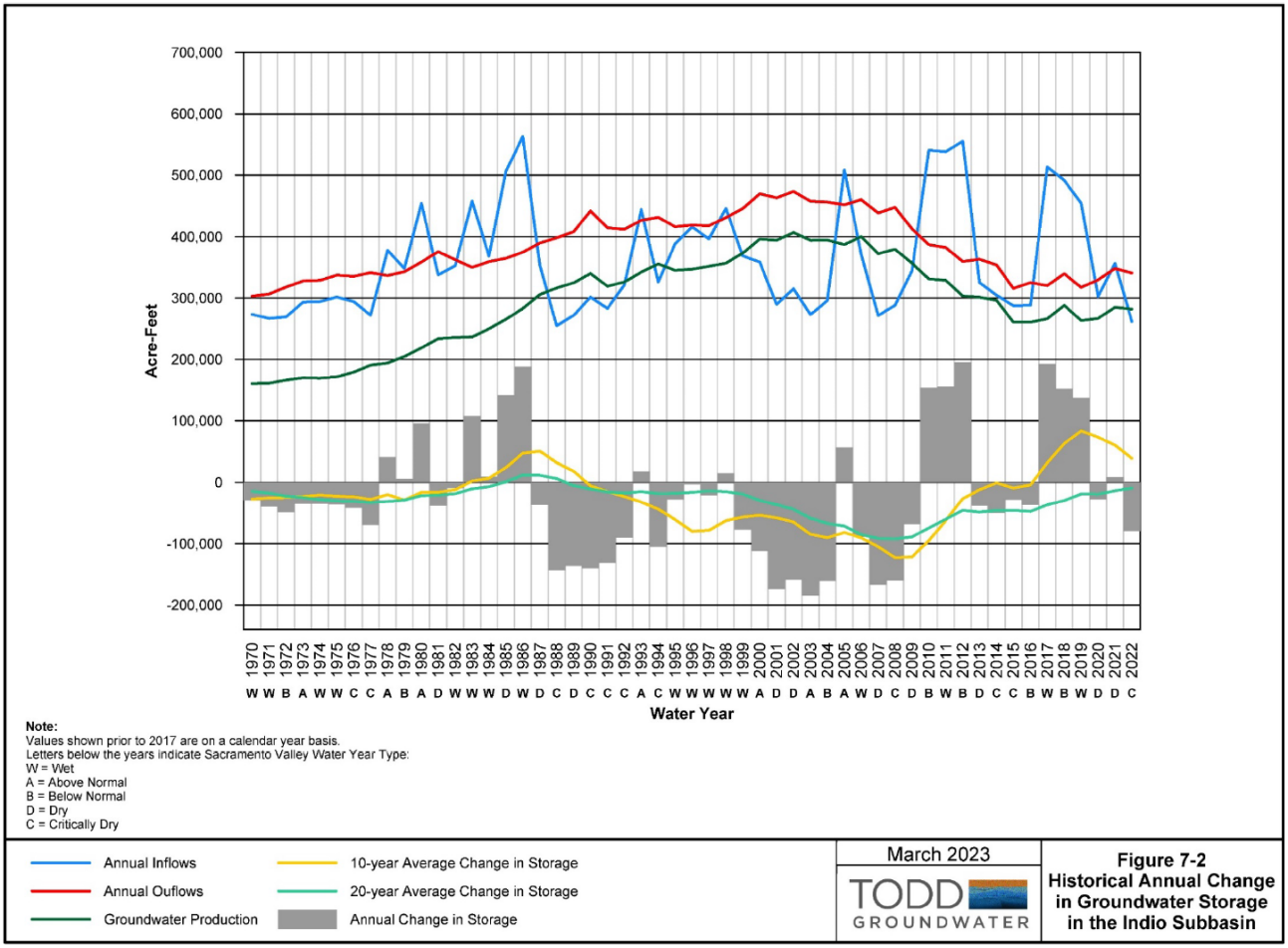
Monitoring Agency	Key Wells Monitored	Additional Wells Monitored	Total Wells Monitored
Coachella Valley Water District	52	254	306
Coachella Water Authority	0	4	4
Desert Water Agency	4	32	36
Indio Water Authority	1	25	26
Mission Springs Water District	0	2	2
Total	**57**	**317**	**374**

Source: 2022 Alternative Plan Update for the Indio Subbasin

Figure 3-3 shows the historical annual change in groundwater storage from 1970 through Water Year (WY) 2020-2021 in the Indio Subbasin. The figure also shows annual inflows, outflows, groundwater production, and 10-year and 20-year running-average change in groundwater storage. During periods of high artificial recharge, the change in storage tends to be positive. In dry years or periods of high groundwater pumping, the change in storage can be negative.

As shown in **Figure 3-3**, annual inflows to the Indio Subbasin are highly variable with years of high inflows corresponding to wet years when SWP delivery volumes were greater. Higher inflows in the mid-1980s occurred when the Metropolitan Water District of Southern California (MWD) commenced large-scale advanced water deliveries to the Indio Subbasin. After an extended period of decline, both the 10-year and 20-year running-average change in storage have shown positive trends since 2009, and the 10-year running-average has been positive since 2017.

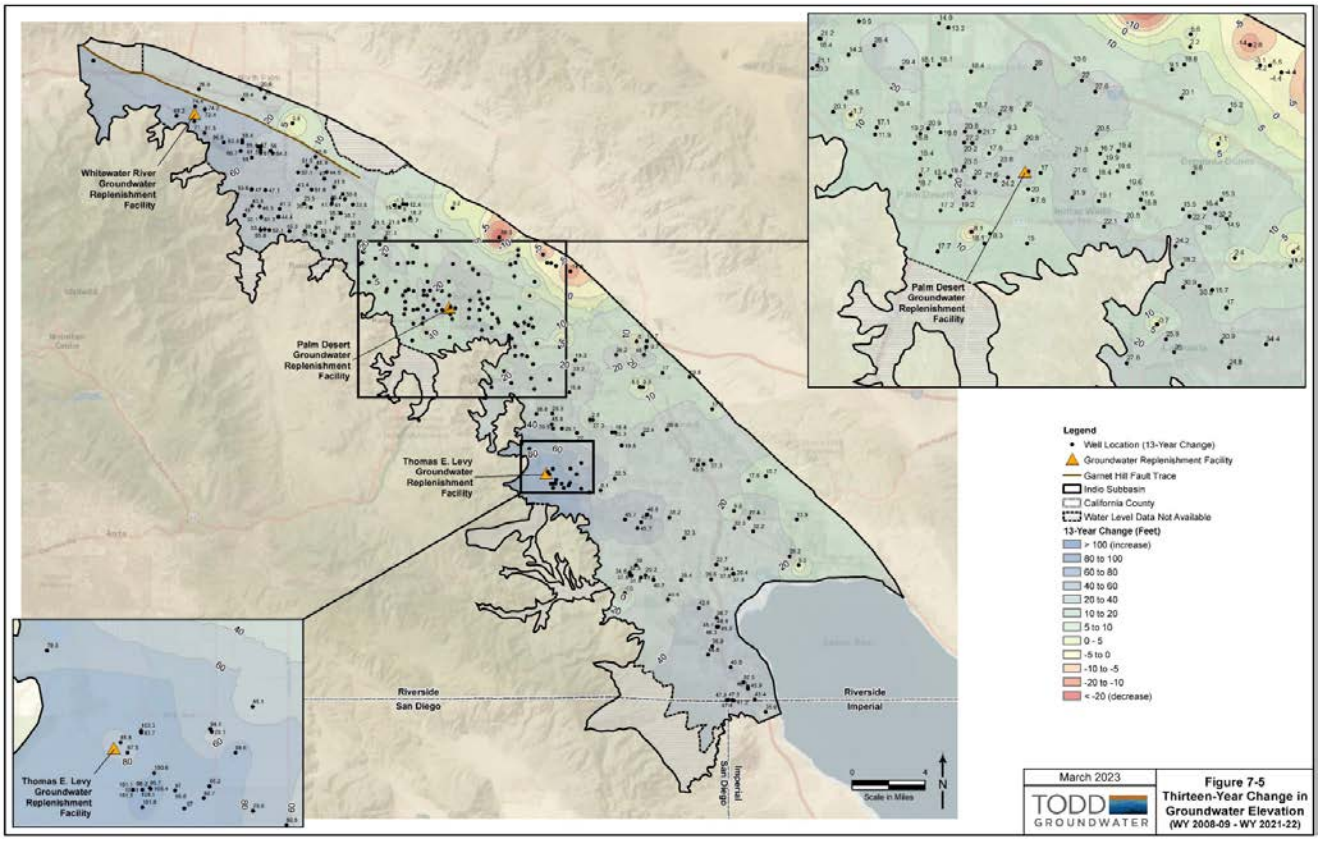
Figure 3-3: Historical Annual Change in Groundwater Storage in the Indio Subbasin



Source: Indio Subbasin Annual Report for Water Year 2021-2022

As shown in **Figure 3-4**, groundwater levels have increased significantly in the Indio Subbasin from WY 2008-2009 to WY 2021-2022. The Indio Subbasin Annual Report uses 2009 water levels as a metric of sustainability because historical low groundwater levels occurred in the years around 2009 throughout most of the Indio Subbasin. The Indio Subbasin shows a long-term positive trend in sustainability resulting from implementation of the Indio Subbasin Alternative Plan.

