Agenda Item 8a

STAFF REPORT

TYPE MEETING:	Regular Board	MEETING DATE:	March 1, 2023
SUBMITTED BY:	Lisa Coburn-Boyd Environmental Compliance Specialist	CIP /G.F. NO:	D1152-090587 DIV. NO. 1
APPROVED BY:	Bob Kennedy, Engineering Manager Michael Long, Chief, Engineering Jose Martinez, General Manager		
SUBJECT:	Approval of Water Supply Assessment and Verification Report (February 2023) for the City of Chula Vista Otay Ranch Town Center Redevelopment Project		

GENERAL MANAGER'S RECOMMENDATION:

That the Otay Water District (District) Board of Directors (Board) approve the Water Supply Assessment Report and Verification (WSA&V Report) dated February 2023 for the City of Chula Vista Otay Ranch Town Center Redevelopment Project (ORTC Redevelopment Project) as required by Senate Bills 610 and 221 (see Exhibit A for Project location).

COMMITTEE ACTION:

Please see Attachment A.

PURPOSE:

To obtain Board approval of the February 2023 WSA&V Report for the City of Chula Vista ORTC Redevelopment Project, as required by Senate Bill 610 and Senate Bill 221 (SB 610 and SB 221).

ANALYSIS:

The City of Chula Vista submitted a request to the District for a WSA&V Report, pursuant to SB 610 and SB 221. SB 610 and SB 221 require that, upon the request of a City or County, a water purveyor, such as the District, prepare a water supply assessment and verification report to be included in the California

Environmental Quality Act (CEQA) environmental documentation. The City's WSA&V request letter dated January 19, 2023 was received electronically by the District on January 19, 2023 so the 90-day deadline for the District to provide the Board an approved WSA&V Report to the City ends April 19, 2023. SB 610 requires the city or county to evaluate whether water supplies will be sufficient to meet the projected water demand for certain "projects" that are otherwise subject to the requirement of the CEQA. SB 221 requires written verification from the water purveyor of the public water system that sufficient water supplies are planned to be available for certain residential subdivisions of property. The requirements of SB 610 and SB 221 are addressed by the February 2023 WSA&V Report for this Project. The WSA&V Report was prepared by the District in consultation with Dexter Wilson Engineering, Inc., the San Diego County Water Authority (Water Authority), and the City of Chula Vista (City). The City ORTC Redevelopment Project WSA&V Report is provided as Exhibit B.

Prior to transmittal to the City, the WSA&V Report must be approved by the Board of Directors. Upon approval of the WSA&V Report for the City ORTC Redevelopment Project by the District's Board of Directors, the WSA&V Report may be used to comply with the requirements of the Senate Bill 610 by incorporating the approved WSA&V Report into the CEQA compliance process for the project, which in this case, will be an Environmental Impact Report (EIR) Addendum. The City, as the CEQA lead agency, may cite the approved WSA&V Report as evidence that a sufficient water supply is planned and intended to be available to serve the project. Additionally, Senate Bill 221 Water Supply Verification is accomplished using the approved WSA&V Report in the City's water supply verification report for the project where it will be cited as verification of the intent of the District to have sufficient water supply available for the project.

The proposed project entitlement includes a Chula Vista General Plan Amendment, an Otay Ranch General Development Plan Amendment, a Freeway Commercial Sectional Planning Area Amendment, and a tentative map to subdivide the property. The City is having an EIR Addendum prepared for the redevelopment of 58.49 acres (ORTC Redevelopment Project) of the existing Otay Ranch Town Center. The existing land use of the Otay Ranch Town Center is designated commercial and will need to be rezoned to accommodate the proposed residential component. The project is located in the northwest portion of the existing Otay Ranch Town Center. The Otay Ranch Town Center is located on the east side of State Route

125, north of Birch Road, south of Olympic Parkway, and west of Eastlake Parkway.

The existing Otay Ranch Town Center site includes five lots (Lots 1, 2, 3, 4, and 5) on approximately 87.25 acres. The project proposes to redevelop the northwest portion of Lots 1 and 4, which make up 58.49 acres of the overall site. Within the 58.49 acres, 15.66 acres will be affected. The redevelopment would add 840 residential units, a park, and plaza space, and rebuild, as ground-floor commercial, approximately 37,200 square-feet of commercial space. The redevelopment will result in no net gain or loss of retail square footage as 37,200 square feet will be removed and rebuilt. The proposed development footprint of 15.66 acres would consist of 11.82 acres of mixed-use area, 0.92 acres of park and plaza space, and 2.92 acres of private streets.

The expected potable water demand for the ORTC Redevelopment project is 263,807 GPD or about 295.5 AFY. This is 121 AFY higher than the projected demands in the approved Sub-area Master Plan for the project and the District's 2015 Water Facilities Master Plan which estimated 155,741 GPD or about 174.5 AFY for commercial use only. The expected recycled water demand is 13,300 GPD or about 14.9 AFY. Recycled water will be used to irrigate common landscaped areas of the proposed mixed-use sites and the park and plaza space.

The 121 AFY increase in demand is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2020 Urban Water Management Plan (UWMP). As documented in the Water Authority's 2020 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority will assist its member agencies in tracking the environmental documents provided by the agencies that include water supply assessments and verifications reports that utilize the accelerated forecasted growth demand increment to demonstrate supplies for the development.

The District prepared the WSA&V Report in consultation with Dexter Wilson Engineering, Inc., the Water Authority, and the City. This WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be made available over a 20-year planning horizon under normal supply conditions and in single and multiple-dry years to meet the projected demand of the ORTC Redevelopment project and other planned development projects within the District.

FISCAL IMPACT: ☒ Joe Beachem, Chief Financial Officer

The District has been reimbursed $5,000 for all costs associated with the preparation of the City of Chula Vista ORTC Redevelopment Project WSA&V Report. The reimbursement was accomplished via an $5,000 deposit the Project proponents placed with the District.

STRATEGIC GOAL:

The preparation and approval of the WSA&V Report for the City of Chula Vista OTRC Redevelopment Project supports the District's Mission statement, "To provide high value water and wastewater services to the customers of the Otay Water District in a professional, effective, and efficient manner" and the General Manager's Vision, "A District that is at the forefront in innovations to provide water services at affordable rates, with a reputation for outstanding customer service."

LEGAL IMPACT:

Approval of a WSA&V Report for the City of Chula Vista ORTC Redevelopment Project in form and content satisfactory to the Board of Directors would allow the District to comply with the requirements of Senate Bills 610 and 221.

LC-B/BK:jf

https://otaywater365.sharepoint.com/sites/engoperating/Shared Documents/Engineering/Planning/Water Supply Assessments/Otay Ranch Town Center Redevlopment Project/Staff Report/BD 03-01-23, Staff Report, City of Chula Vista Otay Ranch Town Center Redevelopment Project WSA&V Report (LCB-BK).docx

Attachments: Attachment A – Committee Action
Exhibit A – Location Map
Exhibit B – City of Chula Vista Otay Ranch Town Center Redevelopment Project WSA&V Report
Exhibit C – PowerPoint Presentation

ATTACHMENT A

SUBJECT/PROJECT:	Approval of Water Supply Assessment and Verification Report (February 2023) for the City of Chula Vista Otay Ranch Town Center Redevelopment Project
D1152-090587	

COMMITTEE ACTION:

The Engineering, Operations, and Water Resources Committee (Committee) reviewed this item at a meeting held on February 14, 2023 and the following comments were made:

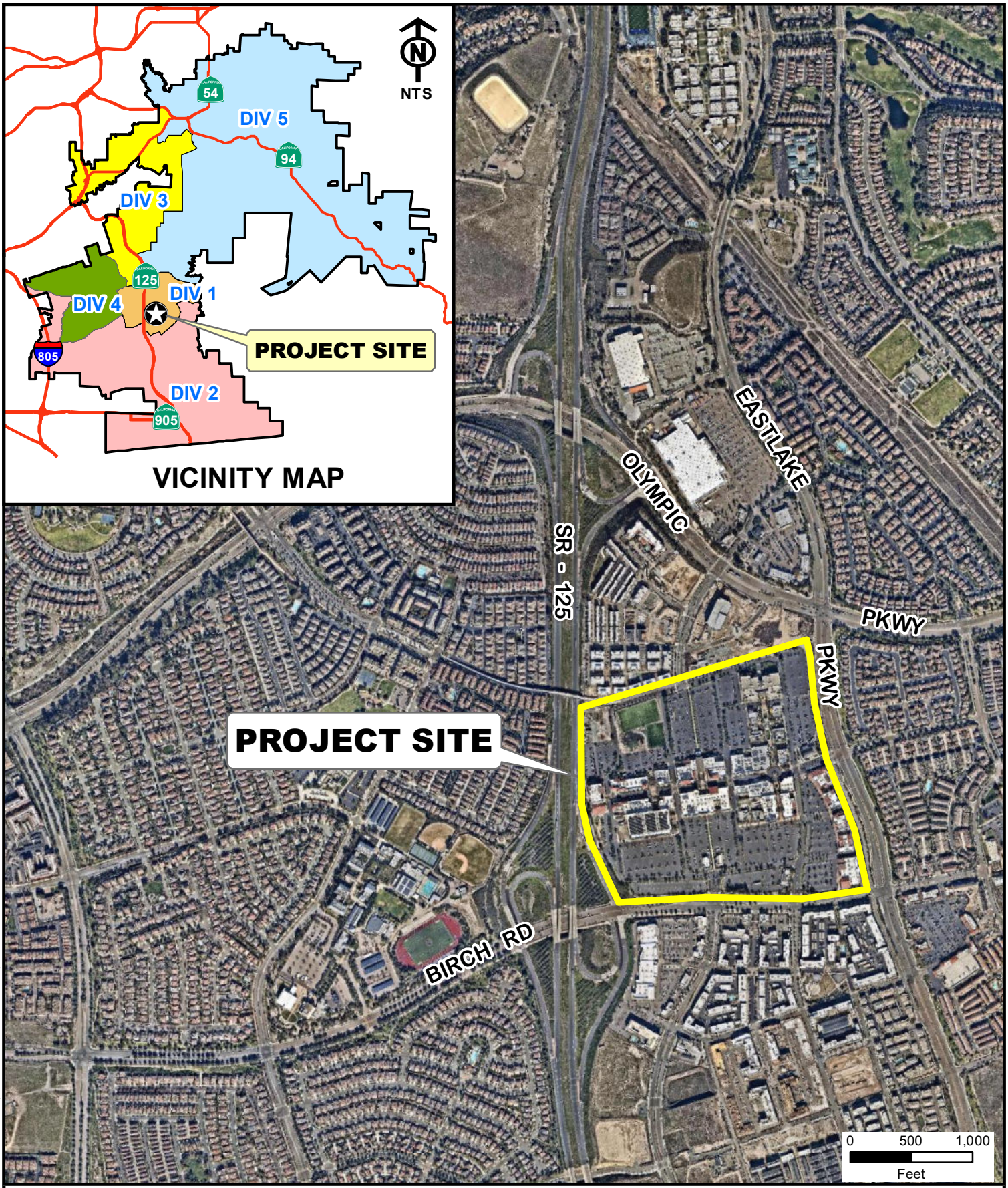
- This report and presentation are to ask the Committee to recommend Board approval of the Water Assessment & Verification Report (WSA&V) for the City of Chula Vista Otay Ranch Town Center Redevelopment project.

- The City of Chula Vista submitted a request to the District for a WSA&V Report, pursuant to SB 610 and SB 221. The primary intent of these bills is to improve the link between water supply availability and land use decisions.

- The Committee asked when the request is made from the City of Chula Vista this is just a formality and staff replied it is to determine that we have the water available to supply them to build. This was a commercial area, and they are making this a mixed-use area.

- The Committee asked if the District ever did not have the capability to supply water. Staff replied that during the previous drought there was some concern that we may not be able to provide water use and there is a certain drought normal where we would not be able to sell water meters to developers. This is documented in the current Water Shortage Contingency Plan that all agencies have in this region.

Upon completion of the discussion, the Committee supported staffs' recommendation and presentation to the full board as an action item.



OTAY WATER DISTRICT

OTAY RANCH TOWN CENTER REDEVELOPMENT PROJECT

LOCATION MAP

D1152-090587

EXHIBIT A

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EXHIBIT B

OTAY WATER DISTRICT

WATER SUPPLY ASSESSMENT AND VERIFICATION REPORT
for the

City of Chula Vista
Otay Ranch Town Center Redevelopment Project

Prepared by:
Lisa Coburn-Boyd
Environmental Compliance Specialist
and
Bob Kennedy, P.E.
Engineering Manager
Otay Water District
In consultation with
Dexter Wilson Engineering, Inc.
and
San Diego County Water Authority

February 2023

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Executive Summary

The Otay Water District (Otay WD) prepared this Water Supply Assessment and Verification Report (WSA&V Report) at the request of the City of Chula Vista (City) for the Otay Ranch Town Center Redevelopment project.

Otay Ranch Town Center Redevelopment Project Overview and Water Use

The Otay Ranch Town Center Redevelopment project is located within the jurisdictions of the Otay WD, the San Diego County Water Authority (Water Authority), and the Metropolitan Water District of Southern California (MWD). In order to obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and MWD.

The proposed project entitlement includes a General Plan Amendment, an Otay Ranch General Development Plan Amendment, a Freeway Commercial Sectional Planning Area Amendment, and a tentative map to subdivide the property. The City is having an EIR Addendum prepared for the redevelopment of 58.49 acres of the existing Otay Ranch Town Center (Otay Ranch Town Center Redevelopment project). The existing land use of the Otay Ranch Town Center is designated commercial and will need to be rezoned to accommodate the proposed residential component. The project is located in the northwest portion of the existing Otay Ranch Town Center. The Otay Ranch Town Center is located on the east side of State Route 125, north of Birch Road, south of Olympic Parkway, and west of Eastlake Parkway.

The existing Otay Ranch Town Center site includes five lots (Lots 1, 2, 3, 4, and 5) on approximately 87.25 acres. The project proposes to redevelop the northwest portion of Lots 1 and 4, which make up 58.49 acres of the overall site. Within the 58.49 acres, 15.66 acres will be affected. The redevelopment would add 840 residential units, park and plaza space, and rebuild, as ground-floor commercial, approximately 37,200 square-feet of commercial space. The redevelopment will result in no net gain or loss of retail square footage as 37,200 square feet will be removed and rebuilt. The proposed development footprint of 15.66 acres would consist of 11.82 acres of mixed-use area, 0.92 acres of park and plaza space, and 2.92 acres of private streets.