Figure 3-4: Change in Groundwater Elevation from Water Year 2008-2009 through Water Year 2021-2022 in the Indio Subbasin



Source: Indio Subbasin Annual Report for Water Year 2021-2022

3.2 Imported Water

The East Whitewater River Subbasin is regionally managed by IWA, CWA, and CVWD, and CVWD manages the West Whitewater River Subbasin. CVWD has statutory authority to replenish local groundwater supplies and collect assessments necessary to support a groundwater replenishment program as provided in the Country Water District Law. CVWD has two sources of imported water available: Colorado River water delivered via the Coachella Canal and SWP water exchanged for Colorado River water delivered through the Colorado River Aqueduct. These imported water sources are used to recharge the groundwater basin and as an alternative to meet non-potable demands from irrigation of agriculture, golf, and urban uses that would have otherwise been met by pumping groundwater. In the future, if urban demand significantly increases, Colorado River water may be treated and delivered directly to customers through CVWD's potable water distribution system.

3.2.1 Colorado River Water

Colorado River water has been a significant water supply source for the Indio Subbasin since the Coachella Canal was completed in 1949. CVWD is the only agency in the Indio Subbasin that receives Colorado River water allocations. The Colorado River is managed and operated in

accordance with the Law of the River, a collection of interstate compacts, federal and state legislation, various agreements and contracts, an international treaty, a U.S. Supreme Court decree, and federal administrative actions that govern the rights to use Colorado River water within the seven Colorado River Basin states. The 1922 Colorado River Compact apportioned the waters of the Colorado River Basin between the Upper Colorado River Basin (i.e., Colorado, Wyoming, Utah, and New Mexico) and the Lower Basin (i.e., Nevada, Arizona, and California). The 1922 Colorado River Compact allocates 15 million AFY of Colorado River water as follows: 7.5 million AFY to the Upper Basin and 7.5 million AFY to the Lower Basin, plus up to 1 million AFY of surplus supplies. The Lower Basin's water was further apportioned among the three Lower Basin states by the 1928 Boulder Canyon Project Act and the 1931 Boulder Canyon Project Agreement, typically called the 1931 Seven Party Agreement, which allocates California's apportionment of Colorado River water among Palo Verde Irrigation District, Imperial Irrigation District (IID), CVWD, Metropolitan Water District of Southern California (MWD), City of Los Angeles, City of San Diego, and County of San Diego. The 1964 U.S. Supreme Court decree in Arizona v. California established Arizona's basic annual apportionment at 2.8 million AFY, California's at 4.4 million AFY, and Nevada's at 0.3 million AFY. Mexico is entitled to 1.5 million AFY of the Colorado River under the 1944 United States-Mexico Treaty for Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande. However, this treaty did not specify a required quality for water entering Mexico. In 1973, the United States and Mexico signed Minute No. 242 of the International Boundary and Water Commission requiring certain water quality standards for water entering Mexico. California's Colorado River supply is protected by the 1968 Colorado River Basin Project Act, which provides that in years of insufficient supply on the main stem of the Colorado River, supplies to the Central Arizona Project shall be reduced to zero before California will be reduced below 4.4 million AF in any year. This assures full supplies to the Coachella Valley, except in periods of extreme drought.

The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. Under the 1931 Seven Party Agreement, CVWD receives 330,000 AFY of Priority 3A Colorado River water diverted from the All-American Canal at the Imperial Dam. The Coachella Canal originates at Drop 1 on the All-American Canal and extends approximately 123 miles, terminating in CVWD's Lake Cahuilla. The service area for Colorado River water delivery under CVWD's contract with the U.S. Bureau of Reclamation (USBR) is defined as Improvement District No. 1 (ID-1), which encompasses 136,400 acres covering most of the East Valley and a portion of the West Valley north of Interstate 10. Under the 1931 Seven Party Agreement, CVWD has water rights to Colorado River water as part of the first 3.85 million AFY allocated to California. CVWD is in the third priority position along with IID.

In 2003, CVWD, IID, and MWD successfully negotiated the 2003 Quantification Settlement Agreement (2003 QSA), which quantifies Colorado River allocations through 2077 and supports the transfer of water between agencies. Under the 2003 QSA, CVWD has a base entitlement of 330,000 AFY. CVWD negotiated water transfer agreements with MWD and IID that increased CVWD supplies by an additional 123,000 AFY. CVWD's net QSA supply will increase to 424,000 AFY by 2026 and remain at that level until 2047, decreasing to 421,000 AFY until 2077, when the agreement terminates. As of 2021, CVWD's available Colorado River water diversions at Imperial

Dam under the QSA were 399,000 AFY. This includes the base entitlement of 330,000 AFY, the MWD/IID Transfer of 20,000 AFY, IID/CVWD First Transfer of 50,000 AFY, and IID/CVWD Second Transfer of 28,000 AFY. CVWD's QSA diversions also deducts the -26,000 AFY transferred to San Diego County Water Authority (SDCWA) as part of the Coachella Canal Lining Project and the -3,000 AFY transfer to Indian Present Perfected Rights. Additionally, under the 2003 QSA, MWD transferred 35,000 AFY of its State Water Project (SWP) Table A Amount to CVWD. This SWP water is exchanged for Colorado River water and can be delivered at Imperial Dam for delivery via the Coachella Canal to the eastern portion of the Indio Subbasin or at Lake Havasu for delivery via the Colorado River Aqueduct to the western portion of the Indio Subbasin at the Whitewater River Groundwater Replenishment Facility (WWR-GRF). The 2019 Second Amendment guaranteed delivery of 35,000 AFY from 2019 to 2026, for a total of 280,000 AFY of water to the WWR-GRF during that timeframe. MWD can deliver the water through CVWD's Whitewater Service Connections (for recharge at WWR-GRF) or via the Advance Delivery account.

The MWD/IID Transfer originated in a 1989 agreement with MWD to receive 20,000 AF of its Colorado River supply. The 2019 Amended and Restated Agreement for Exchange and Advance Delivery of Water defined the exchange and delivery terms between MWD, CVWD, and DWA. The 2019 Second Amendment to Delivery and Exchange Agreement reduced CVWD's annual delivery of the MWD/IID Transfer to 15,000 AFY, for a total of 105,000 AF, if taken at the Whitewater Service Connections (for recharge at WWR-GRF) between 2020 and 2026. For those seven years, MWD keeps the remaining 5,000 AFY, after which CVWD's allocation increases back up to 20,000 AFY. CVWD's total allocations under the QSA, including MWD's transfer of 35,000 AFY and the MWD/IID Transfer, will increase from 424,000 AFY in 2020 to 459,000 AFY by 2026 and remain at that level for the remainder of the 75-year term of the QSA. **Table 3-3** lists total Colorado River entitlements under existing agreements.

Table 3-3: CVWD Colorado River Entitlements (AFY)

Diversion	2020	2025	2030	2035	2040	2045
Base Entitlement	330,000	330,000	330,000	330,000	330,000	330,000
1988 MWD/IID Approval Agreement	20,000	20,000	20,000	20,000	20,000	20,000
IID/CVWD First Transfer	50,000	50,000	50,000	50,000	50,000	50,000
IID/CVWD Second Transfer[1]	23,000	48,000	53,000	53,000	53,000	53,000
Coachella Canal Lining	-26,000	-26,000	-26,000	-26,000	-26,000	-26,000
Indian Present Perfected Rights Transfer	-3,000	-3,000	-3,000	-3,000	-3,000	-3,000
QSA Diversions	**394,000**	**419,000**	**424,000**	**424,000**	**424,000**	**424,000**
MWD SWP Transfer[2]	35,000	35,000	35,000	35,000	35,000	35,000
Total Diversions	**429,000**	**454,000**	**459,000**	**459,000**	**459,000**	**459,000**
Assumed Conveyance Losses (5%)	-21,200	-22,700	-22,950	-22,950	-22,950	-22,950
MWD/IID Approval Agreement Transfer[3]	-5,000	-5,000	0	0	0	0
Total Available Deliveries	**402,800**	**426,300**	**436,050**	**436,050**	**436,050**	**436,050**

Source: 2022 Alternative Plan Update for the Indio Subbasin

[1] The Second IID/CVWD Transfer began in 2018 with 13,000 AF of water. This amount increases annually by 5,000 AFY for a total of 53,000 AFY in 2026.