The expected potable water demand for the Otay Ranch Town Center Redevelopment project is 263,807 gpd or about 295.5 AFY. This is 121 AFY higher than the projected demands in the approved Sub-area Master Plan for the project and the Otay WD's 2015 Water Facilities Master Plan which estimated 155,741 gpd or about 174.5 AFY for commercial use only. The expected recycled water demand is 13,300 gpd or about 14.9 AFY. Recycled water will be used to irrigate common landscaped areas of the proposed mixed-use sites and the park and plaza space.

The 121 AFY increase in demand is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2020 UWMP. As documented in the Water Authority's 2020 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority will assist its member agencies in tracking the environmental documents provided by the agencies that include water supply assessments and verifications reports that utilize the accelerated forecasted growth demand increment to demonstrate supplies for the development. In addition, the next update of the demand forecast for the Water Authority's 2025 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project. Therefore, based on the findings from the Otay WD's 2020 UWMP and the Water Authority's 2020 UWMP, this project will result in no unanticipated demands.

Planned Imported Water Supplies from the Water Authority and MWD

The Water Authority and MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their UWMP's. Prior to the next forecast update, local jurisdictions with land use authority may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, or MWD jurisdictions (i.e., pending or proposed annexations) or that have revised land use plans with either lower or higher development intensities than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations, or revised land use plans, typically result in creating higher demand and supply requirements than previously anticipated. The Otay WD, Water Authority, and MWD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

An important planning document utilized by MWD, the Water Authority and Otay WD is the Integrated Resources Plan (IRP) which describes an agency's long-term water plan. MWD's 2015 IRP (currently being updated) offers an adaptive management strategy to protect the region from future supply shortages. This adaptive management strategy has five components:

achieve additional conservation savings, develop additional local water supplies, maintain Colorado River Aqueduct supplies, stabilize State Water Project supplies, and maximize the effectiveness of storage and transfer. MWD's 2015 IRP has a plan for identifying and implementing additional resources that expand the ability for MWD to meet future changes and challenges as necessary to ensure future reliability of supplies. The proper management of these resources help to ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

Another important planning document is the UWMP. The California Urban Water Management Planning Act (Act), which is included in the California Water Code, requires all urban water suppliers within the state to prepare an UWMP and update it every five years. The purpose and importance of the UWMP has evolved since it was first enacted in 1983. State agencies and the public frequently use the document to determine if agencies are planning adequately to reliably meet future demands. As such, UWMPs serve as an important element in documenting supply availability for the purpose of compliance with California Senate Bills 610 and 221, linking water supply sufficiency to large land-use development approval. Agencies must also have a UWMP prepared, pursuant to the Act, in order to be eligible for state funding and drought assistance.

MWD's 2020 UWMP Findings state that MWD has supply capabilities that would be sufficient to meet expected demands from 2025 through 2045. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment report, an agency's Water Shortage Contingency Plan (WSCP) analysis should be considered in determining sufficiency of supply. In 2018, the Legislature modified the UWMP laws to require a WSCP with specific elements. The WSCP is a document that provides a Supplier with an action plan for a drought or catastrophic water supply shortage. Water Code Section 10632 now requires Suppliers to prepare and adopt a WSCP as part of its UWMP. The new requirements for a WSCP are more prescriptive than previous versions, although many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of a Supplier's standard procedures and response actions. Many of these actions were implemented by Suppliers during the last drought, to successfully meet changing local water supply challenges. The WSCP will also have statewide utility for DWR, the State Water Board, and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply. In 2020, the Water Authority's WSCP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies are taking actions to prepare for and appropriately handle an interruption of water supplies. The WSCP provides the Water

Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

Water supply agencies throughout California continue to face climate, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta issues and reoccurring droughts impacting the western states. Even with these ever-present challenges, the Water Authority and MWD, along with Otay WD fully intend to have sufficient, reliable supplies to serve demands.

Otay Water District Water Supply Development Program

In evaluating the availability of sufficient water supply, the Otay Ranch Town Center Redevelopment project will be required to participate in the water supply development program being implemented by the Otay WD. This is intended to be achieved through financial participation in several local and/or regional water supply development projects envisioned by the Otay WD. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents, and are in response to the regional water supply issues. These new water supply projects are not currently developed and are in various stages of the planning process. Imported water supplies along with the development of these additional Otay WD water supply development projects supplies are intended to increase water supplies to serve the Otay Ranch Town Center Redevelopment project water supply needs and that of other similar development projects. The Otay WD water supply development program includes but is not limited to projects such as the Middle Sweetwater River Basin Groundwater Well project, the Rancho del Rey Groundwater Well Project and the Otay Mesa Lot 7 Groundwater Well Project. The Water Authority and MWD's next forecasts and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

Findings

The WSA&V Report identifies and describes the processes by which water demand projections for the proposed Otay Ranch Town Center Redevelopment project will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and MWD. Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Otay Ranch Town Center Redevelopment project WSA&V Report and will be included in the future water supply planning documents of the Water Authority and MWD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or

agreements relevant to the identified water supply needs for the proposed Otay Ranch Town Center Redevelopment project. The WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the Otay Ranch Town Center Redevelopment project and the existing and other planned development projects to be served by the Otay WD.

Accordingly, after approval of a WSA&V Report for the Otay Ranch Town Center Redevelopment project by the Otay WD Board of Directors (Board), the WSA&V Report may be used to comply with the requirements of the legislation enacted by Senate Bills 610 and 221 as follows:

1. Senate Bill 610 Water Supply Assessment: The Otay WD Board approved WSA&V Report may be incorporated into the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) compliance process for the Otay Ranch Town Center Redevelopment project as a water supply assessment report consistent with the requirements of the legislation enacted by SB 610. The City, as lead agency under CEQA for the Otay Ranch Town Center Redevelopment Project EIR Addendum and Alternatives, may cite the approved WSA&V Report as evidence that a sufficient water supply is planned for and is intended to be made available to serve the Otay Ranch Town Center Redevelopment project.

2. Senate Bill 221 Water Supply Verification: The Otay WD Board approved WSA&V Report may be incorporated into the City's Tentative Map approval process for the Otay Ranch Town Center Redevelopment project as a water supply verification report, consistent with the requirements of the legislation enacted by SB 221. The City, within their process of approving the Otay Ranch Town Center Redevelopment project Revised Tentative Map, may cite the approved WSA&V Report as verification of intended sufficient water supply to serve the Otay Ranch Town Center Redevelopment project.

Section 1 - Purpose

The City is having an environmental impact report addendum (EIR Addendum) prepared for the development of the Otay Ranch Town Center Redevelopment 58.49-acre project. The project is located in the northwest portion of the existing Otay Ranch Town Center. The Otay Ranch Town Center is located is located on the east side of State Route 125, north of Birch Road, south of Olympic Parkway, and west of Eastlake Parkway.

The City requested that the Otay WD prepare a Water Supply Assessment and Verification (WSA&V) Report for the Otay Ranch Town Center Redevelopment project. This WSA&V Report is being prepared for the proposed project concurrent with the General Plan Amendment, the Otay Ranch General Development Plan Amendment, the Freeway

Commercial Sectional Planning Area Amendment, rezone and tentative map processing through the City. The Otay Ranch Town Center Redevelopment project description is provided in Section 3 of this WSA&V Report.

This WSA&V Report for the Otay Ranch Town Center Redevelopment project has been prepared by the Otay WD in consultation with Dexter Wilson Engineering,Inc., the Water Authority, and the City pursuant to Public Resources Code Section 21151.9 and California Water Code Sections 10631, 10656, 10910, 10911, 10912, and 10915 referred to as Senate Bill (SB) 610 and Business and Professions Code Section 11010 and Government Code Sections 65867.5, 66455.3, and 66473.7 referred to as SB 221. SB 610 and SB 221 amended state law, effective January 1, 2002, is intended to improve the link between the information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of the public water system prepare a water supply assessment to be included in the CEQA documentation and approval process of certain proposed projects. SB 221 requires affirmative written verification from the water purveyor of the public water system that sufficient water supplies are to be available for certain residential subdivisions of property prior to approval of a tentative map. The requirements of SB 610 and SB 221 are being addressed by this WSA&V Report. The City also requested, since the requirements of SB 610 and SB 221 are substantially similar, that Otay WD prepare both the water supply assessment and verification concurrently.

This WSA&V Report evaluates water supplies that are planned to be available during normal, single dry year, and multiple dry water years during a 20-year planning horizon to meet existing demands, expected demands of the Otay Ranch Town Center Redevelopment project, and reasonably foreseeable planned future water demands to be served by Otay WD. The Otay WD Board of Directors approved WSA&V Report is planned to be used by the City in its evaluation of the Otay Ranch Town Center Redevelopment project under CEQA approval process procedures.

Section 2 - Findings

The Otay WD prepared this WSA&V Report at the request of the City for Otay Ranch Town Center Redevelopment project.

The Otay Ranch Town Center Redevelopment project is located within the jurisdictions of the Otay WD, the Water Authority, and MWD. To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and MWD to utilize imported water supply.

The expected potable water demand for the Otay Ranch Town Center Redevelopment project is 263,807 gpd or about 295.5 AFY. This is 121 AFY higher than the projected demands in the approved Sub-area Master Plan for the project and the Otay WD's 2015 Water Facilities Master Plan which estimated 155,741 gpd or about 174.5 AFY for commercial use only. The

expected recycled water demand is 13,300 gpd or about 14.9 AFY. Recycled water will be used to irrigate common landscaped areas of the proposed mixed-use sites and the park and plaza space.

The 121 AFY increase in demand is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2020 UWMP. As documented in the Water Authority's 2020 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority will assist its member agencies in tracking the environmental documents provided by the agencies that include water supply assessments and verifications reports that utilize the accelerated forecasted growth demand increment to demonstrate supplies for the development. In addition, the next update of the demand forecast for the Water Authority's 2025 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project. Therefore, based on the findings from the Otay WD's 2020 UWMP and the Water Authority's 2020 UWMP, this project will result in no unanticipated demands.

The Water Authority and MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast (approximately every five years) to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, or MWD jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans with lower or higher land use intensities than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations, or revised land use plans, typically result in creating higher demand and supply requirements than anticipated. The Otay WD, the Water Authority, and MWD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

This process is utilized by the Water Authority and MWD to document the water supplies necessary to serve the demands of the Otay Ranch Town Center Redevelopment project, along with existing and other projected future users, as well as the actions necessary to develop any required water supplies. Through this process, it is assured that the necessary demand and supply information is identified and incorporated within the water supply planning documents of the Water Authority and MWD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, proposed water supply projects, and

agreements relevant to the identified water supply needs for the proposed Otay Ranch Town Center Redevelopment project. This WSA&V Report incorporates by reference, the current Urban Water Management Plans and other water resources planning documents of the Otay WD, the Water Authority, and MWD. The Otay WD prepared this WSA&V Report to assess and document that sufficient water supplies are planned for and are intended to be acquired to meet projected water demands of the Otay Ranch Town Center Redevelopment project as well as existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal supply years and in single dry and multiple dry years.

The Otay Water District 2020 UWMP includes a water conservation component to comply with Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7), which became effective February 3, 2010. This law was the water conservation component to the Delta legislation package, and the goal was to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. Specifically, SBX 7-7 from this Extraordinary Session required each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020), and an interim water reduction target by 2015.

Otay WD adopted Method 1 to set its 2015 interim and 2020 water use targets. Method 1 requires setting the 2020 water use target to 80 percent of baseline per capita water use target as provided in the State's 20x2020 Water Conservation Plan. The Otay WD met both the 2015 target of 172 gpcd (2015 actual was 124 gpcd) and its 2020 gpcd target (80 percent of baseline) of 153 gpcd (2020 actual was 108 gpcd). The Otay WD's per capita water use has been declining since before 2015. The decline in per capita water use is due to drought water use restrictions and increased water costs. Otay WD's effective water use awareness campaign and the enhanced conservation mentality of its customers has resulted in long-term carryover of reduced consumption rates.

Based on a normal water supply year, the five-year increments for a 20-year projection indicate projected potable and recycled water supply is being planned for and is intended to be acquired to meet the estimated water demand targets of the Otay WD (37,965 acre-feet (ac-ft) in 2025 to 50,565 ac-ft in 2045) per the Otay WD 2020 UWMP. Based on dry year forecasts, the estimated water supply is also being planned for and is intended to be acquired to meet the projected water demand, during single dry and multiple dry year scenarios. On average, the dry-year demands are about eight percent higher than the normal year demands. The Otay WD recycled water supply is assumed to be drought-proof and not subject to reduction during dry periods.

Together, these findings assess, demonstrate, and document that sufficient water supplies are planned for and are intended to be acquired for the Otay Ranch Town Center Redevelopment project. In addition, the actions necessary to develop these supplies are and will be further documented, to serve the proposed project and the existing and other foreseeable planned development projects within the Otay WD in both normal and single and multiple dry year forecasts for a 20-year planning horizon.

Section 3 - Project Description

The Otay Ranch Town Center Redevelopment project is located in the northwest portion of the existing Otay Ranch Town Center. The Otay Ranch Town Center is located is located on the east side of State Route 12, north of Birch Road, south of Olympic Parkway, and west of Eastlake Parkway.in the County of San Diego. Refer to Appendix A for a vicinity map of the proposed Otay Ranch Town Center Redevelopment project. The project is proposed to be located on 58.49-acres. Although the proposed development is located within the City of Chula Vista and subject to the City of Chula Vista land use jurisdiction, the Otay WD is the potable and recycled water purveyor. The Otay Ranch Town Center Redevelopment project is within the jurisdictions of the Otay WD, the Water Authority, and MWD.

The Otay Ranch Town Center Redevelopment project proposes 15.66 acres would consist of 11.82 acres of mixed-use area, 0.92 acres of park and plaza space, and 2.92 acres of private streets.

The City has discretionary authority on land use decisions for the Otay Ranch Town Center Redevelopment project and can establish actions and/or permit approval requirements. The projected potable water demands associated with the Otay Ranch Town Center Redevelopment Project EIR Addendum has considered the anticipated County discretionary actions and/or permit approvals and are incorporated into and used in this WSA&V Report. The water demands for the proposed Otay Ranch Town Center Redevelopment project are included in the projected water demand estimates provided in Section 5 – Historical and Projected Water Demands.