[2] The 35,000 AFY MWD/CVWD SWP Transfer may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.
[3] Accounts for -5,000 AFY reduction in MWD/IID Approval Agreement deliveries from 2020-2026 per the 2019 Amendments with MWD.

The Colorado River deliveries to CVWD at the Imperial Dam/Coachella Canal from 2018 through 2022 are shown in **Table 3-4.**

Table 3-4: Colorado River Deliveries to CVWD at the Imperial Dam/Coachella Canal

Diversions (AF)	2018	2019	2020[1]	2021[1]	2022[1]
Imperial Dam/Coachella Canal	338,035	343,971	350,618	351,904	330,387

Source: U.S. Bureau of Reclamation, Lower Colorado Region, Colorado River Accounting and Water Use Reports for Arizona, California, and Nevada.
[1] The 15,000 AFY of 1988 MWD/IID Approval Agreement water was delivered at WWR-GRF from 2020 to 2022.

CVWD's recharge volumes of Colorado River water from 2018 through 2022 are shown in **Table 3-5**.

Table 3-5: CVWD Groundwater Recharge of Colorado River Water

Groundwater Recharge (AF)	2018	2019	2020	2021	2022
Thomas E. Levy GRF	33,348	36,143	37,536	37,971	27,993
Palm Desert GRF	0	7,757	9,700	10,633	10,949
Total	**33,348**	**43,900**	**47,236**	**48,604**	**38,942**

Source: 2023-2024 CVWD Annual Engineer's Reports on Water Supply and Replenishment Assessment

3.2.2 State Water Project

The State Water Project (SWP) is managed by DWR and includes 705 miles of aqueduct and conveyance facilities extending from Lake Oroville in Northern California to Lake Perris in Southern California. The SWP has contracts to deliver 4.172 million AFY to the State Water Contractors. The State Water Contractors consist of 29 public entities with long-term contracts with DWR for all, or a portion of, their water supply needs. In 1962 and 1963, DWA and CVWD, respectively, entered contracts with the State of California for a total of 61,200 AFY of SWP water. SWP water has been an important component of the region's water supply mix since CVWD and DWA began receiving and recharging SWP exchange water at the WWR-GRF. Starting in 1973, CVWD and DWA began exchanging their SWP water with MWD for Colorado River water delivered via MWD's Colorado River Aqueduct. Because CVWD and DWA do not have a physical connection to SWP conveyance facilities, MWD takes delivery of CVWD's and DWA's SWP water, and in exchange, delivers an equal amount of Colorado River water to the Whitewater Service Connections (for recharge at WWR-GRF and Mission Creek Groundwater Replenishment Facility). The exchange agreement was most recently re-established in the 2019 Amended and Restated Agreement for Exchange and Advance Delivery of Water.

Each SWP contract contains a "Table A" exhibit that defines the maximum annual amount of water each contractor can receive excluding certain interruptible deliveries. DWR uses Table A amounts to allocate available SWP supplies and some SWP project costs among the contractors.

Each year, DWR determines the amount of water available for delivery to SWP contractors based on hydrology, reservoir storage, the requirements of water rights licenses and permits, water quality, and environmental requirements for protected species in the Sacramento-San Joaquin River Delta (Delta). The available supply is then allocated according to each SWP contractor's Table A amount.

CVWD's and DWA's collective increments of Table A water are listed in **Table 3-6**. Original Table A SWP water allocations for CVWD and DWA were 23,100 AFY and 38,100 AFY, respectively, for a combined amount of 61,200 AFY. CVWD and DWA obtained a combined 100,000 AFY transfer from MWD under the 2003 Exchange Agreement. In 2004, CVWD purchased an additional 9,900 AFY of SWP Table A water from the Tulare Lake Basin Water Storage District (Tulare Lake Basin) in Kings County. In 2007, CVWD and DWA made a second purchase of Table A SWP water from Tulare Lake Basin totaling 7,000 AFY. In 2007, CVWD and DWA also completed the transfer of 16,000 AFY of Table A Amounts from the Berrenda Mesa Water District in Kern County. These latter two transfers became effective in January 2010. With these additional transfers, the total SWP Table A Amount for CVWD and DWA is 194,100 AFY. **Table 3-7** shows the percent allocation of SWP Table A allocations from 2018 through 2022. **Table 3-8** shows the recharge of SWP Exchange Water from 2018 through 2022.

Table 3-6: State Water Project Table A Allocations

	Original SWP Table A (AFY)	Tulare Lake Basin 2004 Transfer (AFY)	Metropolitan Water District 2003 Transfer (AFY)	Tulare Lake Basin 2007 Transfer (AFY)	Berrenda Mesa 2007 Transfer (AFY)	Total (AFY)
CVWD	23,100	9,900	88,100	5,250	12,000	138,350
DWA	38,100	0	11,900	1,750	4,000	55,750
Total	**61,200**	**9,900**	**100,000**	**7,000**	**16,000**	**194,100**

Source: 2020 Coachella Valley Regional Urban Water Management Plan

Table 3-7: State Water Project Table A Percent Allocations

	2018	2019	2020	2021	2022
Table A Allocation	35%	75%	20%	5%	5%

Source: CA Department of Water Resources Historical Table A Allocations for Years 1996-2023

Table 3-8: CVWD and DWA Groundwater Recharge

Groundwater Recharge (AF)	2018	2019	2020	2021	2022
Whitewater River GRF	129,725	235,600	126,487[1]	15,006[1]	15,011[1]
Mission Creek GRF	2,027	3,688	1,768	0	0
Total	**131,752**	**239,288**	**128,255**	**15,006**	**15,011**

Source: CVWD 2023-2024 Annual Engineer's Reports on Water Supply and Replenishment Assessment

[1] Between 2020 and 2022, the 15,000 AFY of 1988 MWD/IID Approval Agreement water was delivered at Whitewater River GRF.

3.2.3 Other SWP Water

There are other types of SWP water that can be purchased, such as individual water purchase opportunities and transfers/exchanges. These may be conveyed to CVWD and DWA as available, but no commitments exist.

In 2008, CVWD and DWA entered into separate agreements with DWR for the purchase and conveyance of supplemental SWP water under the Yuba River Accord Dry Year Water Purchase Program (Yuba Accord). This program provides dry year supplies through a water purchase agreement between DWR and Yuba County Water Agency, which settled long-standing operational and environmental issues over instream flow requirements for the lower Yuba River. The amount of water available for purchase varies annually and is allocated among participating SWP contractors based on their Table A amounts. CVWD and DWA may purchase up to 1.72 percent and 0.69 percent, respectively, of available Yuba Accord water, in years it is made available. Yuba Accord deliveries have varied from zero in multiple years to a total of 2,664 AFY to CVWD and DWA in 2013.

Article 21 water (described in Article 21 of the SWP water contracts), "Interruptible Water," is water that State Water Contractors may receive on a short-term basis in addition to their Table A water if they request it in years when it is available. Article 21 water is used by many contractors to help meet demands in low allocation years. Article 21 water is not available every year, amounts vary when it is available, and is proportionately allocated among participating Contractors. The availability and delivery of Article 21 water cannot interfere with normal SWP operations and cannot be carried over for delivery in a subsequent year.

3.3 Surface Water

IWA does not use self-supplied surface water as part of its water supply. However, that could change in the future and will be further evaluated at that time. Local runoff is captured and used for groundwater recharge.

3.3.1 River/Stream Diversion

Surface water supplies come from several local rivers and streams including the Whitewater River, Snow Creek, Falls Creek, and Chino Creek, as well as a number of smaller creeks and washes. Because surface water supplies are affected by variations in annual precipitation, the annual supply is highly variable. The 50-year hydrologic period from 1970 to 2019 had an annual average watershed runoff of 52,506 AFY, with approximately 43,300 AFY in natural infiltration. Runoff during the 25-year period from 1995 to 2019 was below average, with 39,196 AFY in watershed runoff and 29,200 AFY in natural infiltration. Neither IWA nor CVWD currently use or intend to use any local surface water as part of its urban potable water supply. Local runoff is captured and used for groundwater recharge.

3.3.2 Stormwater Capture

The Coachella Valley drainage area is approximately 65 percent mountainous and 35 percent typical desert valley with alluvial fan topography buffering the valley floor from the steep mountain slopes. The mean annual precipitation ranges from 30 inches or more in the San Bernardino Mountains to less than 3 inches at the Salton Sea. Three types of storms produce precipitation in the drainage area: general winter storms, general thunderstorms, and local thunderstorms. Longer duration, lower intensity rainfall events tend to have higher recharge rates, but runoff from flash flooding can result from all three types of storms. Otherwise, there is little to no flow in most of the streams in the drainage area.