Section 4 – Otay Water District

The Otay WD is a municipal water district formed in 1956 pursuant to the Municipal Water District Act of 1911 (Water Code §§ 71000 et seq.). The Otay WD joined the Water Authority as a member agency in 1956 to acquire the right to purchase and distribute imported water throughout its service area. The Water Authority is an agency responsible for the wholesale supply of water to its 24 public agency members in San Diego County.

The Otay WD currently meets all its potable demands with imported treated water from the Water Authority. The Water Authority is the agency responsible for the supply of imported water into San Diego County through its membership in MWD. The Water Authority currently obtains about 18% of its imported supply from MWD but is in the process of further diversifying its available supplies.

The Otay WD provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, Otay WD also provides sewage collection and treatment services to a portion of its service area known as the Jamacha Basin. The Otay WD also owns and operates the Ralph W. Chapman Water Reclamation Facility (RWCWRF) which has an effective treatment capacity of 1.2 million gallons per day (mgd) or about 1,300-acre feet per year to produce recycled water. On May 18, 2007, an additional source of recycled water supply of up to 6 mgd, or about 6,720-acre feet per year, became available to Otay WD from the County of San Diego's South Bay Water Reclamation Plant (SBWRP).

The Otay WD jurisdictional area is generally located within the south-central portion of San Diego County and includes approximately 125 square miles. The Otay WD serves portions of the unincorporated communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, and Otay Mesa, the eastern portion of the County of Chula Vista and a portion of the County of San Diego on Otay Mesa. The Otay WD jurisdiction boundaries are roughly bounded on the north by the Padre Dam Municipal Water District, on the northwest by the Helix Water District, and on the west by the South Bay Irrigation District (Sweetwater Authority) and the County of San Diego. The southern boundary of Otay WD is the international border with Mexico.

The planning area addressed in the Otay WD 2015 WFMP Update and the Otay WD 2020 UWMP includes both the land within the jurisdictional boundary of the Otay WD and those areas outside of the present Otay WD boundaries considered to be in the Area of Influence of the Otay WD. Figure 3-1 contained within the Otay WD 2020 UWMP shows the jurisdictional boundary of the Otay WD and the Area of Influence. The planning area is approximately 143 square miles, of which approximately 125 square miles are within the Otay WD current boundaries and approximately 18 square miles are in the Area of Influence. The area east of Otay WD is rural and currently not within any water purveyor jurisdiction and potentially could be served by the Otay WD in the future if the need for imported water becomes necessary, as is the case for the Area of Influence.

The City of Chula Vista, the City of San Diego, and the County of San Diego are the three land use planning agencies within the Otay WD jurisdiction. Forecast data for land use planning, demographics, economic projections, population, and the future rate of growth within Otay WD were obtained from the San Diego Association of Governments (SANDAG). SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information through the year 2050. Population growth within the Otay WD service area is expected to increase from the 2020 figure of 225,870 to an estimated 272,353 by 2045. Land use information used to develop water demand projections are based upon Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, East Otay Mesa Specific Plan Area, San Diego County Community Plans, and County of San Diego, County of Chula Vista, and County of San Diego General Plans.

The Otay WD long-term historic growth rate has been approximately 4 percent. The growth rate had slowed due to economic conditions and is expected to slow as the inventory of

developable land is diminished. The SANDAG forecast shows an average annual growth rate from 2025 through 2045 of approximately 2.5 percent.

Climatic conditions within the Otay WD service area are characteristically Mediterranean near the coast, with mild temperatures year-round. Inland areas are both hotter in summer and cooler in winter, with summer temperatures often exceeding 90 degrees and winter temperatures occasionally dipping to below freezing. Most of the region's rainfall occurs during the months of December through March. Average annual rainfall is approximately 10.08 inches per year.

Urban Water Management Plan

In accordance with the California Urban Water Management Planning Act and recent legislation, the Otay WD Board of Directors adopted an UWMP in June 2021 and subsequently submitted the plan to the California Department of Water Resources (DWR). As required by law, the Otay WD 2020 UWMP includes projected water supplies required to meet future demands through 2045. In accordance with Water Code Section 10910 (c)(2) and Government Code Section 66473.7 (c)(3), information from the Otay WD 2020 UWMP along with supplemental information from the Otay WD WFMP Update have been utilized to prepare this WSA&V Report and are incorporated herein by reference.

The state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session (SBX 7-7) on November 10, 2009, which became effective February 3, 2010. This new law was the water conservation component to the Delta legislation package. The goal of this legislation was to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. Specifically, SBX 7-7 from this Extraordinary Session requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020), and an interim water reduction target by 2015.

Urban retail water suppliers were required to report interim compliance in 2015, followed by actual compliance in 2020. Failure to meet adopted targets would result in the ineligibility of a water supplier to receive grants or loans administered by the State.

Otay WD set its 2015 interim and 2020 water use targets by using the method (Method 1 as detailed in the State's 20x2020 Water Conservation Plan) that required setting the 2020 water use target to 80 percent of baseline per capita water use. The Otay WD met both the 2015 target of 172 gpcd with an actual water use of 124 gpcd and the 2020 target of 153 gpcd with an actual water use of 108 gpcd.

The Otay WD's recent per capita water use has been declining steadily. The decline in per capita water use is due to periods of statewide mandatory water use restrictions, increases in water rates that have further incentivized water conservation efforts, and economic conditions. Otay WD's effective water use awareness campaign and the enhanced conservation mentality of its customers has resulted in long-term carryover of these reduced consumption rates.

Section 5 – Historical and Projected Water Demands

The projected demands for Otay WD are based on Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, the East Otay Mesa Specific Plan Area, San Diego County Community Plans, and County of San Diego, County of Chula Vista, and County of San Diego General Plans. This land use information is also used by SANDAG as the basis for its most recent forecast data. This land use information was utilized for the preparation of the Otay WD 2015 WFMP Update and Otay WD 2020 UWMP to develop the forecasted demands and supply requirements.

In 1994, the Water Authority selected the Institute for Water Resources-Municipal and Industrial Needs (MAIN) computer model to forecast municipal and industrial water use for the San Diego region. The MAIN model uses demographic and economic data to project sector-level water demands (i.e., residential and non-residential demands). This econometric model has over a quarter of a century of practical application and is used by many cities and water agencies throughout the United States. The Water Authority's version of the MAIN model was modified to reflect the San Diego region's unique parameters and is known as CWA-MAIN.

The foundation of the water demand forecast is the underlying demographic and economic projections. This was a primary reason why, in 1992, the Water Authority and SANDAG entered into a Memorandum of Agreement (MOA) in which the Water Authority agreed to use the SANDAG current regional growth forecast for water supply planning purposes. In addition, the MOA recognizes that water supply reliability must be a component of San Diego County's regional growth management strategy required by Proposition C, as passed by the San Diego County voters in 1988. The MOA ensures a strong linkage between local general plan land use forecasts and water demand projections and resulting supply needs for the San Diego region.

The Water Authority projections of future water demand for the Otay WD are prepared using the CWA-MAIN model and use the most recent population forecast data for the Otay WD's service area from SANDAG, the SANDAG Series 14 (Version 17) population projections adopted by SANDAG's Board of Directors on October 25, 2019. SANDAG's demographic forecast is based on U.S. Census data, annual population and housing estimates produced by California Department of Finance and local inputs gathered from the region's 18 incorporated cities and unincorporated county areas. This combination of data provides sufficient information to project future demands and maintain consistency with the Otay WD's wholesale provider.

The municipal and industrial forecast also includes an updated accounting of projected conservation savings. For the Water Authority's 2020 regional demand forecast, conservation water savings were estimated based on long term quantifiable actions. The Alliance for Water Efficiency Water Conservation Tracking Tool (AWE Tool) is listed in the DWR 2020 UWMP Guidebook as an application to assist water purveyors in developing savings estimates (DWR,

2020). This industry standard planning tool was used to provide granular estimates of existing and future "passive" or code-based water savings and "active" savings resulting from the implementation of demand management programs. Key water savings assumptions are derived based on historical program efficiencies, current regional water savings assumptions that serve as the basis for regional incentives, and efficiency estimates by activity type that are contained in the AWE Tool library. Future active conservation savings are set at the 2020 level of conservation program activity moving forward, absent a large-scale turf replacement program and state-mandated water-use reductions. The passive conservation element includes estimated future savings from appliance standards and code changes, as well as savings from the 2015 Model Water Efficient Landscape Ordinance (MWELO; DWR, 2015). An 80% MWELO compliance level was assumed on new residential development and a majority of this savings was assumed to continue over the UWMP planning horizon.

The agricultural sector model equations were developed using data provided by Water Authority member agencies, SANDAG, and County Department of Agricultural Weights and Measures. Variables used in the agricultural model include irrigated acreage in the Water Authority's service area, distribution of acreage among primary crop types, price of water, general macroeconomic conditions, and water requirements by crop type. SANDAG's projection of agricultural land conversions to other land use categories provides the long-term trend in acreage used to forecast agricultural water use. The total agricultural forecast is derived by multiplying projections of future acreage by average water use per acre, which assumes the currently prevailing distribution of crop acreages, long-term normal weather and economic trends, and expected growth in the Water Authority's wholesale water rates.

The Water Authority and MWD update their water demand and supply projections within their jurisdictions utilizing the SANDAG most recent growth forecast to project future water demands. This provides for the important strong link between demand and supply projections to the land use plans of the cities and the county. This provides for consistency between the retail and wholesale agencies water demand projections, thereby ensuring that adequate supplies are and will be planned for the Otay WD existing and future water users. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. The Water Authority and MWD update their demand forecasts based on the SANDAG most recent forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports consistent with Senate Bills 610 and 221 for proposed land use developments that either have pending or proposed annexations into the Otay WD, Water Authority, and MWD or that have revised land use plans than originally anticipated. The Water Authority and MWD's next forecasts and supply planning documents would then capture any increase or decrease in demands caused by annexations or revised land use plans.

In evaluating the availability of sufficient water supply, the Otay Ranch Town Center Redevelopment project proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay WD Board in May 2010. These water supply projects are in

addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the Rancho del Rey Groundwater Well Project and the Otay Mesa Lot 7 Groundwater Well Project. The Water Authority and MWD next forecast and supply planning documents would capture any increase in water supplies resulting from verifiable new water resources developed by the Otay WD.

In addition, MWD's 2020 UWMP identified potential reserve supplies in the supply capability analysis which could be available to meet any unanticipated demands. The Water Authority and MWD's next forecasts and supply planning documents would capture any increase in necessary supply resources resulting from any new water supply resources.

Demand Methodology

The Otay WD water demand projection methodology in the WFMP Update utilizes a component land use approach. This is done by applying representative values of water use to the acreage of each land use type and then aggregating these individual land use demand projections into an overall total demand for the Otay WD. This is the water duty method, and the water duty is the amount of water used in gallons per day per acre per year. This approach is used for all the land use types except residential development where a demand per dwelling unit was applied. In addition, commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are established.

To determine water duties for the various types of land use, the entire water meter database of the Otay WD is utilized and sorted by the appropriate land use types. The metered consumption records are then examined for each of the land uses, and water duties are determined for the various types of residential, commercial, industrial, and institutional land uses. For example, the water duty factors for commercial and industrial land uses are estimated using 1,785 and 893 gallons per day per acre (gpd/acre) respectively. Residential water demand is established based on the same data but computed on a per-dwelling unit basis. This focus is to ensure that, for each of the residential land use categories (very low, low, medium, and high densities), the demand criteria used is adequately represented based upon actual data. This method is used because residential land uses constitute a substantial percentage of the total developable planning area of the Otay WD.

The WFMP Update calculates potable water demand by taking the gross acreage of a site and applying a potable water reduction factor (PWRF), which is intended to represent the percentage of acreage to be served by potable water and that is not served by recycled water for irrigation. For industrial land use, for example, the PWRF is 0.95 (i.e., 95% of the site is assumed to be served by potable water, 5% of the site is assumed to be irrigated with recycled

water, if available). The potable net acreage is then multiplied by the unit demand factor corresponding to its respective land use. This approach is used in the WFMP Update for all the land use types except residential development where a demand per dwelling unit is applied. In addition, commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are allocated.

Otay Water District Projected Demand

By applying the established water duties to the proposed land uses, the projected water demand for the entire Otay WD planning area at ultimate development is determined. Projected water demands for the intervening years were determined using growth rate projections consistent with data obtained from SANDAG and the experience of the Otay WD.

The historical and projected potable water demands for Otay WD are shown in Table 1.

Table 1
Historical and Projected Potable Water Fiscal Year Demands (acre-feet)

Water Use Sectors	2020	2025	2030	2035	2040	2045
Single Family Residential	14,040	16,482	16,619	16,879	17,373	17,920
Multi-Family Residential	3,807	4,101	4,835	5,189	6,010	7,618
Commercial, Industrial & Institutional	4,728	5,129	5,803	6,892	7,990	8,608
Landscape	4,121	4,065	4,600	5,463	6,333	6,823
AFG* – Sunbow II, Ph.3 3	84.7	84.7	84.7	84.7	84.7	84.7
AFG* – ORTC Redevelopment		121	121	121	121	121
Near-term Annexations	1,788	1,788	1,788	1,788	1,788	1,788
Other	1,291	1,900	2,073	2,325	2,273	2,508
Totals	**29,860**	**33,671**	**35,924**	**38,742**	**41,973**	**45,471**

Source: Otay Water District 2020 UWMP.
*Accelerated Forecasted Growth Increment

Otay Ranch Town Center Redevelopment Project Proposed Projected Water Demand

Using the land use demand projection methodology noted above, the projected potable and recycled water demands for the proposed Otay Ranch Town Center Redevelopment project are shown in Table 2 and Table 3, respectively. The projected potable water demand is 212,994 gpd or about 238.6 AFY. The projected recycled water demand is 13,300 gpd or about 14.9 AFY.

Table 2
Otay Ranch Town Center Redevelopment Project
Projected Potable Water Annual Average Demands

Land Use	Gross Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand, GPD
Existing Commercial	71.59	---	1,607 gpd/ac	115,045
MF Residential	11.82	840 DU	170 gpd/DU	142,800
Commercial Retail	3.71	---	1,607 gpd/ac	5,962
TOTAL				**263,807**

Table 3
Otay Ranch Town Center Redevelopment Project
Projected Recycled Water Annual Average Demands

Land Use	Gross Acres	Irrigated Acres	Water Duty Factor	Total Average Water Demand, GPD
Existing Commercial	42.83	4.3	1,900 gpd/ac	8,170
Mixed-Use/MF Residential	11.82	1.8	1,900 gpd/ac	3,420
Park/Plaza	0.92	0.9	1,900 gpd/ac	1,710
TOTAL				**13,300**

5.1 Demand Management (Water-Use Efficiency)

Demand management, or water-use efficiency is a critical part of the Otay WD's 2020 UWMP and its long-term strategy for meeting the water supply needs of its customers. Water conservation is frequently the lowest cost resource available to any water agency. The Otay WD's water conservation program objectives are to:

- Reduce the demand for more expensive, imported water.
- Ensure a reliable water supply.

The Otay WD is committed to reducing the state's water demands, diversifying local water supply, and encouraging its customer to make conservation a way of life. In addition to meeting customer demands during a drought, the Otay WD consistently advocates for state policies and legislation that include supply development and water-use efficiency. The Otay WD continues to work closely with the Water Authority, the Association of California Water Agencies, and other water agencies in the region to ensure that the targets and measures in the State Water Resources Control Board's (SWRCB) long-term framework support a balanced approach and

reflect local water supply investments and conditions.

Water conservation programs are developed and implemented on the premise that water conservation increases the local water supply by reducing the demand on available imported supply. This premise is vital to the optimal utilization of a region's water supply resources. The Otay WD participates in many water conservation programs designed and typically operated on a shared cost-participation program basis among the Water Authority, MWD, and their member agencies. The demands shown in Tables 1 and 2 take into account implementation of water conservation measures within Otay WD.

The Otay WD has implemented water conservation programs and provided services to its customers to promote water-use efficiencies and water savings. As a member of the Water Authority, Otay WD also benefits from regional programs performed on behalf of its member agencies. In partnership with the Water Authority, the County of San Diego, County of San Diego, County of Chula Vista, and developers, the Otay WD water-use efficiency efforts are expected to grow and expand. The resulting savings directly relate to additional available water in the San Diego County region for beneficial use within the Water Authority service area, including the Otay WD.

Water conservation and water-use efficiency measures or programs practiced by the Otay WD include the following:

Supervisory Control and Data Acquisition System

The Otay WD has implemented and operates a Supervisory Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water-flow control supply sources, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of the functions they provide for the Otay WD operations personnel are the ability to monitor the water supply source flow rates, reservoir levels, turn on or off pumping units, etc. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency.

Water Conservation Ordinance

California Water Code Sections 375 et seq. permit public entities, which supply retail water to adopt and enforce a water conservation program to reduce the quantity of water used by the customers, resulting in the conservation of water supplies for that public entity. In 2021, the Otay WD Board of Directors revised the existing water conservation ordinance to reflect the Water Shortage Contingency Plan (WSCP) created in conjunction with the Otay WD's 2020 UWMP.

The Otay WD water conservation ordinance specifies that the conditions prevailing in the San Diego County area require that the available water resources be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented. In addition, the ordinance encourages the conservation of such water with a view to the maximum reasonable and beneficial use thereof in the interests of the people of the Otay WD and for the public welfare.

Otay WD continues to promote water-use efficiency and conservation at community and business events, including those involving developers in its service area. Conservation programs are promoted through outreach at community and business events, bill inserts, articles in the Otay WD's quarterly customer Pipeline newsletter, direct mailings to Otay WD customers, the Otay WD's webpage and social media platforms, and through the Water Authority's marketing efforts. In addition, Otay WD, working with the Water Authority and MWD, manages a number of conservation programs. Listed below are some of the programs available to residential and commercial, industrial and institutional customers:

- Landscape Water Use Evaluations & On-site Irrigation Surveys
- Water Smart Landscape Makeover Program
- Rotating Nozzles Rebates
- Residential Weather-Based Irrigation Controller (WBIC) Rebates
- WaterSmart Contractor Incentive Program
- Agricultural Water Management Program
- Residential High Efficiency Clothes Washers Rebates
- Residential Ultra Low Flow and High Efficiency Toilet Rebates
- School Education Programs - the Otay WD funds school tours of the Water Conservation Garden and school assemblies, co-funds Splash Labs, and maintains school-age-appropriate water-themed books, DVDs, and videos.

Section 6 - Existing and Projected Supplies

The Otay WD currently does not have an independent raw or potable water supply source. The Otay WD is a member public agency of the Water Authority and the Water Authority is a member public agency of MWD. The statutory relationships between the Water Authority and its member agencies, and MWD and its member agencies, respectively, establish the scope of the Otay WD entitlement to water from these two agencies.

The Water Authority currently supplies the Otay WD with 100 percent of its potable water through two delivery pipelines, Pipeline No. 4 of the Second San Diego Aqueduct and the Helix Flume Connection Pipeline. The Water Authority in turn, currently purchases the majority of its water from MWD. Due to the Otay WD reliance on these two agencies, this WSA&V Report includes referenced documents that contain information on the existing and

projected supplies, supply programs, and related projects of the Water Authority and MWD. The Otay WD, Water Authority, and MWD are actively pursuing programs and projects to further diversify their water supply resources.

The description of local recycled water supplies available to the Otay WD is also discussed below.

6.1 Metropolitan Water District of Southern California 2020 Urban Water Management Plan

MWD has prepared its 2020 UWMP which was adopted on May 19, 2021. The 2020 UWMP provides MWD's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities. During the preparation of the 2020 UWMP, MWD utilized the previous SANDAG regional growth forecast in calculating regional water demands for the Water Authority service area.

6.1.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

MWD is a wholesale supplier of water to its member public agencies and obtains its supplies from two primary sources: the Colorado River, via the Colorado River Aqueduct (CRA), which it owns and operates, and Northern California, via the State Water Project (SWP). The 2020 UWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

MWD's IRP identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. MWD's 2015 IRP Update describes an adaptive management strategy to protect the region from future supply shortages. This adaptive management strategy has five components: achieve additional conservation savings, develop additional local water supplies, maintain Colorado River Aqueduct supplies, stabilize State Water Project supplies, and maximize the effectiveness of storage and transfer. MWD's 2015 IRP Update has a plan for identifying and implementing additional resources that expand the ability for MWD to meet future changes and challenges as necessary to ensure future reliability of supplies. The proper management of these resources help to ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

In May, MWD adopted its 2020 UWMP in accordance with state law. The resource targets included in the preceding 2015 IRP Update serve as the foundation for the planning assumptions used in the 2020 UWMP. MWD's 2020 UWMP contains a water supply

reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 20-year period in average, single dry year, and multiple dry year periods. As part of this process, MWD also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in MWD's 2020 UWMP, the plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed in 5 years (2025). The 2020 UWMP includes a "Justifications for Supply Projections" in Appendix A.3, which provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan. A copy of MWD's 2020 UWMP can be found on the internet at the following site address: https://www.mwdh2o.com/how-we-plan/

The UWMP updates for both MWD and the Water Authority include the increase in demand projections included in SANDAG's Series 14 Update and from the projections from Otay WD 2015 WFMP Update.

Water supply agencies throughout California continue to face climate, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current western states drought conditions. These challenges will continue to be present indefinitely. Even with these ongoing challenges, MWD, the Water Authority and the Otay WD fully intend to have sufficient, reliable supplies to serve demands.

6.1.2 MWD Capital Investment Plan

MWD prepares a Capital Investment Plan as part of its annual budget approval process. The cost, purpose, justification, status, progress, etc. of MWD's infrastructure projects to deliver existing and future supplies are documented in the Capital Investment Plan. The financing of these projects is addressed as part of the annual budget approval process.

MWD's Capital Investment Plan includes a series of projects identified from MWD studies of projected water needs, which, when considered along with operational demands on aging facilities and new water quality regulations, identify the capital projects needed to maintain infrastructure reliability and water quality standards, improve efficiency, and provide future cost savings. All projects within the Capital Investment Plan are evaluated against an objective set of criteria to ensure they are aligned with the MWD's goals of supply reliability and quality.

6.2 San Diego County Water Authority Regional Water Supplies

The Water Authority has adopted plans and is taking specific actions to develop adequate water supplies to help meet existing and future water demands within the San Diego region.

This section contains details on the supplies being developed by the Water Authority. A summary of recent actions pertaining to development of these supplies includes:

- In accordance with the Urban Water Management Planning Act, the Water Authority adopted their 2020 UWMP on May 27, 2021. The updated Water Authority 2020 UWMP identifies a diverse mix of local and imported water supplies to meet future demands. A copy of the updated Water Authority 2020 UWMP can be found on the internet at:
  https://www.sdcwa.org/your-water/planning-preparedness/

- As part of the October 2003 Colorado River Quantification Settlement Agreement (QSA), the Water Authority was assigned MWD's rights to 77,700-acre feet per year of conserved water from the All-American Canal (AAC) and Coachella Canal (CC) lining projects. Deliveries of this conserved water from the CC reached the region in 2007 and deliveries from the AAC reached the region in 2010. Expected supplies from the canal lining projects are considered verifiable Water Authority supplies.

- Deliveries of conserved agricultural water from the Imperial Irrigation District (IID) to San Diego County have increased annually since 2003, with 70,000 acre-feet per year of deliveries in Fiscal Year (FY) 2010. The quantities increased annually to 200,000 acre-feet per year through 2021, and then remain fixed for the duration of the transfer agreement.

- Development of seawater desalination in San Diego County assists the region in diversifying its water resources; reduces dependence on imported supplies; and provides a new drought-proof, locally treated water supply. The Carlsbad Desalination Project is a fully operational seawater desalination plant and conveyance pipeline developed by Poseidon, a private investor–owned company that develops water and wastewater infrastructure. The Carlsbad Desalination Project, located near the Carlsbad Energy Center, began commercial operation on December 23, 2015, and can provide a highly reliable local supply of up to 56,000 AF/YR for the region. Of the total Carlsbad Desalination Plant production, Vallecitos Water District has a direct connection and a contract to receive 4,083 AFY. Carlsbad MWD has agreed to a take or pay of 2,500 AFY.

Through implementation of the Water Authority and member agency planned supply projects, along with reliable imported water supplies from MWD, the region anticipates having adequate supplies to meet existing and future water demands.
To ensure sufficient supplies to meet projected growth in the San Diego region, the Water Authority uses the SANDAG most recent regional growth forecast in calculating regional water demands. The SANDAG regional growth forecast is based on the plans and policies of the land-use jurisdictions with San Diego County. The existing and future demands of the member agencies are included in the Water Authority's projections.

6.2.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The Water Authority currently obtains imported supplies from MWD, conserved water from the AAC and CC lining projects, an increasing amount of conserved agricultural water from IID, and desalinated seawater from the Carlsbad desalination plant. The Water Authority is historically the largest purchaser of MWD water. However, as the Water Authority and its member agencies have increased their locally controlled water resources and investments in water use efficiency, the Water Authority's MWD purchases have declined. In fiscal year 2020, the Water Authority purchased 62,852 AF, or about 6%, of all the water MWD sold.

MWD has stated, consistent with Section 4202 of its Administrative Code that it is prepared to provide the Water Authority's service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When additional water resources are required to meet increasing needs, MWD has stated it will be prepared to deliver such supplies. In the Findings Section of its 2020 UWMP, MWD states that it has supply capacities that would be sufficient to meet expected demands from 2025 through 2045. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River, State Water Project, Central Valley storage and transfer programs, local resource projects, and in-region storage that enables the region to meet its water supply needs.

The Water Authority has made large investments in MWD's facilities and will continue to include imported supplies from MWD in the future resource mix. As discussed in the Water Authority's 2020 UWMP, the Water Authority and its member agencies continue the planning to further diversify the San Diego regions supply portfolio and reduce purchases from MWD.

As part of the Water Authority's diversification efforts, the Water Authority is now taking delivery of conserved agricultural water from IID, water saved from the AAC and CC lining projects and desalinated seawater from the Carlsbad desalination plant. Table 4 summarizes the Water Authority's supply sources with detailed information included in the sections to follow. Deliveries from MWD are also included in Table 4, which is further discussed in Section 6.1 above. The Water Authority's member agencies provided the verifiable local supply targets for groundwater, recycled water, potable reuse and surface water, which are discussed in more detail in Section 5 of the Water Authority's 2020 UWMP.

Table 4
Projected Verifiable Water Supplies – Water Authority Service Area
Normal Year (acre feet)[1]

Water Supply Sources	2025	2030	2035	2040	2045
Water Authority Supplies					
MWD Supplies	55,996	53,572	13,625	32,765	49,196
Water Authority/IID Transfer	200,000	200,000	200,000	200,000	200,000
AAC and CC Lining Projects	78,700	78,700	78,700	78,700	78,700
Regional Seawater Desalination	50,000	50,000	50,000	50,000	50,000
Member Agency Supplies					
Surface Water	43,957	43,957	44,659	44,659	44,659
Water Recycling	41,963	45,513	45,628	45,749	45,854
Groundwater	21,900	23,100	23,100	19,600	19,600
Brackish GW Recovery	8,400	8,400	8,400	8,400	8,400
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Potable Reuse	33,042	53,202	112,562	112,562	112,562
San Luis Rey Water Transfers	15,800	15,800	15,800	15,800	15,800
Total Projected Supplies	**555,758**	**578,244**	**598,474**	**614,235**	**630,771**

Source: Water Authority 2020 Urban Water Management Plan – Table 9-1.
[1]Normal water year demands based on 1960-2018 hydrology.

Section 5.6.1 of the Water Authority's 2020 UWMP includes a discussion of the local supply target for seawater desalination. Seawater desalination supplies represent a significant local resource in the Water Authority's service area.

The Carlsbad Desalination Project (Project) is a fully permitted seawater desalination plant and conveyance pipeline designed to provide a highly reliable local supply of up to 56,000 acre-feet (AF) per year for the region. In 2020, the Project accounts for approximately 8% of the total projected regional supply and 30% of all locally generated water in San Diego County. The project became operational in late 2015 and it more than doubles the number of local supplies developed in the region since 1991. The desalination plant itself was fully financed, built, by Poseidon Resources (Channelside) LC. The equity owner of the plant, Orion Water Partners LLC, entered into an agreement to sell its ownership to Aberdeen Standard Investments. Poseidon Water LLC is the Project Manager to perform the management and administrative functions at the plant for the new owner. The Water Authority purchases water from the plant under a water purchase agreement. The new pipeline connecting the desalination plant with the Water Authority's Second Aqueduct is owned and operated by the Water Authority, but Poseidon had the responsibility for design and construction through a separate Design-Build Agreement. The Water Authority was responsible for aqueduct improvements, including the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures, modifications to the San Marcos Vent that allows the flow of water between Pipelines 3 and 4, and improvements at the Twin

Oaks Valley Water Treatment Plant necessary to integrate desalinated water into the Water Authority's system for optimal distribution to member agencies.