Significant amounts of local runoff are currently captured at the Whitewater River GRF and in the debris basins and unlined channels of the western Coachella Valley. Additional stormwater will be captured when the Thousand Palms Flood Control Project is completed and when flood control is constructed in the Oasis area. However, limited data exists to estimate the amount of additional stormwater that could be captured by new facilities in the Coachella Valley. Nonetheless, large-scale stormwater capture is not expected to yield sufficient water to be worth the investment as a single purpose project. Small-scale stormwater retention systems located in areas of suitable geology to allow percolation could capture small intensity storms as well as street runoff. The potential yield of these systems is not known at this time, but stormwater capture should be considered in conjunction with projects that construct stormwater and flood control facilities.

3.4 Wastewater and Recycled Water

Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other purposes. Recycled wastewater has historically been used for irrigation of golf courses and municipal landscaping in the Coachella Valley since as early as the 1960s. As growth occurs in the eastern Coachella Valley, the supply of recycled water is expected to increase, creating an additional opportunity to maximize local water supply.

The City of Indio is served by two wastewater treatment plants (WWTPs): one is owned by Valley Sanitary District (VSD) and the other by CVWD. Wastewater treatment services for the City of Indio are predominately provided by Valley Sanitary District (VSD). IWA and VSD are working together to evaluate a recycled water program to augment the local water supply. IWA completed a 2011 Recycled Water Master Plan and a 2016 Recycled Water Feasibility Study to assess potential customers and infrastructure build-out to support recycled water service within their service area.

The CVWD WRP-7 (Water Restoration Plant) treats a small percentage of the City's wastewater. WRP-7 is a tertiary treatment facility and the effluent produced is recycled for non-potable uses for CVWD customers. Based off the 2020 Coachella Valley Regional Urban Water Management Plan, the effluent from VSD WWTP is discharged to the CVSC. The VSD WWTP operates parallel treatment processes: an activated sludge treatment process and a biological treatment pond

process. Any effluent that is not reused is discharged to the CVSC which flows directly to the Salton Sea. **Table 3-8** summarizes the current and projected recycled water uses within IWA's service area.

Table 3-9: Current and Projected Recycled Water District Beneficial Uses within Service Area

Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	2020	2025	2030	2035	2040 (opt)
Landscape irrigation (excludes golf courses)	Groundwater	Tertiary	50	120	1,080	2,300	3,220
Golf Course irrigation (AF)	Groundwater	Tertiary	960	2,240	4,050	5,180	6,030

Source: 2015 Urban Water Management Plan by IWA

3.5 Conservation

IWA continues to promote water conservation using different outlets such as social media, speaking engagements, City events, bill inserts/messaging and the City of Indio newsletter. IWA promotes water use efficiency via the agency's website (www.indiowater.org) which features conservation tips, watering guides, and link to rebates and incentives. IWA currently offers rebates and incentives for turf replacement, clothes washer and toilet replacements, smart controller installation, and irrigation upgrades. Additionally, IWA offers an online customer engagement tool where water customers can view water usage, set water use allowance notifications, and be notified of possible leaks on their property. IWA also promptly responds to water waste incidents that are reported via the State water waster portal and to IWA conservation staff.

As part of the 2020 RUWMP, IWA (along with other participating agencies) updated its Water Shortage Contingency Plan to reflect additional tiers/stages and aligned its water use restrictions as a region to better streamline communication and outreach efforts in promoting conservation. IWA continues to implement Stage 1 of its Water Shortage Contingency Plan, which outlines water use restrictions and promotes water use efficiency as outlined in the Governor's Executive Order B-37-16 which calls for making water conservation a California way of life.

3.6 Landscape Ordinance

In 2016, the City of Indio passed Ordinance No. 1684 to adopt water-efficient landscape development standards known as MWELO (Model Water Efficient Landscape Ordinance), provided by the California Department of Water Resources. These standards apply to new development projects with a landscape area of 500 square feet or more and renovated landscape projects with an area of 2,500 square feet or more. IWA also conducts audited water loss reports and reviews for water system distribution leaks, following the guidelines outlined in SB 606, to further reduce inefficient water use.

Furthermore, the City of Indio has enacted Ordinance No. 1662 to prohibit water wasting throughout the city. Water wasting refers to excessive water use, resulting in flows onto roadways, neighboring properties, or non-irrigated areas. Additionally, Ordinance No. 257 addresses various aspects of water waste, including sprinkler and irrigation standards, as well as fire hydrant requirements.

Moreover, IWA has addressed water-efficient landscape development standards in their Development Services Procedural Guidelines (2019), specifically in Chapter 4: Landscape and Water Conservation Standards. These guidelines provide detailed provisions for new and renovated landscapes, including restrictions on turf and plant choices, specifications for irrigation design and system criteria, as well as specifications for landscape grading design. Both IWA's guidelines and ordinances require project developers to implement practices that reduce water usage in landscaping, aiming to minimize landscape water consumption.

3.7 Water Shortage Contingency Planning

The RUWMP participating agencies have elected to use the six standard shortage levels included in guidance documents prepared by DWR. The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10-, 20-, 30-, 40-, 50- percent, and greater than 50-percent shortage compared to the normal reliability condition). These levels are identified in **Table 3-10**.

Table 3-7: Stages of Water Shortage Contingency Plan

Shortage Level	Shortage Range	Narrative Summary of Shortage Response Actions
1	Up to 10%	Mandatory prohibitions defined by the state, ongoing rebate programs
2	Up to 20%	Outdoor water use restrictions on time of day, increased water waste patrols
3	Up to 30%	Outdoor water use restrictions on days per week, restrictions on filling swimming pools
4	Up to 40%	Limits on new landscaping, expanded public information campaign
5	Up to 50%	Limits on watering parks or school grounds
6	Greater than 50%	No potable water use for outdoor purposes.

Source: 2021 IWA Water Shortage Contingency Plan

Each level in Table 4-9 represents an anticipated reduction in the supplies that would normally be available to IWA. These supply reductions could be the result of a variety of potential causes including natural forces, system component failure or interruption, regulatory actions, contamination, or any combination of factors. IWA may need to activate shortage levels across its entire service area or within certain areas that are impacted by an event. The levels involve voluntary and mandatory conservation measures and restrictions, depending on the causes, severity, and anticipated duration of the water supply shortage.

4 Public Water System – Projected Supply and Demand

IWA projects that water use for the City will generally increase at a similar rate to that of the projected population increase within the City and its sphere of influence (SOI). CVWD has secured imported water supplies from the State Water Project (SWP) and the Colorado River, and recycled water from water reclamation plants.

4.1 Projected Urban Demand and Supply

The following table is from the 2020 Coachella Valley Regional Urban Water Management Plan (RUWMP). The 2020 RUWMP provides the IWA's future water demand projections by water use sector over the next 20 years. The 2020 RUWMP also provides IWA's projected water supplies and demands. Potable and raw water demand projections for the IWA service area are summarized in **Table 4-1**.

Table 4-1: IWA Projected Demands for Potable and Raw Water

Use Type	Projected Water Use				
	2025	2030	2035	2040	2045
Single Family	12,790	13,828	14,822	15,532	16,067
Multi-Family	1,875	1,985	2,135	2,303	2,553
Commercial / Industrial / Institutional	3,113	3,254	3,397	3,468	3,540
Landscape	5,752	6,171	6,590	6,934	7,277
Other	5	6	6	6	7
Losses	1,257	1,348	1,434	1,495	1,553
Total	**24,792**	**26,592**	**28,384**	**29,738**	**30,997**

NOTES: Units are Acre-Foot (AF)

Potable and raw total water demand projections are summarized in **Table 4-2**.

Table 4-2: Total Water Demands

Water Supply	2020	2025	2030	2035	2040	2045
Potable and Raw Water (AFY)	25,810	27,730	29,660	31,580	33,660	30,997

Recycled Water (AFY)	0	0	5,000	5,000	5,000	5,000
Total	**19,880**	**24,792**	**31,592**	**33,384**	**34,738**	**35,997**

Source: 2020 Coachella Valley RUWMP

4.2 Normal, Single-Dry, Multiple-Dry Year Comparison

The following tables from the 2020 RUWMP provide IWA's projected water supplies and demands in a normal year, single-dry year, and multiple-dry years.

During normal years, IWA will be able to meet current and future urban water demand needs projected in the 2020 RUWMP through groundwater pumping and recycled water as shown in **Table 4-4**.