The Water Authority's existing and planned supplies from the IID transfer, canal lining, and desalination projects are considered "drought-proof" supplies and should be available at the yields shown in Table 4 in normal water year supply and demand assessment. Single dry year and multiple dry year scenarios are discussed in more detail in Section 9 of the Water Authority's 2020 UWMP.

As part of preparation of a written water supply assessment and/or verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2020 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Integrated Contingency Plan, Emergency Storage Project, and Water Shortage Contingency Plan are taking actions to prepare for and appropriately handle an interruption of water supplies. The Water Authority's Board of Directors approved the Drought Management Plan (DMP) in 2006. The DMP outlined a series of orderly, progressive steps for the Water Authority and its member agencies to take during shortages to minimize impacts to the region's economy and quality of life. It also included an allocation methodology to equitably allocate water supplies to the member agencies. The DMP was first activated in 2007 in response to MWD drawing water from storage to meet demands and deactivated in 2011 when supply conditions improved.

In 2008, the Water Authority's Board approved another drought management document, the Model Drought Response Conservation Program Ordinance. The model ordinance focuses on core water use restrictions and is intended to assist the member agencies when updating or drafting local drought response ordinances. The intent of the model ordinance is to provide regional consistency in drought response levels and messaging to the public and media. Also in 2008, the Water Authority's Board adopted Resolution 2008-11, that established procedures to administer the supply allocation methodology contained in the DMP.

In 2012, the DMP's supply allocation methodology was updated, using lessons from the previous shortage periods, and the DMP was renamed the Water Shortage and Drought Response Plan (WSDRP). In 2014, the WSDRP was activated due to critically dry weather in California and the impact on water supply conditions. It deactivated in 2016 when supply conditions improved.

In each instance when the DMP and WSDRP were activated, a smooth transition into and out of water allocations for the member agencies was possible due to the advanced planning of the Water Authority and its member agencies. Those planning efforts also resulted in an approach that allowed for regional consistency in public drought messaging.

On August 24, 2017, the Water Authority's Board approved proposed revisions of the WSDRP and renamed it the Water Shortage Contingency Plan (WSCP) to align the WSCP

with the framework outlined in the April 2017 Final Report, Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16 in the areas of water use efficiency and shortage response planning. The WSCP continues a proactive and comprehensive approach to shortage response planning for the region. The plan will be reviewed and potentially updated at least every five years in coordination with the preparation of the Water Authority's Urban Water Management Plan, which will include any final requirements approved through legislation implementing the state's framework report.

6.2.1.1 Water Authority-Imperial Irrigation District Water Conservation and Transfer Agreement

The QSA was signed in October 2003 and resolves long-standing disputes regarding priority and use of Colorado River water and creates a baseline for implementing water transfers. With approval of the QSA, the Water Authority and IID were able to implement their Water Conservation and Transfer Agreement. This agreement not only provides reliability for the San Diego region, but also assists California in reducing its use of Colorado River water to its legal allocation.

On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to the Water Authority for use in San Diego County.

Implementation Status

On October 10, 2003, the Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the Transfer Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003. Section 6.2.1, "Colorado River," contains details on the QSA.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of the California Environmental Quality Act (CEQA), the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits were coordinated for trial. The IID, Coachella Valley Water District, MWD, the Water Authority, and state are defending these suits and coordinating to seek validation of the contracts. In January 2010, a California Superior Court judge ruled that the QSA and 11 related agreements were invalid, because one of the agreements created an open-ended financial obligation for the state,

in violation of California's constitution. The QSA parties appealed this decision and on July 2013, a Sacramento Superior Court judge entered a final judgment validating the QSA and rejecting all of the remaining legal challenges. The judge affirmed all of the contested actions, including the adequacy of the environmental documents prepared by the IID. In May 2015, the state Court of Appeal issued a ruling that dismissed all remaining appeals.

Expected Supply

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 acre-feet per year. The Water Authority received increasing amounts of transfer water each year, according to a water delivery schedule contained in the transfer agreement The quantities will increase annually to 200,000 acre feet per year by 2021 then remain fixed for the duration of the transfer agreement. The initial term of the Transfer Agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term.

During dry years, when water availability is low, the conserved water will be transferred under IID's Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks. In recognition for the value of such reliability, the 1998 contract required the Water Authority to pay a premium on transfer water under defined regional shortage circumstances. The shortage premium period duration is the period of consecutive days during which any of the following exist: 1) a Water Authority shortage; 2) a shortage condition for the Lower Colorado River as declared by the Secretary; and 3) a Critical Year. Under terms of the October 2003 amendment, the shortage premium will not be included in the cost formula until Agreement Year 16.

Transportation

The Water Authority entered into a water exchange agreement with MWD on October 10, 2003, to transport the Water Authority–IID transfer water from the Colorado River to San Diego County. Under the exchange agreement, MWD takes delivery of the transfer water through its Colorado River Aqueduct. In exchange, MWD delivers to the Water Authority a like quantity and quality of water. The Water Authority pays MWD's applicable wheeling rate for each acre-foot of exchange water delivered. Under the terms of the water exchange agreement, MWD will make delivery of the transfer water for 35 years, unless the Water Authority and MWD elect to extend the agreement another 10 years for a total of 45 years.

Cost/Financing

The costs associated with the transfer are financed through the Water Authority's rates and charges. In the agreement between the Water Authority and IID, the price for the transfer water started at $258 per acre-feet and increased by a set amount for the first seven years. In December 2009, the Water Authority and IID executed a fifth amendment to the water transfer agreement that sets the price per acre-feet for transfer water for calendar years 2010 through 2015, beginning at $405 per acre-feet in 2010 and increasing to $624 per acre-feet in 2015. For

calendar years 2016 through 2034, the unit price will be adjusted using an agreed-upon index. The amendment also required the Water Authority to pay IID $6 million at the end of calendar year 2009 and another $50 million on or before October 1, 2010, provided that a transfer stoppage is not in effect as a result of a court order in the QSA coordinated cases. Beginning in 2035, either the Water Authority or IID can, if certain criteria are met, elect a market rate price through a formula described in the water transfer agreement.

The October 2003 exchange agreement between MWD and the Water Authority set the initial cost to transport the conserved water at $253 per acre-feet. Thereafter, the price is set to be equal to the charge or charges set by MWD's Board of Directors pursuant to applicable laws and regulation, and generally applicable to the conveyance of water by MWD on behalf of its member agencies.

The Water Authority is providing $10 million to help offset potential socioeconomic impacts associated with temporary land fallowing. IID will credit the Water Authority for these funds during years 16 through 45. In 2007, the Water Authority prepaid IID an additional $10 million for future deliveries of water. IID will credit the Water Authority for this up-front payment during years 16 through 30.

As part of implementation of the QSA and water transfer, the Water Authority also entered into an environmental cost sharing agreement. Under this agreement the Water Authority is contributing a total of $64 million to fund environmental mitigation projects and the Salton Sea Restoration Fund.

Written Contracts or Other Proof

The supply and costs associated with the transfer are based primarily on the following documents:

Agreement for Transfer of Conserved Water by and between IID and the Water Authority (April 29, 1998). This Agreement provides for a market-based transaction in which the Water Authority would pay IID a unit price for agricultural water conserved by IID and transferred to the Water Authority.

Revised Fourth Amendment to Agreement between IID and the Water Authority for Transfer of Conserved Water (October 10, 2003). Consistent with the executed Quantification Settlement Agreement (QSA) and related agreements, the amendments restructure the agreement and modify it to minimize the environmental impacts of the transfer of conserved water to the Water Authority.

Amended and Restated Agreement between MWD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the transfer water to the Water Authority.

Environmental Cost Sharing, Funding, and Habitat Conservation Plan Development Agreement among IID, Coachella Valley Water District (CVWD), and Water Authority (October 10, 2003). This Agreement provides for the specified allocation of QSA-related environmental review, mitigation, and litigation costs for the term of the QSA, and for development of a Habitat Conservation Plan.

Quantification Settlement Agreement Joint Powers Authority Creation and Funding Agreement (October 10, 2003). The purpose of this agreement is to create and fund the QSA Joint Powers Authority and to establish the limits of the funding obligation of CVWD, IID, and Water Authority for environmental mitigation and Salton Sea restoration pursuant to SB 654 (Machado).

Fifth Amendment to Agreement Between Imperial Irrigation District and San Diego County Water Authority for Transfer of Conserved Water (December 21, 2009). This agreement implements a settlement between the Water Authority and IID regarding the base contract price of transferred water.

6.2.1.2 All-American Canal and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority was assigned MWD's rights to 77,700 acre-feet per year of conserved water from projects that will line the All-American Canal (AAC) and Coachella Canal (CC). The projects will reduce the loss of water that currently occurs through seepage, and the conserved water will be delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million acre-feet over the 110-year life of the agreement.

Implementation Status

The CC lining project began in November 2004 and was completed in 2006. Deliveries of conserved water to the Water Authority began in 2007. The project constructed a 37-mile parallel canal adjacent to the CC. The AAC lining project was begun in 2005 and was completed in 2010. The lining project constructed a concrete-lined canal parallel to 24 miles of the existing AAC from Pilot Knob to Drop 3.

In July 2005, a lawsuit (*CDEM v United States,* Case No. CV-S-05-0870-KJD-PAL) was filed in the U. S. District Court for the District of Nevada on behalf of U.S. and Mexican groups challenging the lining of the AAC. The lawsuit, which names the Secretary of the Interior as a defendant, claims that seepage water from the canal belongs to water users in Mexico. California water agencies note that the seepage water is actually part of California's Colorado River allocation and not part of Mexico's allocation. The plaintiffs also allege a failure by the United States to comply with environmental laws. Federal officials have stated that they intend to vigorously defend the case.

Expected Supply

The AAC lining project makes 67,700 acre-feet of Colorado River water per year available for allocation to the Water Authority and San Luis Rey Indian water rights settlement parties. The CC lining project makes 26,000 acre-feet of Colorado River water each year available for allocation. The 2003 Allocation Agreement provides for 16,000 acre-feet per year of conserved canal lining water to be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 77,700 acre-feet per year, is to be available to the Water Authority, with up to an additional 4,850 acre-feet per year available to the Water Authority depending on environmental requirements from the CC lining project. For planning purposes, the Water Authority assumes that 2,500 acre-feet of the 4,850 acre-feet will be available each year for delivery, for a total of 80,200 acre-feet per year of that supply. According to the Allocation Agreement, IID has call rights to a portion (5,000 acre-feet per year) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

Transportation

The October 2003 Exchange Agreement between the Water Authority and MWD provides for the delivery of the conserved water from the canal lining projects. The Water Authority pays MWD's applicable wheeling rate for each acre-foot of exchange water delivered. In the Agreement, MWD will deliver the canal lining water for the term of the Allocation Agreement (110 years).

Cost/Financing

Under California Water Code Section 12560 et seq., the Water Authority received $200 million in state funds for construction of the canal lining projects. In addition, $20 million was made available from Proposition 50 and $36 million from Proposition 84. The Water Authority was responsible for additional expenses above the funds provided by the state.

The rate to be paid to transport the canal lining water will be equal to the charge or charges set by MWD's Board of Directors pursuant to applicable law and regulation and generally applicable to the conveyance of water by MWD on behalf of its member agencies.

In accordance with the Allocation Agreement, the Water Authority is responsible for a portion of the net additional Operation, Maintenance, and Repair (OM&R) costs for the lined canals. Any costs associated with the lining projects as proposed are to be financed through the Water Authority's rates and charges.

Written Contracts or Other Proof

The expected supply and costs associated with the lining projects are based primarily on the following documents:

U.S. Public Law 100-675 (1988). Authorized the Department of the Interior to reduce seepage from the existing earthen AAC and CC. The law provides that conserved water will be made available to specified California contracting water agencies according to established priorities.

California Department of Water Resources - MWD Funding Agreement (2001). Reimburse MWD for project work necessary to construct the lining of the CC in an amount not to exceed $74 million. Modified by First Amendment (2004) to replace MWD with the Authority. Modified by Second Amendment (2004) to increase funding amount to $83.65 million, with addition of funds from Proposition 50.

California Department of Water Resources - IID Funding Agreement (2001). Reimburse IID for project work necessary to construct a lined AAC in an amount not to exceed $126 million.

MWD - CVWD Assignment and Delegation of Design Obligations Agreement (2002). Assigns design of the CC lining project to CVWD.

MWD - CVWD Financial Arrangements Agreement for Design Obligations (2002). Obligates MWD to advance funds to CVWD to cover costs for CC lining project design and CVWD to invoice MWD to permit the Department of Water Resources to be billed for work completed.

Allocation Agreement among the United States of America, The MWD Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the County of Escondido, and Vista Irrigation District (October 10, 2003). This agreement includes assignment of MWD's rights and interest in delivery of 77,700 acre-feet of Colorado River water previously intended to be delivered to MWD to the Water Authority. Allocates water from the AAC and CC lining projects for at least 110 years to the Water Authority, the San Luis Rey Indian Water Rights Settlement Parties, and IID, if it exercises its call rights.

Amended and Restated Agreement between MWD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the conserved canal lining water to the Water Authority.

Agreement between MWD and Water Authority regarding Assignment of Agreements related to the AAC and CC Lining Projects. This agreement was executed in April 2004 and assigns MWD's rights to the Water Authority for agreements that had been executed to facilitate funding and construction of the AAC and CC lining projects:

Assignment and Delegation of Construction Obligations for the Coachella Canal Lining Project under the Department of Water Resources Funding Agreement No. 4600001474 from the San Diego County Water Authority to the Coachella Valley Water District, dated September 8, 2004.

Agreement Regarding the Financial Arrangements between the San Diego County Water Authority and Coachella Valley Water District for the Construction Obligations for the Coachella Canal Lining Project, dated September 8, 2004.

Agreement No. 04-XX-30-W0429 Among the United States Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004.

California Water Code Section 12560 et seq. This Water Code Section provides for $200 million to be appropriated to the Department of Water Resources to help fund the canal lining projects in furtherance of implementing California's Colorado River Water Use Plan.

California Water Code Section 79567. This Water Code Section identifies $20 million as available for appropriation by the California Legislature from the Water Security, Clean Drinking Water, Coastal, and Beach Protection Fund of 2002 (Proposition 50) to DWR for grants for canal lining and related projects necessary to reduce Colorado River water use. According to the Allocation Agreement, it is the intention of the agencies that those funds will be available for use by the Water Authority, IID, or CVWD for the AAC and CC lining projects.

California Public Resources Code Section 75050(b) (1). This section identifies up to $36 million as available for water conservation projects that implement the Allocation Agreement as defined in the Quantification Settlement Agreement.

6.2.1.3 Carlsbad Seawater Desalination Project

Development of seawater desalination in San Diego County has assisted the region in diversifying its water resources, reducing dependence on imported supplies and providing a new drought-proof, locally treated water supply. The Carlsbad Desalination Project is a fully-permitted seawater desalination plant and conveyance pipeline developed by Poseidon, a private investor–owned company that develops water and wastewater infrastructure. The project, located near the Carlsbad Energy Center, has been in development since 1998 and was incorporated into the Water Authority's 2003 Water Facilities Master Plan and the 2020 UWMP. The Carlsbad Desalination Project obtained all required permits and environmental clearances and starting in late 2015 provides a highly reliable local supply of 48,000 to 56,000 acre-feet per year for the region.

Implementation Status

The Project obtained all required permits and environmental clearances, including the following:

- National Pollutant Discharge Elimination System (NPDES) Discharge Permit (Regional Water Quality Control Board)
- Conditional Drinking Water Permit (California Department of Health Services)
- State Lands Commission Lease (State Lands Commission)
- Coastal Development Permit (California Coastal Commission)

IDE Technologies, a worldwide leader in the design, construction, and operation of desalination plants, was the desalination process contractor for the Project.

On July 22, 2010, the Board approved a Term Sheet between the Water Authority and Poseidon Resources that outlined the key terms and conditions that would be detailed and incorporated in a comprehensive Water Purchase Agreement (WPA). Beginning in October 2011 and under the direction of the Board's Carlsbad Desalination Project Advisory Group, staff began developing and negotiating with Poseidon a WPA consistent with the July 22, 2010 Board approved Term Sheet. The July 2010 Term Sheet also identified specific conditions precedent to Board consideration of the WPA.

On November 29, 2012, the Water Authority Board adopted a resolution approving the Design-Build Agreement between the Water Authority and Poseidon. The Design-Build Agreement established the commercial and technical terms for implementation of the desalination product pipeline improvements. These improvements consisted of an approximate 10-mile long, 54-inch diameter conveyance pipeline connecting the Desalination Plant to the Water Authority's Second Aqueduct. The pipeline was generally be constructed within improved streets in commercial and industrial areas in the cities of Carlsbad, Vista, and San Marcos. The Water Authority owns the Project Water Pipeline Improvements and has assumed operational control of all pipeline improvements. This system was placed into service in late 2015.

Expected Supply

The Project provides a highly reliable local supply of 48,000 to 56,000 acre-feet per year of supply for the region, available in both normal and dry hydrologic conditions. The project more than doubles the number of local supplies developed in the region since 1991.

Transportation

On November 29, 2012, the Water Authority Board adopted a resolution approving the Design-Build Agreement between the Water Authority and Poseidon. The Design-Build Agreement establishes the commercial and technical terms for implementation of the desalination product pipeline improvements. These improvements consisted of an approximate 10-mile long, 54-inch diameter conveyance pipeline connecting the Desalination Plant to the Water Authority's Second Aqueduct. The pipeline was generally constructed within improved streets in commercial and industrial areas in the cities of Carlsbad, Vista, and San Marcos. The Water Authority owns the Project Water Pipeline Improvements and has assumed operational control of all pipeline improvements.

The Water Authority was responsible for aqueduct improvements, including the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures, modifications to the San Marcos Vent that allows the flow of water between Pipelines 3 and 4, and improvements at the Twin Oaks Valley Water Treatment Plant necessary to integrate

desalinated water into the Water Authority's system for optimal distribution to member agencies.

Cost/Financing

The plant and the offsite pipeline are financed through tax exempt government bonds issued for the Water Authority by the California Pollution Control Financing Authority (CPCFA). On November 29, 2012, the Water Authority Board adopted a resolution approving agreement to accomplish tax exempt project financing through the CPCFA.
Based on current electricity cost estimates, the Water Purchase Agreement sets the price of the water from the Carlsbad Desalination Project at $2,131 to $2,367 per acre foot in 2016. The Water Authority's water purchase costs would be financed through Water Authority rates and charges. Poseidon is financing the capital cost of the Project with a combination of private equity and tax-exempt Private Activity Bonds.

Written Contracts or Other Proof

The expected supply and costs associated with the Carlsbad Desalination Project are based primarily on the following documents:

Development Agreement between County of Carlsbad and Poseidon (October 2009). A Development Agreement between Carlsbad and Poseidon was executed on October 5, 2009

Agreement of Term Sheet between the Water Authority and Poseidon Resources (July 2010). The Water Authority approved the Term Sheet at its July 2010 Board Meeting. The Term Sheet outlines the terms and conditions of a future Water Purchase Agreement with Poseidon and allocates the resources to prepare the draft Water Purchase Agreement.

6.2.2 Water Authority Capital Improvement Program and Financial Information

The Water Authority's Capital Improvement Program (CIP) can trace its beginnings to a 1989 report approved by the Water Authority Board (Board) entitled The Water Distribution Plan, a Capital Improvement Program through the Year 2010 (Water Distribution Plan) (Water Authority Board, 1989). The Water Distribution Plan included 10 projects designed to increase the capacity of the aqueduct system, increase the yield from existing water treatment plants, obtain additional supplies from Metropolitan, and increase the reliability and flexibility of the aqueduct system. Since that time, the Water Authority has made numerous additions to the list of projects included in its CIP as the region's infrastructure needs and water supply outlook have changed.

The current list of projects included in the CIP is based on the results of planning studies, including the 2020 UWMP and the 2013 Regional Water Facilities Master Plan Update. These CIP projects, which are most recently described in the Water Authority's General

Manager's Adopted Multi-Year Budget, Fiscal Years 2020 and 2021 (Water Authority, 2020a), include 34 projects valued at $1.99 billion. These 34 CIP projects are designed to meet projected water supply and delivery needs of the member agencies through 2035.

These CIP projects are grouped into the following categories:

Asset Management - The Water Authority's emphasis has transitioned from a large-scale capital-intensive program to an operations-based organization with a focus on effective asset management. The primary components of asset management projects include the relining and replacement of existing pipelines, and infrastructure rehabilitation of aging facilities.

New Facilities - These projects include completion of new facilities to diversify the Water Authority's source of water for the region (e.g., the Carlsbad Desalination Plant and Colorado River Canal Lining and Water Transfer Mitigation) as well as new facilities that enhance operations of the Water Authority's existing aqueduct system.

Emergency Storage Program - These projects include improvements to both the First and Second Aqueducts in north San Diego County, are required to address delivery capabilities related to the ESP, and include the ESP–North County Pump Stations, ESP–Post Construction Activities, and ESP–Owner Controlled Insurance Program Closeout.

Master Planning and Studies - These are near-term projects are identified in the Master Plan Update and are added to the CIP for further study to address untreated water capacity constraints and operational flexibility, building out the final ESP phase (including upgrades to the San Vicente Pump Station to add a third pump drive and additional power), adding system isolation valves for more efficient operation of the aqueduct system, and performing various planning studies study to explore potential energy production projects

Other - These projects include the implementing the Mitigation Program that will provide coordinated permitting and mitigation for environmental impacts resulting from the construction, operation, and maintenance of CIP projects, replacing the Water Authority's Headquarters building roof, implementing a new water billing system

Long Range Forecast Projects — These projects are those outside of the Water Authority's current planning horizon window.

As a result of the Water Authority's Asset Management Program inspection and monitoring, CIP prioritization, and other planning studies, the CIP is revised every two years as part of the biennial budget setting process.

6.3 Otay Water District

The Otay WD 2015 WFMP Update and the 2020 UWMP contain comparisons of projected supply and demands through the year 2045. Projected potable water resources to meet

planned demands will be supplied entirely with imported water received from the Water Authority. Recycled water resources to meet projected demands will be supplied from local wastewater treatment plants. The Otay WD currently has no local supply of raw water, potable water, or groundwater.

The development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD has evolved and may occur in response to regional water supply issues. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are not currently developed and are in various stages of the planning process. These local and regional water supply projects would allow for less reliance upon imported water and are considered a new water supply resource for the Otay WD. The supply forecasts contained within this WSA&V Report consider development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD.

6.3.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The availability of sufficient potable water supplies and plans for acquiring additional potable water supplies to serve existing and future demands of the Otay WD is founded upon the preceding discussions regarding MWD's and the Water Authority's water supply resources and water supplies to be acquired by the Otay WD. Historic imported water deliveries from the Water Authority to Otay WD and recycled water deliveries from the Otay WD Ralph W. Chapman Water Reclamation Facility (RWCWRF) are shown in Table 5. Since the year 2000 through mid-May 2007, recycled water demand exceeded recycled water supply capability, most often in the summer months. The RWCWRF is limited to a maximum production of about 1,300 acre-feet per year. This recycled water supply shortfall had been met by supplementing with potable water into the recycled water storage system as needed. On May 18, 2007 an additional source of recycled water supply from the City of San Diego's South Bay Water Reclamation Plant (SBWRP) became available. The ability to obtain recycled water from the SBWRP is a result of the construction and operation of the transmission, storage, and pump station systems necessary to link the SBWRP recycled water supply source to the existing Otay WD recycled water system.

Table 5
Otay Water District
Historic Imported and Local Water Supplies

Calendar Year	Imported Water (acre-feet)	Recycled Water (acre-feet)	Total (acre-feet)
1990	23,200	0	23,200
1995	20,922	614	21,536
2000	29,901	948	30,849
2005	37,678	1,227	38,905
2010	29,270	4,090	33,270
2015	26,494	3,777	30,271
2016	27,289	3,888	31,177
2017	28,045	4,007	32,052
2018	29,608	4,218	33,826
2019	27,386	3,357	30,743
2020	27,448	3,333	30,781
2021	30,126	4,131	34,257

Source: Otay Water District operational records.

6.3.1.1 Imported and Regional Supplies

The availability of sufficient imported and regional potable water supplies to serve existing and planned uses within Otay WD is demonstrated in the above discussion on MWD and the Water Authority's water supply reliability. The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions.

Potable Water System Facilities

The Otay WD continues to pursue diversification of its water supply resources to increase reliability and flexibility. The Otay WD also continues to plan, design, and construct potable water system facilities to obtain these supplies and to distribute potable water to meet customer demands. The Otay WD has successfully negotiated two water supply diversification agreements that enhance reliability and flexibility, which are briefly described as follows.

- The Otay WD entered into an agreement with the City of San Diego, known as the Otay Water Treatment Plant (WTP) Agreement. The Otay WTP Agreement provides for raw water purchase from the Water Authority and treatment by the City of San Diego at their

Otay WTP for delivery to Otay WD. The supply system link to implement the Otay WTP Agreement to access the regions raw water supply system and the local water treatment plant became fully operational in August 2005. This supply link consists of the typical storage, transmission, pumping, flow measurement, and appurtenances to receive and transport the treated water to the Otay WD system. The City of San Diego obligation to supply 10 mgd of treated water under the Otay WTP Agreement is contingent upon the availability of 10 mgd of surplus treatment capacity in the Otay WTP until such time as Otay WD pays the City of San Diego to expand the Otay WTP to meet Otay WD future needs. In the event that the City of San Diego's surplus is projected to be less than 10 mgd the City of San Diego will consider and not unreasonably refuse the expansion of the Otay WTP to meet the Otay WD future needs. The Otay WTP existing rated capacity is 40 mgd with an actual effective capacity of approximately 34 mgd. The City of San Diego's typical demand for treated water from the Otay WTP is approximately 20 mgd. It is at the City of San Diego's discretion to utilize either imported raw water delivered by the Water Authority Pipeline No. 3 or local water stored in Lower Otay Reservoir for treatment to supply the Otay WD demand.

The Otay WD entered into an agreement with the Water Authority, known as the East County Regional Treated Water Improvement Program (ECRTWIP Agreement). The ECRTWIP Agreement provides for transmission of raw water to the Helix Water District R. M. Levy WTP for treatment and delivery to Otay WD. The supply system link to implement the ECRTWIP Agreement is complete, allowing access to the regions raw water supply system and the local water treatment plant. This supply link consists of the typical transmission, pumping, storage, flow control, and appurtenances to receive and transport the potable water from the R. M. Levy WTP to Otay WD.

Cost and Financing

The capital improvement costs associated with water supply and delivery are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD potable water sales revenue are used to pay for the wholesale cost of the treated water supply and the operating and maintenance expenses of the potable water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of treated water from the Otay WTP and the R.M. Levy WTP is based on the following documents.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District. The Otay WD entered into an agreement dated January 11, 1999 with the City of San Diego that provides for 10 mgd of surplus treated water to the Otay WD from the existing Otay WTP capacity. The agreement allows for the purchase of treated water on an as available basis from the Otay WTP. The Otay WD pays the Water Authority at the prevailing raw water rate for raw water and pays the City of San Diego at a rate equal to the actual cost of treatment to potable water standards.

Agreement between the San Diego County Water Authority and Otay Water District Regarding Implementation of the East County Regional Treated Water Improvement Program. The ECRTWIP Agreement requires the purchase of potable water from the Helix WD R.M. Levy WTP at the prevailing Water Authority treated water rate. The ECRTWIP Agreement is dated April 27, 2006.

The City of San Diego and the Helix Water District are required to meet all applicable federal, state, and local health and water quality requirements for the potable water produced at the Otay WTP and the R.M. Levy WTP respectively.

6.3.1.2 Recycled Water Supplies

Wastewater collection, treatment, and disposal services provided by the Otay WD is limited to a relatively small area within what is known as the Jamacha Basin, located within the Middle Sweetwater River Basin watershed upstream of the Sweetwater Reservoir and downstream of Loveland Reservoir. Water reclamation is defined as the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse. The Otay WD owns and operates the Ralph W. Chapman Water Reclamation Facility, which produces recycled water treated to a tertiary level for landscape irrigation purposes. The recycled water market area of the Otay WD is located primarily within the eastern area of the County of Chula Vista. The Otay WD distributes recycled water to a substantial market area that includes but is not limited to the Elite Athlete Training Center, the Eastlake Golf Course, Otay Ranch, and other development projects.