Table 4-4: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
Difference	**0**	**0**	**0**	**0**	**0**

Source: 2020 Coachella Valley RUWMP

Note: The RUWMP participating agencies collaborate on groundwater management plans for long-term sustainability. During a normal year, single-dry year, or five-dry year period, the agencies could produce additional groundwater if demands exceeded the estimates shown here.

Reliability during a single-dry year scenario was assumed to be similar to the average year scenario. Supply will consist of pumped groundwater and recycled water. Any additional supply needed will be pumped from the groundwater basin. Reliability during a single dry year is shown in **Table 4-5.**

Table 4-*5*: Single-Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
Difference	**0**	**0**	**0**	**0**	**0**

Source: 2020 Coachella Valley RUWMP

Note: IWA and the other Regional UWMP agencies collaborate on groundwater management plans for long-term sustainability. During a normal year, single-dry year, or five-dry year period, the agencies could produce additional groundwater if demands exceeded the estimates shown here.

Reliability during a multiple-dry year scenario was assumed to be similar to the average year scenario. Any additional supply needed will be pumped from the groundwater basin. The multiple dry year supply scenario is shown in **Table 4-6.**

Table 4-6: Multiple-Dry Years Supply and Demand Comparison

		2025	2030	2035	2040	2045
First Year	Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Difference	**0**	**0**	**0**	**0**	**0**
Second Year	Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Difference	**0**	**0**	**0**	**0**	**0**
Third Year	Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Difference	**0**	**0**	**0**	**0**	**0**
Fourth Year	Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Difference	**0**	**0**	**0**	**0**	**0**
Fifth Year	Supply Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Demand Totals (AFY)	24,792	31,592	33,384	34,738	35,997
	Difference	**0**	**0**	**0**	**0**	**0**

NOTES: The RUWMP participating agencies collaborate on groundwater management plans for long-term sustainability. During a normal year, single-dry year, or five-dry year period, the agencies could produce additional groundwater if demands exceeded the estimates shown here.

Source: 2020 Coachella Valley RUWMP

5 Project Description

The BH Properties (Project) is located in the eastern portion of the Coachella Valley within the City of Indio, in Riverside County as shown in **Figure 5-1: Project Regional Location Map**. The Project will be accessible from Monroe Street and Avenue 42, as shown in **Figure 5-2: Project Vicinity Map**. There are two options for the development of the project: Option 1 includes 3,240 units of very high density residential, 20,000 square feet (sf) of commercial, 1,806,290 sf of industrial, and 1,897,843.86 sf of outdoor landscaping. Option 2 includes 1,237 units of high density residential, approximately 71,600 sf of commercial, 1,806,290 sf of industrial, and 2,003,019.48 sf of outdoor landscaping.

Both options are shown in **Figure 5-3.1: Project Site Plan Option 1** and **Figure 5-3.2 Project Site Plan Option 2** and **Table 5-1.1: Option 1 Project Land Use Summary** and **Table 5-1.2: Option 2 Project Land Use Summary.**