The Otay WD projects that annual average demands for recycled water will increase to 5,300 acre-feet per year by 2050. About 1,300 acre-feet per year of supply is generated by the RWCWRF, with the remainder to be supplied to Otay WD by the City of San Diego's SBWRP.

Recycled Water System Facilities

The Otay WD has constructed recycled water storage, pumping, transmission, and distribution facilities and will continue to construct these facilities to meet projected recycled water market demands. The Supply Link project consisting of a transmission main, storage reservoir, and a pump station to receive and transport the recycled water from the City of San Diego's SBWRP was completed in 2007 and recycled water deliveries began on May 18, 2007.

Cost and Financing

The capital improvement costs associated with the recycled water supply and distribution systems are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD recycled water sales revenue, along with MWD and the Water Authority's recycled water sales incentive programs are used to help offset the costs for the wholesale

purchase and production of the recycled water supply, the operating and maintenance expenses, and the capital costs of the recycled water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of recycled water from the SBWRP is based on the following document.

Agreement between the Otay Water District and the County of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant. The agreement provides for the purchase of at least 6,721 acre-feet per year of recycled water from the SBWRP at an initial price of $350 per acre-foot. The Otay Water District Board of Directors approved the final agreement on June 4, 2003 and the San Diego City Council approved the final agreement on October 20, 2003. Effective January 1, 2016, the City of San Diego raised the cost of recycled water 116% to $754 per acre-foot.

Federal, State, and Local Permits/Approvals

The Otay WD has in place an agreement with MWD for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. Also, the Otay WD has in place an agreement with the Water Authority for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. The Water Authority sales incentive agreement was approved by Water Authority on July 26, 2007 and by Otay WD on August 1, 2007. All permits for the construction of the recycled water facilities to receive, store, and pump the SBWRP supply have been acquired through the typical planning, environmental approval, design, and construction processes.

The California Regional Water Quality Control Board San Diego Region (RWQCB) "Master Reclamation Permit for Otay Water District Ralph W. Chapman Reclamation Facility" was adopted on May 9, 2007 (Order No. R9-2007-0038). This order establishes master reclamation requirements for the production, distribution, and use of recycled water in the Otay WD service area. The order includes the use of tertiary treated water produced and received from the City of San Diego's SBWRP. Recycled water received from and produced by the SBWRP is regulated by Regional Board Order No. 2000-203 and addenda. The City of San Diego is required to meet all applicable federal, state, and local health and water quality requirements for the recycled water produced at the SBWRP and delivered to Otay WD in conformance with Order No. 2000-203.

6.3.1.3 Potential Groundwater Supplies

The Otay WD 2015 WFMP Update, 2020 UWMP, and the 2015 Integrated Water Resources Plan Update all contain a description of the development of potential groundwater supplies. Over the past several years, Otay WD has studied several potential groundwater supply options that have shown, through groundwater monitoring well activities, poor quality water and/or insufficient yield from the basins at a cost-effective level. Local Otay WD

groundwater supply development is considered to be a viable water supply resource to meet projected demands.

Local ground water supply projects will allow for less reliance upon imported water, achieve a level of independence of the regional wholesale water agencies, and diversify the Otay WD water supply portfolio consistent with the Otay WD 2015 IRP Update.

In recognition of the need to develop sufficient alternative water supplies, the Otay WD has taken the appropriate next steps towards development of production groundwater well projects.

Middle Sweetwater River Basin Groundwater Well

The Middle Sweetwater River Basin Groundwater Well is a water supply project that was thoroughly studied and documented in the 1990s. The Middle Sweetwater River Basin is located within the Sweetwater River watershed and that reach of the river extends from Sweetwater Reservoir to the upstream Loveland Reservoir. The next step in development of the Middle Sweetwater River Basin Groundwater Well is the implementation of a pilot well project. The ultimate objective of the Otay WD is to develop a groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of potable water as a local supply.

The groundwater conjunctive use concept is described as the extraction of the quantity of water from the groundwater basin that was placed there by customers of the Otay WD, Helix Water District, and Padre Dam Municipal Water District by means of their use of imported treated water that contributed to the overall volume of groundwater within the basin. A future scope of work will need to address this concept while considering further development of the groundwater basin as an additional supply resource. If it is deemed that the Middle Sweetwater River Basin Groundwater Well Production Project is viable, an engineering consultant will develop a project implementation plan, cost estimate, and related scope of work.

Further development of the groundwater basin to enhance the total groundwater production could be accomplished by the Otay WD by means of additional extraction of water from the basin that is placed there by means of either injection and/or spreading basins using imported untreated water as the resource supply. The existing La Mesa Sweetwater Extension Pipeline, owned by the Water Authority, once converted to an untreated water delivery system, could be the conveyance system to transport untreated water for groundwater recharge in support of this conjunctive use concept. These two distinct water resource supply conjunctive use concepts will be addressed so they may coexist and to allow for their development as separate phases.

The primary desired outcome of the Middle Sweetwater River Basin Groundwater Well Pilot Project is to determine if it is financially prudent and physically feasible to develop a Phase I

groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of up to 1,500 ac-ft/yr of potable water for the Otay WD.

Rancho del Rey Well Groundwater Well Project

In 1991, the McMillin Development Company drilled the Rancho del Rey Groundwater Well to augment grading water supplies for their Rancho del Rey development projects. Although the well was considered a "good producer," little was known regarding its water quality and sustainable yield because the water was used solely for earthwork (i.e., dust control and soil compaction). The well was drilled to 865 feet, with a finished depth of 830 feet and produced approximately 400 AFY of low-quality water for four years until its use was discontinued in April 1995. The McMillin Company notified the Otay WD of its intent to sell the groundwater well asset.

In 1997, the Otay WD purchased the existing 7-inch well and the surrounding property on Rancho del Rey Parkway from the McMillin Company with the intent to develop it as a source of potable water. Water treatment would be required to remove salts and boron, among other constituents, using reverse osmosis membranes and ion exchange.

In 2000, having received proposals for the design and construction of a reverse osmosis treatment facility that far exceeded the allocated budget, the Board of Directors instructed staff to suspend the project until such time as it became economically viable.

In January 2010, citing the rising cost of imported water and the Otay WD's interest in securing its own water source for long-term supply reliability, the Board authorized Phase 1 for drilling and development of the Rancho del Rey Well.

On March 3, 2010, the Board adopted the Mitigated Negative Declaration for this project and a Notice of Determination was filed with the County of San Diego on March 5, 2010. In September 2010, a new 12-inch production well was drilled to a depth of 900 feet through the groundwater formation and into fractured bedrock. Testing showed the long-term yield of the new well to be 450 gpm, higher than previous studies had estimated. Separation Processes, Inc. (SPI), a highly qualified membrane treatment firm, was hired to conduct a detailed economic feasibility study to confirm that the annualized unit cost of the new water source was economically competitive with other sources. The economic study estimated the unit cost of water to be $1,500 to $2,000 per AF for an alternative that utilizes a seawater membrane for treating both salts and boron. When compared with the current imported treated water rate from the Water Authority, and the knowledge that this rate will continually increase as MWD and the Water Authority raise potable water rates, the Rancho del Rey Well project has potential to be economically viable.

The Otay WD may pursue the Rancho del Rey groundwater well opportunity in the future for the development of a groundwater well production facility to extract approximately 500 AFY.

For water planning purposes, production of groundwater from the Rancho del Rey well is considered "additional planned" for local supplies.

Otay Mesa Lot 7 Groundwater Well

In early 2001 the Otay WD was approached by a landowner representative about possible interest in purchasing an existing well or alternatively, acquiring groundwater supplied from a well located on Otay Mesa. The landowner, National Enterprises, Inc., indicated that the well could produce 3,200 acre-feet per year with little or no treatment required prior to introducing the water into the Otay WD potable water system or alternatively, the recycled water system. In March 2001 authorization to proceed with testing of the Otay Mesa Lot 7 Groundwater Well was obtained and the Otay WD proceeded with the investigation of this potential groundwater supply opportunity.

In May 2001, Geoscience Support Services, Inc. completed the preparation of a report entitled, "Otay Mesa Lot 7 Well Investigation," to assess the Otay Mesa Lot 7 Well. The scope of work included a geohydrologic evaluation of the well, analysis of the water quality samples, management and review of the well video log, and documentation of well pump testing. The primary findings, as documented in the report, formed the basis of the following recommendations:

- For the existing well to be used as a potable water supply resource, a sanitary seal must be installed in accordance with the CDPH guidelines.
- Drawdown in the well must be limited to avoid the possibility of collapsing the casing.
- Recover from drawdown from pumping is slow and extraction would need to be terminated for up to 2 days to allow for groundwater level recovery.
- The well water would need to be treated and/or blended with potable water prior to introduction into the potable water distribution system.

The existing Otay Mesa Lot 7 Well, based upon the above findings, was determined not to be a reliable municipal supply of potable water and that better water quality and quantity perhaps could be discovered deeper or at an alternative location within the San Diego Formation.

The Otay WD may still pursue the Otay Mesa groundwater well opportunity in the future. Based on the recommendations of the investigation report, a groundwater well production facility at Otay Mesa Lot 7 could extract approximately 300 acre-feet per year.

6.3.2 Otay Water District Capital Improvement Program

The Otay WD plans, designs, constructs, and operates water system facilities to acquire sufficient supplies to meet projected ultimate demands for potable and recycled water. In addition, the Otay WD forecasts and plans for water supplies to meet projected demands at ultimate build out. The necessary water facilities and water supply projects are implemented and constructed when development activities proceed and require timely and adequate cost-effective potable and recycled water service.

New water facilities that are required to accommodate forecasted growth within the Otay WD service area are defined and described within the Otay WD 2015 WFMP Update. These new facilities are incorporated into the annual Otay WD Six Year Capital Improvement Program (CIP) for implementation to support development activities. As major development plans are formulated and proceed through the land use jurisdictional agency approval processes, Otay WD prepares water system requirements specifically for the proposed development project consistent with the Otay WD WFMP Update. These requirements document, define, and describe all the potable water and recycled water system facilities needed to be constructed to provide an acceptable and adequate level of service for the proposed land uses. The financial responsibility of the facilities required for service are also included. The Otay WD funds the facilities identified as CIP projects. Established water meter capacity fees and user rates are collected to fund the CIP project facilities. The developer funds all other required water system facilities to provide water service to their project.

Section 7 – Conclusion: Availability of Sufficient Supplies

The Otay Ranch Town Center Redevelopment project is currently located within the jurisdictions of the Otay WD, Water Authority, and MWD. To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and MWD to utilize imported water supply.

The Water Authority and MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the SANDAG updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions with land use authority may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, or MWD jurisdictions (i.e., pending or proposed annexations) or that have revised land use plans with either lower or higher development intensities than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations, or revised land use plans, typically result in creating higher demand and supply requirements than previously anticipated. The Otay WD, Water Authority, and MWD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

MWD's IRP identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2015 IRP Update describes an adaptive management strategy to protect the region from future supply shortages. This

adaptive management strategy has five components: achieve additional conservation savings, develop additional local water supplies, maintain Colorado River Aqueduct supplies, stabilize State Water Project supplies, and maximize the effectiveness of storage and transfer. MWD's 2015 IRP has a plan for identifying and implementing additional resources that expand the ability for MWD to meet future changes and challenges as necessary to ensure future reliability of supplies. The proper management of these resources help to ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

MWD adopted its 2020 UWMP, in accordance with state law, on May 19, 2021. The resource targets included in the preceding 2015 IRP Update serve as the foundation for the planning assumptions used in the 2020 UWMP. MWD's 2020 UWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 20-year period in average, single dry year, and multiple dry year periods. As part of this process, MWD also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in MWD's 2020 UWMP, the plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed in 5 years (2025). The 2020 UWMP includes a "Justifications for Supply Projections" in Appendix A.3, which provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan.

In the Findings Section of the Executive Summary of their 2020 UWMP, MWD states that MWD has supply capacities that would be sufficient to meet expected demands from 2025 through 2045 under the single dry-year and multiple dry-year conditions. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. MWD's 2020 UWMP identifies potential reserve supplies in the supply capability analysis which could be available to meet the unanticipated demands.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2020 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Integrated Contingency Plan, Emergency Storage Project, Carlsbad Desalination Project, and Water Shortage Contingency Plan are taking actions to prepare for and appropriately handle an interruption of water supplies. The 2020 Water Shortage Contingency Plan provides the Water Authority and its member agencies with a series of potential actions to take when faced

with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

The WSA&V Report identifies and describes the processes by which water demand projections for the proposed Otay Ranch Town Center Redevelopment project will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and MWD. Water supplies necessary to serve the demands of the proposed Otay Ranch Town Center Redevelopment project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Otay Ranch Town Center Redevelopment project WSA&V Report and will be included in the future water supply planning documents of the Water Authority and MWD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Otay Ranch Town Center Redevelopment project. This WSA&V Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed Otay Ranch Town Center Redevelopment project and the existing and other planned development projects to be served by the Otay WD.

Table 6 presents the forecasted balance of water demands and required supplies for the Otay WD service area under average or normal year conditions. These numbers are taken from Otay WD's 2020 UWMP.

Table 6
Projected Balance of Water Demands and Supplies Normal Year Conditions (acre feet)

Description	FY 2025	FY 2030	FY 2035	FY 2040	FY 2045
Demands					
Otay WD Demands	37,953	40,261	43,185	47,013	50,505
Active Conservation Savings	(2,731)	(2,351)	(2,285)	(2,333)	(1,984)
Passive Conservation Savings	(1,757)	(2,192)	(2,364)	(2,707)	(3,050)
AFG – Sunbow II, Phase 3	84.7	84.7	84.7	84.7	84.7
AFG – ORTC Redevelopment	121	121	121	121	121
Total Demand	33,671	35,924	38,742	41,973	45,471
Supplies					
Water Authority Supply	29,171	30,924	33,642	36,773	40,171
Recycled Water Supply	4,500	5,000	5,100	5,200	5,300
Total Supply	33,671	35,924	38,742	41,973	45,471
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**

Table 7 presents the forecasted balance of water demands and supplies for the Otay WD service area under single dry and multiple dry year conditions. Hot, dry weather may generate urban water demands that are about 7-8% percent greater than normal. The recycled water supplies are assumed to be unchanged in a dry year.