Figure 5-1: Project Regional Location Map

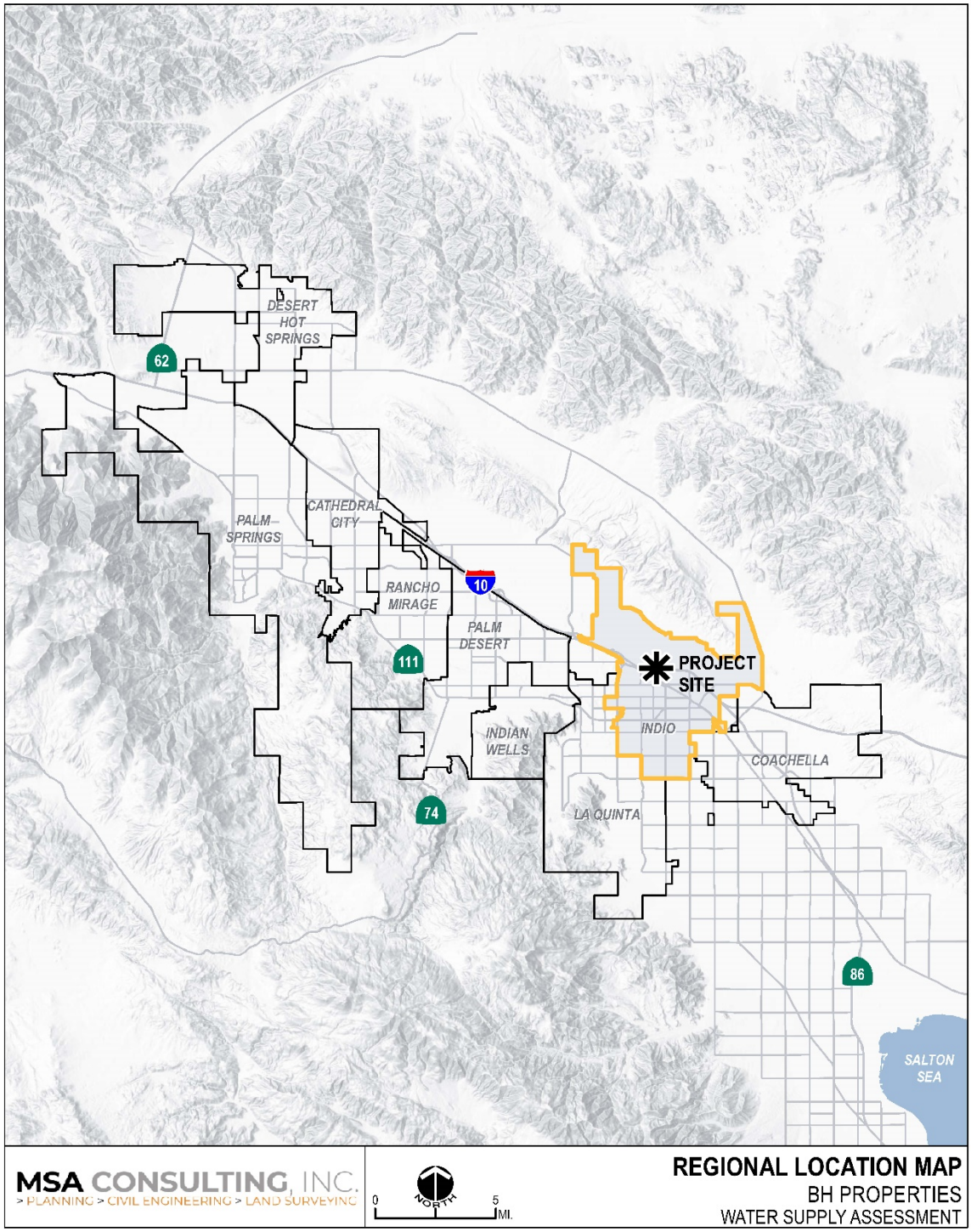


Figure 5-2: Project Vicinity Map

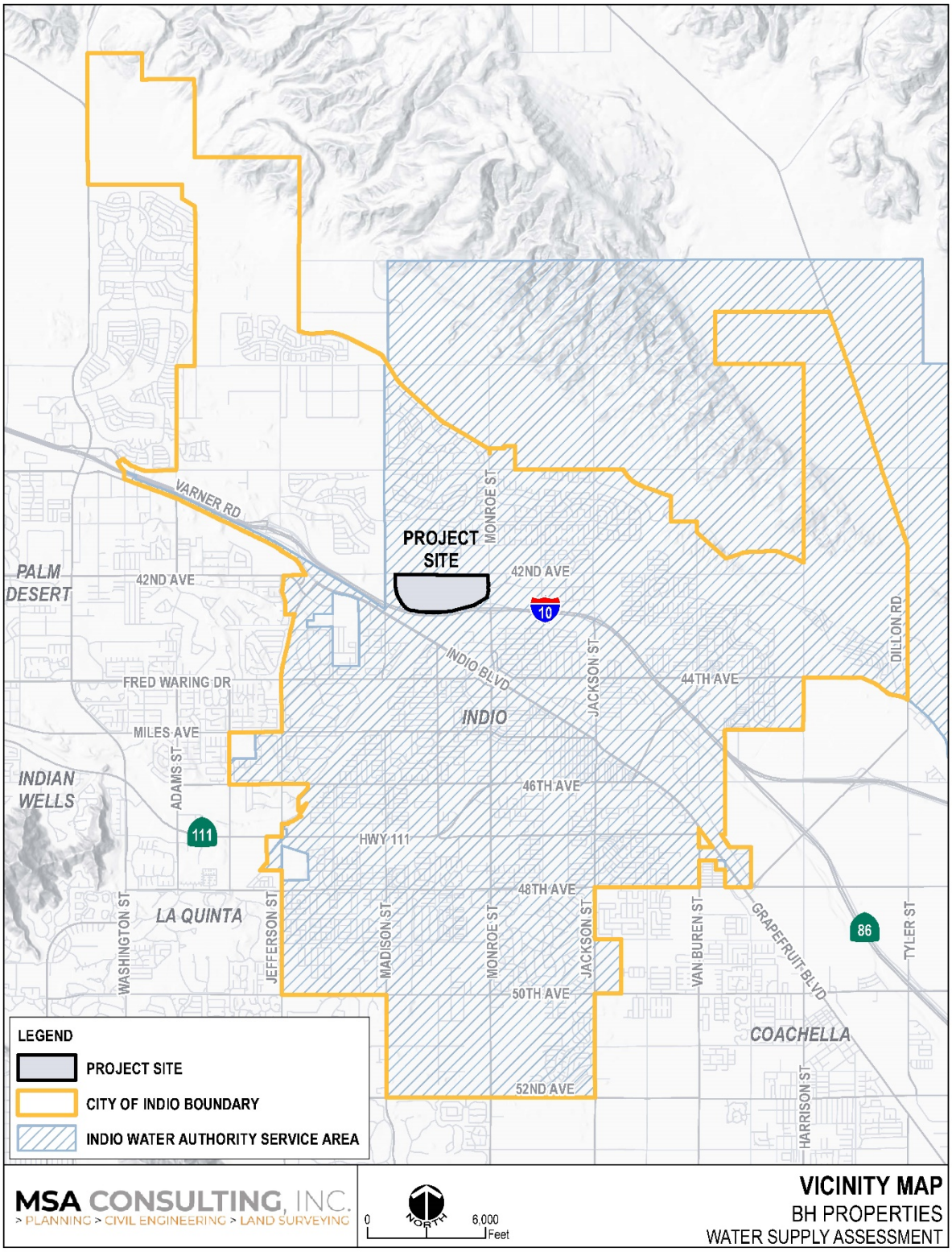


Figure 5-3.1: Project Site Plan Option 1

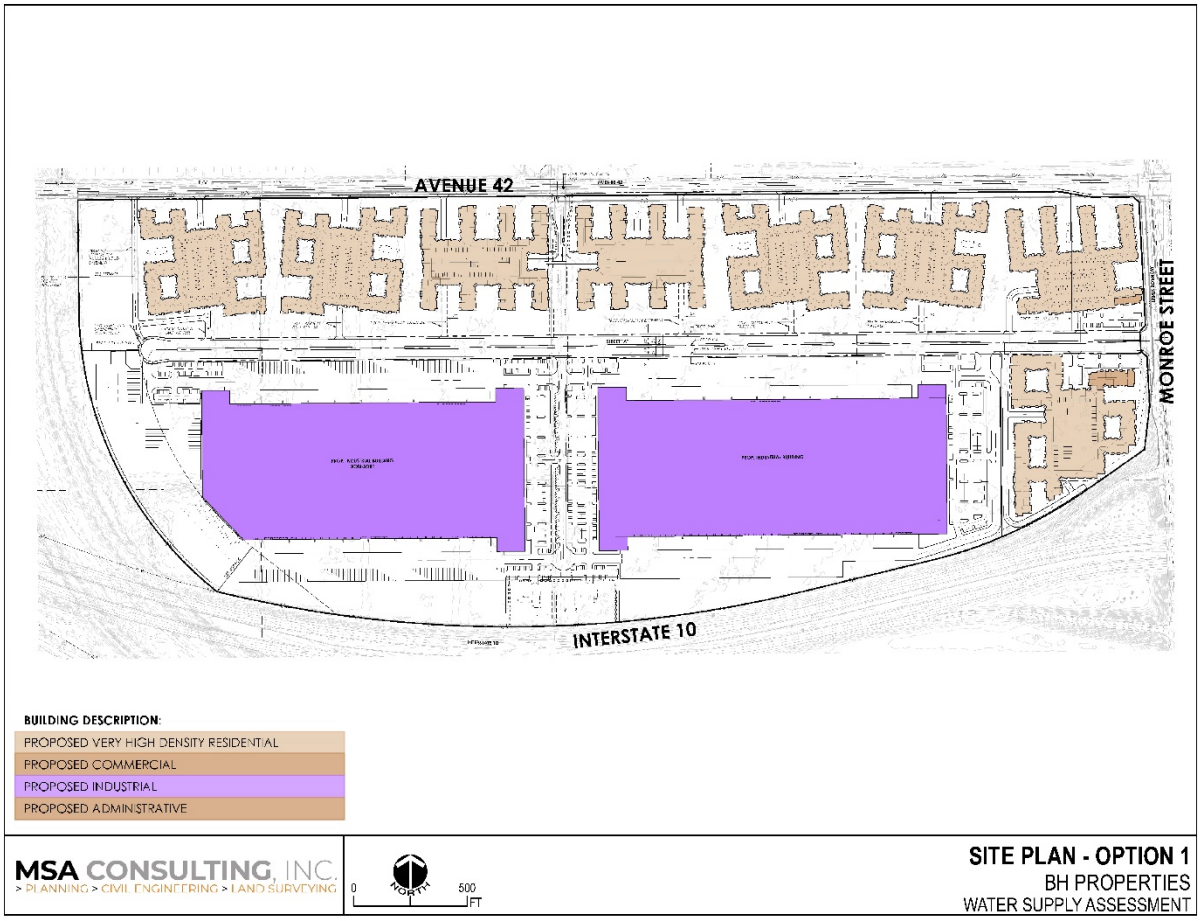


Figure 5-4.2: Project Site Plan Option 2

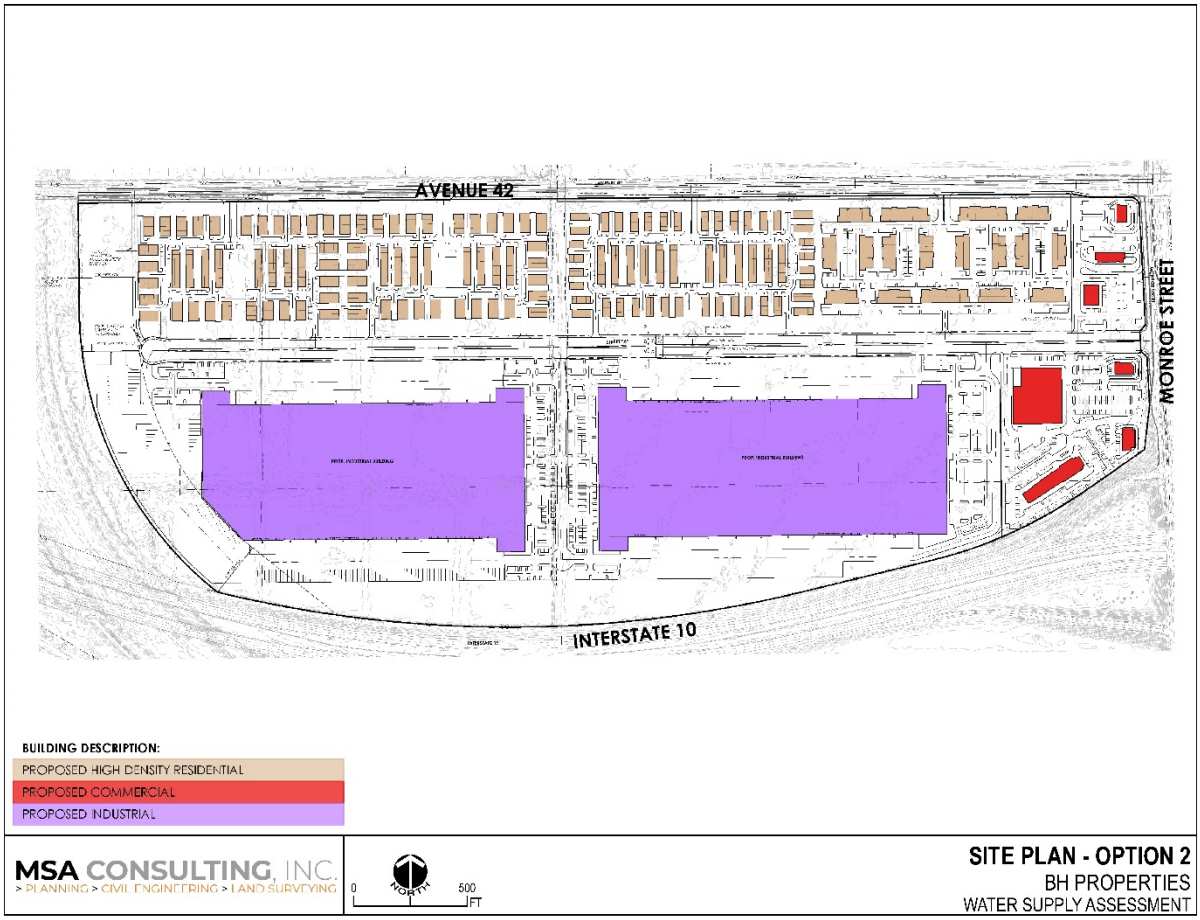


Table 5-1.1: Option 1 Project Land Use Summary

OPTION 1: Specific Plan/Land Use Designation	Land Area (Acres)	Non-Residential Building Area (ft^2)
High Density Residential	61.88	0
Commercial / Retail	4.24	10,000
Commercial / Retail	9.35	10,000
Industrial	92.78	1,806,290
Street "A"	10.44	0
Public Right of Way	1.81	0
IID Substation	2.44	0
Total	**182.94**	**1,826,290**

Table 5-2.2: Option 2 Project Land Use Summary

OPTION 2: Specific Plan/Land Use Designation	Land Area (Acres)	Non-Residential Building Area (ft^2)
High Density Residential	61.88	0
Commercial / Retail	3	35,800
Commercial / Retail / Hotel	13.59	35,800
Industrial	3.66	1,806,290
Interior Right of Way	95.31	0
Street "A"	0.00	0
IID Substation	2.5	0
Total	**182.94**	**1,877,890**

6 Project Water Demands

The BH Properties (Project) proposes to develop approximately 183 acres of vacant land in the Coachella Valley in the City of Indio. There are two options for the development of the project: Option 1 includes 3,240 Units of very high density residential, 20,000 sf of commercial, 1,806,290 sf of industrial, and 1,897,843.86 sf of outdoor landscaping. Option 2 includes 1,237 units of high density residential, approximately 71,600 sf of commercial, 1,806,290 sf of industrial, and 2,003,019.48 sf of outdoor landscaping.

6.1 Projected Indoor Residential Water Demand

The projected indoor residential unit usage for this Water Supply Assessment/Water Supply Verification (WSA/WSV) is based on indoor water use performance standards as provided in the California Water Code (CWC) for residential water demand Water Code Section 10910 approved November 10, 2009, codified in CWC section 10608.20 (b)(2)(A). The projected indoor residential water demand for Option 1 totals 598.83 acre-feet per year (AFY) as shown in **Table 6-1.1**. The projected indoor residential water demand for Option 2 totals 228.63 acre-feet per

year (AFY) as shown in **Table 6-1.2**. SB 606 and AB 1668 established guidelines for efficient water use and a framework for the implementation and oversight of the new standards. Based on results of the Indoor Residential Water Use Study, DWR and the State Water Resources Control Board jointly recommended that the indoor residential standard remain at 55 gallons per capita per day (gpcd) through 2024, and that it declines to 47 gpcd in 2025 and to 42 gpcd starting in 2030.

Table 6-1-1: Option 1 Projected Indoor Residential Water Demand

Planning Area	Land Area (Acres)	Estimated Dwelling Units (EDUs)	Estimated Occupants per Home [1]	Gallons per Day (gpd) per Occupant [2]	gpd/EDU	Water Demand (gpd)	Water Demand (AFY)
Very High Density Residential	61.88	3,240	3.00	55	165	534,600	598.83

[1] CA Department of Finance Table 2: E-5 City/County Population and Housing Estimates, 2023 for the City of Indio
[2] CA Indoor Water Use Performance Standard

Table 6-2-2: Option 2 Projected Indoor Residential Water Demand

Planning Area	Land Area (Acres)	Estimated Dwelling Units (EDUs)	Estimated Occupants per Home [1]	Gallons per Day (gpd) per Occupant [2]	gpd/EDU	Water Demand (gpd)	Water Demand (AFY)
Very High Density Residential	61.88	1,237	3.00	55	165	204,105	228.63

[1] CA Department of Finance Table 2: E-5 City/County Population and Housing Estimates, 2023 for the City of Indio
[2] CA Indoor Water Use Performance Standard

6.2 Projected Indoor Commercial and Industrial Water Demand

The projected indoor commercial and industrial unit usage for this WSA/WSV are based on the American Water Works Association Research Foundations (AWWARF's) Commercial and Industrial End Uses of Water. The projected indoor commercial and industrial water demand for Project Option 1 totals 196.16 AFY and for Project Option 2 is 210.50 as shown in **Table 6-2-1** and **Table 6-2-2** below.

Table 6-3-1: Option 1 Projected Indoor Commercial and Industrial Water Demand

Planning Area	Indoor Area (ft^2)	Number of Rooms	Maximum Interior Floor Space per Unit	Water Demand Factor [1]	Water Demand (gpd)	Water Demand (AFY)
Commercial / Retail	10,000			35	958.90	1.07
Commercial / Retail	10,000			35	958.90	1.07
Industrial	1,806,290			35	173,205.89	194.02
Total	**1,826,290**				**175,123.70**	**196.16**

[1] AWWARF Commercial and Industrial End Uses of Water, 2000.

Table 6-4-2: Option 2 Projected Indoor Commercial and Industrial Water Demand

Planning Area	Indoor Area (ft^2)	Number of Rooms	Maximum Interior Floor Space per Unit	Water Demand Factor [1]	Water Demand (gpd)	Water Demand (AFY)
Commercial / Retail	35,800			35	3,432.88	3.85
Commercial / Retail / Hotel	35,800	128		115	11,279.45	12.63
Industrial	1,806,290			35	173,205.89	194.02
Total	**1,877,890**	**128**			**187,918.22**	**210.50**

[1] AWWARF Commercial and Industrial End Uses of Water, 2000.

6.3 Projected Outdoor Irrigation Water Demand

The projected outdoor irrigation water usage is based on the Maximum Applied Water Allowance (MAWA) equation from Appendix D of Coachella Valley Water District's (CVWD's) Landscape Ordinance No. 1302.5, which meets the water conservation goals of the California Department of Water Resources (DWR) Model Efficient Landscape Ordinance (MWELO). The projected outdoor irrigation water demand for Option 1 is 135.43 AFY and Option 2 is 142.93 AFY as shown in **Table 6-3-1** and **6-3-2** below.

Table 6-5-1: Option 1 Projected Outdoor Irrigation Water Demand

Planning Area	Landscaped Area (ft^2)	ETo (in/yr) [1]	ETAF [2]	Conversion Factor (gal/ft^2) [3]	Water Demand (gpd)	Water Demand (AFY)
Residential	943,422.48	83.34	0.45	0.62	60,099.53	67.32
Commercial / Retail	64,643.04	83.34	0.45	0.62	4,118.00	4.61
Commercial / Retail	142,550.10	83.34	0.45	0.62	9,080.97	10.17
Industrial	606,224.52	83.34	0.45	0.62	38,618.76	43.26

Street "A"	90,953.28	83.34	0.45	0.62	5,794.06	6.49
Public Right of Way	39,421.80	83.34	0.45	0.62	2,511.32	2.81
IID Substation	10,628.64	83.34	0.45	0.62	677.08	0.76
Total	**1,897,843.86**				**120,899.73**	**135.43**

[1] Reference Evapotranspiration (ETo) for ETo Zone 5 from CVWD Landscape Ordinance 1302.5, Appendix C

[2] Evapotranspiration Adjustment Factor (ETAF) from CVWD Landscape Ordinance 1302.5, Appendix D

[3] Conversion Factor from CVWD Landscape Ordinance 1302.5, Appendix D

Table 6-6-2: Option 2 Projected Outdoor Irrigation Water Demand

Planning Area	Landscaped Area (ft^2)	ETo (in/yr) [1]	ETAF [2]	Conversion Factor (gal/ft^2) [3]	Water Demand (gpd)	Water Demand (AFY)
Residential	1,078,197.12	83.34	0.45	0.62	68,685.17	76.94
Commercial / Retail	55,408.32	83.34	0.45	0.62	3,529.72	3.95
Commercial / Retail	122,185.80	83.34	0.45	0.62	7,783.69	8.72
Industrial	606,224.52	83.34	0.45	0.62	38,618.76	43.26
Street "A"	90,953.28	83.34	0.45	0.62	5,794.06	6.49
Public Right of Way	39,421.80	83.34	0.45	0.62	2,511.32	2.81
IID Substation	10,628.64	83.34	0.45	0.62	677.08	0.76
Total	**2,003,019.48**				**127,599.80**	**142.93**

[1] Reference Evapotranspiration (ETo) for ETo Zone 5 from CVWD Landscape Ordinance 1302.5, Appendix C

[2] Evapotranspiration Adjustment Factor (ETAF) from CVWD Landscape Ordinance 1302.5, Appendix D

[3] Conversion Factor from CVWD Landscape Ordinance 1302.5, Appendix D

6.4 Projected Outdoor Water Features Demand

The projected outdoor recreational water usage is based on the Estimated Total Water Usage (ETWU) equation from Appendix D of CVWD's Landscape Ordinance No. 1302.5. The projected outdoor water features demand for the Project is 0 for both Option 1 and Option 2.