Table 7
Projected Balance of Water Demands and Supplies
Single Dry and Multiple Dry Year Conditions (acre feet)

	Normal Year	Single Dry Year	Multiple Dry Years		
	FY 2022	First Dry Year	First Dry Year	Second Dry Year	Third Dry Year
Demands					
Otay WD Demands	33,527	35,714	36,010	37,988	38,781
Total Demand	33,527	35,714	36,010	37,988	38,781
Supplies					
Water Authority Supply	29,639	31,714	32,010	33,788	34,381
Recycled Water Supply	3,888	4,000	4,000	4,200	4,400
Total Supply	33,527	35,714	36,010	37,988	38,781
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**
The Water Authority could implement its WSCP. In this instance, the Water Authority may have to allocate supply shortages based on its equitable allocation methodology in its WSCP.					

Dry year demands assumed to generate a 7% increase in demand over normal conditions for a single dry year. For multiple dry years an 8% increase in demand over normal conditions is projected in the first year, 14% in the second year and a 16% increase in the third dry year in addition to new demand growth.

In evaluating the availability of sufficient water supply, the Otay Ranch Town Center Redevelopment project development proponents will be required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay WD Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These new additional water supply projects are not currently developed and are in various stages of the planning process. The Otay WD water supply development program includes but is not limited to projects such as the Middle Sweetwater River Basin Groundwater Well project and the Rancho del Rey Well Groundwater Well Project. The Water Authority and MWD's next forecasts and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

The Otay WD acknowledges the ever-present challenge of balancing water supply with demand and the inherent need to possess a flexible and adaptable water supply implementation strategy that can be relied upon during normal and dry weather conditions. The responsible regional water supply agencies have and will continue to adapt their resource plans and strategies to meet climate, environmental, and legal challenges so that they may continue to provide water supplies to their service areas. The regional water suppliers along with Otay WD fully intend to maintain sufficient reliable supplies through the 20-year planning horizon under normal, single, and multiple dry year conditions to meet the projected demand of the Otay Ranch Town Center Redevelopment project, along with existing and other planned development projects within the Otay WD service area.

This WSA&V Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be acquired, as well as the actions necessary and status to develop these supplies, to meet projected water demands of the Otay Ranch Town Center Redevelopment project as well as existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal and in single and multiple dry years.

Source Documents

Otay Ranch Town Center Redevelopment SB 610 and SB 221 Compliance request letter received Jan. 19, 2023.

Otay Water District, "Otay Water District 2020 Urban Water Management Plan Update", May 2021.

CH2M and Otay Water District, "Otay Water District 2015 Urban Water Management Plan Update", May 2016.

Carollo and Otay Water District, 2015 Integrated Water Resources Plan Update, June 2015.

San Diego County Water Authority, "Final 2020 Urban Water Management Plan, May 2021.

MWD Water District of Southern California, "2020 Urban Water Management Plan," May 2021.

NBS Lowry, "Middle Sweetwater River System Study Water Resources Audit," June 1991.

Michael R. Welch, "Middle Sweetwater River System Study Alternatives Evaluation," May 1993.

Michael R. Welch, "Middle Sweetwater River Basin Conjunctive Use Alternatives," September 1994.

Geoscience Support Services, Inc., "Otay Mesa Lot 7 Well Investigation," May 2001.

Boyle Engineering Corporation, "Groundwater Treatment Feasibility Study Ranch del Rey Well Site," September 1996.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the County of San Diego and the Otay Water District.

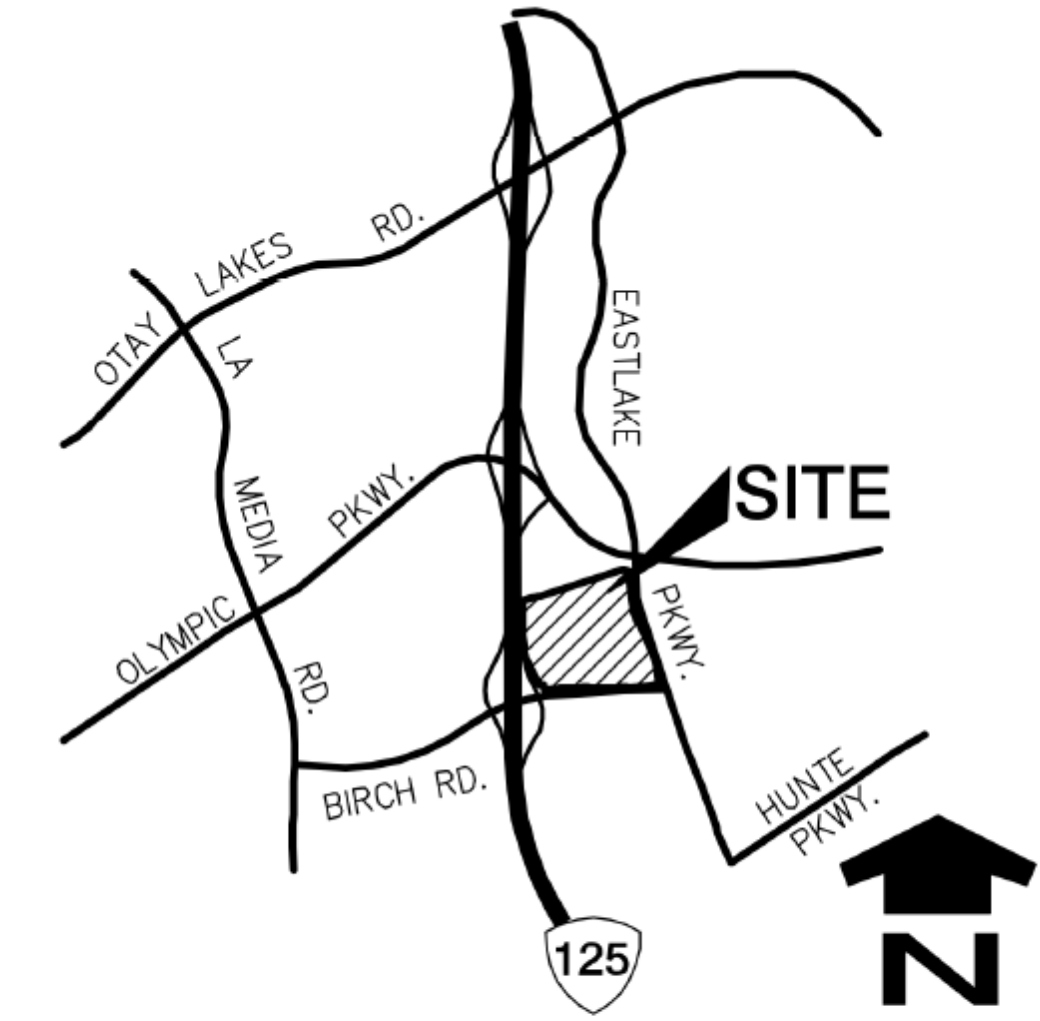
Agreement between the San Diego County Water Authority and Otay Water District regarding Implementation of the East County Regional Treated Water Improvement Program.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification.

Agreement between the Otay Water District and the County of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant.

Appendix A

Otay Ranch Town Center Redevelopment Project Vicinity Map



VICINITY MAP

NOT TO SCALE

Appendix B

Otay Ranch Town Center Redevelopment Project Development Plan

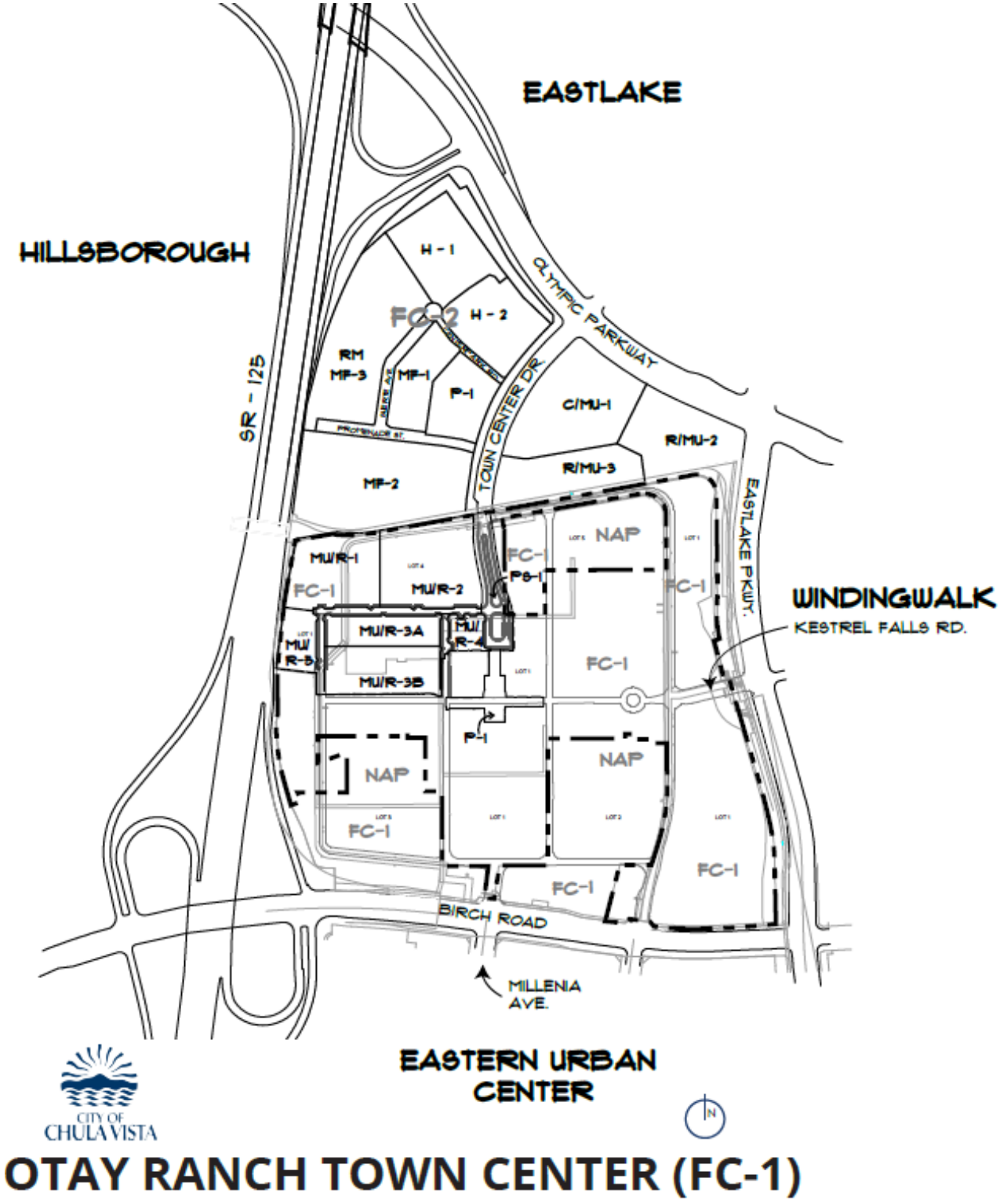


EXHIBIT C

Otay Water District
Board of Directors Meeting
March 1, 2023

Water Supply Assessment & Verification Report

for the

City of Chula Vista
Otay Ranch Town Center Redevelopment Project

SB 610 & SB 221 Compliance

BACKGROUND

- Senate Bills 610 and 221, effective on 1/1/2002, with the intent to improve the link between water supply availability and land use decisions.
- SB 610 requires a Water Supply Assessment (WSA) and SB 221 requires a Water Supply Assessment & Verification (WSA&V) to be included in the CEQA documents for a project.
- Board approval required for submittal of the WSA&V Report to the City of Chula Vista.

City of Chula Vista Otay Ranch Town Center Redevelopment Project

- The project is the redevelopment 58.49 acres of the existing Otay Ranch Town Center.
- The existing land use of the Otay Ranch Town Center is designated commercial and will need to be rezoned to accommodate a proposed residential component.
- The City has received an entitlement application for an amendment to the Otay Ranch General Development Plan, a Freeway Commercial Sectional Planning Area Amendment, and a tentative map to subdivide the property.
- The City is preparing an EIR addendum for the project that will include the WSA&V report.

Project Description

The existing Otay Ranch Town Center site includes five lots (Lots 1, 2, 3, 4, and 5) on approximately 87.25 acres.

The project proposes to redevelop the northwest portion of Lots 1 and 4 which make up 58.49 acres of the overall site with a total of 15.66 acres affected by redevelopment.

The redevelopment would add 840 residential units, a park, and plaza space, and rebuild, as ground-floor commercial, approximately 37,200 square-feet of commercial space.

The proposed footprint of 15.66 acres would consist of 11.82 acres of mixed-use area, 0.92 acres of park and plaza space, and 2.92 acres of private streets.

Potable & Recycled Water Demand

- Expected potable water demand is 263,807 gallons per day or 295.5 acre-feet per year (AFY).
- Original projected demands for this project in the District's 2015 Water Facilities Master Plan was 174.5 AFY for commercial use.
- The 121 AFY increase will be accounted for through the Accelerated Forecasted Growth demand increment of the County Water Authority's 2020 Urban Water Management Plan.

- The project will use recycled water for irrigation of landscaped common areas and the park and plaza space. The projected recycled water demand for the project is 13,300 gpd, or about 14.9 AFY.

Otay Water District
Projected Balance of Supply and Demand

Projected Balance of Water Demands and Supplies Normal Year Conditions (acre feet)

Description	FY 2025	FY 2030	FY 2035	FY 2040	FY 2045
Demands					
Otay WD Demands	37,953	40,261	43,185	47,013	50,505
Active Conservation Savings	(2,731)	(2,351)	(2,285)	(2,333)	(1,984)
Passive Conservation Savings	(1,757)	(2,192)	(2,364)	(2,707)	(3,050)
AFG – Sunbow II, Phase 3	84.7	84.7	84.7	84.7	84.7
AFG – ORTC Redevelopment	121	121	121	121	121
Total Demand	33,671	35,924	38,742	41,973	45,471
Supplies					
Water Authority Supply	29,171	30,924	33,642	36,773	40,171
Recycled Water Supply	4,500	5,000	5,100	5,200	5,300
Total Supply	33,671	35,924	38,742	41,973	45,471
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**

CONCLUSION

- Water demand and supply forecasts are included in the planning documents of Metropolitan Water District of Southern California, San Diego County Water Authority, and the Otay Water District.
- Actions necessary to develop the identified water supplies are documented.
- The SB 610 & SB 221 WSA&V Report documents that sufficient water supplies are planned for and available over the next 20 years.
- The Board has met the intent of the SB 610 and SB 221 statutes.

Questions?