6.5 Projected Total Water Demand

The total projected water demand for Option 1 is 930.42 AFY, or 5.09 acre-feet per acre, and the total projected water demand for Option 2 is 582.05 AFY, or 3.18 acre-feet per acre as shown in **Table 6-5-1** and **6-5-2** below.

Table 6-7-1: Option 1 Projected Total Water Demand

Planning Area	Land Area (Acres)	Indoor Residential Demand (AFY)	Indoor Commercial and Industrial Demand (AFY)	Outdoor Irrigation Demand (AFY)	Total Water Demand (AFY)
Residential	61.88	598.83	0	67.32	666.15
Commercial / Retail	4.24	0.00	1.07	4.61	5.69
Commercial / Retail	9.35	0.00	1.07	10.17	11.25
Industrial	92.78	0.00	194.02	43.26	237.27
Street “A”	10.44	0.00	0.00	6.49	6.49
Public Right of way	1.81	0.00	0.00	2.81	2.81
IID Substation	2.44	0.00	0.00	0.76	0.76
Total	**182.94**	**598.33**	**196.16**	**135.43**	**930.42**

Table 6-8-2: Option 2 Projected Total Water Demand

Planning Area	Land Area (Acres)	Indoor Residential Demand (AFY)	Indoor Commercial and Industrial Demand (AFY)	Outdoor Irrigation Demand (AFY)	Total Water Demand (AFY)
Residential	61.88	228.63	0.00	76.94	305.56
Clubhouse	4.24		3.85	3.95	7.80
Commercial – Retail/Gas	9.35		12.63	8.72	21.35
Open Space	92.78		194.02	43.26	237.27
Industrial	10.44		0.00	6.49	6.49
Industrial Admin.	1.81		0.00	2.81	2.81
IID Substation	2.44		0.00	0.76	0.76
Total	**182.94**	**228.63**	**210.50**	**142.93**	**582.05**

6.6 Projected Water Sources

The primary source of potable water for the Project will be supplied by IWA’s domestic system. IWA currently does not provide any recycled water, and all water served in the IWA service area is potable groundwater from the local aquifer.

Table 6-9: Option 1 and Option 2 Projected Water Sources

Planning Area	Land Area (Acres)	Indoor Residential Demand	Indoor Commercial and Industrial Demand	Outdoor Irrigation Demand
Very High Density Residential	61.88	IWA Domestic Water System		IWA Domestic Water System
Commercial / Retail	4.24		IWA Domestic Water System	
Commercial / Retail	9.35			
Industrial	92.78			
Interior Right of Way	10.44			
Street "A"	1.81			
IID Substation	2.44			

6.7 Conservation Measures

The following section describes the water conservation measures to be implemented by the proposed Project.

6.7.1 Desert Landscaping & Drought Tolerant Plants

The plant palette throughout the Specific Plan area shall utilize a low maintenance and low water palette. Turf grasses will only be permitted in "use" areas that include open lawn for play/recreation and for the infiltration portions of the detention basins. Detention basins shall include desert riparian trees, desert cactus and succulents, and select groundcovers combined with rock outcroppings. Annual plant materials are allowed in accent landscaping areas but shall not be allowed in permanent planting areas of the Specific Plan. All vacant pads and portions of the subject parcel in any Planning Area shall be planted with drought tolerant landscaping and/or decomposed granite if they remain inactive for a period of 6 months following the completion of grading.

The landscaping and irrigation plans and system shall comply with all City ordinances relating to water efficiency, and irrigation shall be an automatic system with an irrigation timer and two drip or bubbler heads per tree to produce deep root irrigation.

7 Assessment and Verification – Availability of Sufficient Supplies

7.1 Water Supply Assessment

Based on the analysis in this Water Supply Assessment/Water Supply Verification (WSA/WSV), the total projected water demand for Option 1 is 930.42 AFY, or 5.09 acre-feet per acre, and the total projected water demand for Option 2 is 582.05 AFY, or 3.18 acre-feet per acre.

IWA's long-term water management planning ensures that adequate water supplies are available to meet existing and future water needs within its service area. IWA's total gross water use for 2020 was predicted to be 19,880 AFY with numbers reaching 24,792 AFY by 2025 and 35,997 AFY by 2045 according to the 2020 CVRUWMP.

This Project's Option 1 water demand of 930.42 AFY accounts for approximately 3.75 percent of the total planned increases in demand of 24,792 AFY by 2025 and 2.58 percent of the total planned increases in demand of 35,997 AF by 2045. Option 2 water demand of 582.05 AFY accounts for approximately 2.35 percent of the total planned increases in demand of 24,792 AFY by 2025 and 1.62 percent of the total planned increases in demand of 35,997 AF by 2045.

This WSA provides an assessment of the availability of sufficient water supplies during normal, single-dry, and multiple-dry years over a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of CVWD, as required by Senate Bill (SB) 610 and SB 1262. This WSA also includes identification of existing water supply entitlements, water rights, water service contracts, and agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts, and agreements.

This WSA/WSV has been prepared in compliance with the requirements of SB 610, and SB 1262 by MSA Consulting, Inc. in consultation with IWA and the City of Indio. This WSA/WSV does not relieve the Project from complying with all applicable state, county, city, and local ordinances or regulations including the City of Indio Ordinance No.1684, and indoor water use performance standards provided in the CWC.

This WSA/WSV will be reviewed every five years, or in the event that the water planning assumptions have changed, until the Project completes construction to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. The Project applicant shall notify IWA when construction begins. If neither the Project applicant nor the Lead Agency contacts IWA within five years of approval of this WSA/WSV, it will be assumed that the Project no longer exists and the WSA/WSV provided by this document will become invalid.

7.2 Water Supply Verification

Government Code §66473.7 requires that a Written Verification of Water Supply (WV) be prepared in connection with the approval of a development agreement or tentative map that includes a subdivision. A subdivision is defined as a proposed residential development of more than 500 units, except that for a water agency with fewer than 5,000 service connections, a subdivision includes a residential development project that would account for an increase of 10 percent or more in the number of the agency's existing service connections.

This WSA is not a WV. If the City determines that the Project or any planning area meets the definition of a subdivision and therefore requires preparation of a WV, the City must request a WV prepared by IWA in compliance with the requirements of SB 221. This WSA may be used to

support the WV. Depending on circumstances including but not limited to new water efficiency regulations or changes in water supply availability, IWA may recommend preparation of an updated supply and demand assessment to support the WV.

8 References

American Water Works Association Research Foundation, *Commercial and Institutional End Uses of Water*, 2000

California Department of Water Resources, *Final State Water Project Delivery Capability Report 2019*, August 2020

Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority, Mission Springs Water District, Myoma Dunes Mutual Water Company, *2020 Coachella Valley Regional Urban Water Management Plan*, Water Systems Consulting, Inc., June 2021

Coachella Valley Water District, *2023-2024 Engineer's Report on Water Supply and Replenishment Assessment*, April 2023

Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, and Indio Water Authority, *Indio Subbasin Annual Report for Water Year 2020-2021*, Todd Groundwater Inc., February 2022

Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, and Indio Water Authority, *2022 Indio Subbasin Water Management Plan Update/Alternative Plan Update*, Todd Groundwater Inc., December 2021

United States Bureau of Reclamation, *Colorado River Accounting and Water Use Reports for Arizona, California, and Nevada*

Coachella Valley Water District, *Landscape Ordinance 1302.5*, July 2020

Indio Water Authority, *Water Shortage Contingency Plan*, June 2021

Indio Water Authority, *2015 Urban Water Management Plan Final Report*, July 2016

Indio Water Authority, *Development Services Procedural Guidelines*, 2019

February 22, 2024

Michelle Witherspoon
Director of Environmental Services
MSA Consulting, Inc.
34200 Bob Hope Drive
Rancho Mirage, CA 92270

Subject: Water Supply Assessment (WSA) / Water Supply Verification (WSV) for the BH Properties project

Dear Michelle Witherspoon,

We have reviewed the Water Supply Assessment for the proposed BH Properties dated October 2023. Based on the current 2020 Coachella Valley Regional Urban Water Management Plan (UWMP), prepared by Water Systems Consulting, Inc. for the urban water agencies of the Coachella Valley and which includes water demand and supply projections for the Indio Water Authority (IWA), the project water demands are within the total estimated demand for the IWA through 2045.

We have no additional comments for the project specific Water Supply Assessment and will submit the document to the City Council with a recommendation for approval. A separate Water Supply Verification (WSV) will be required before the project can be approved for construction.

Please let us know if you have any questions or need additional information.

Respectfully,

Roman Gonzalez

Roman Gonzalez
Water Project Construction Manager
Indio Water Authority