WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

Achievements in Water Independence

Fiscal Year 2022 Annual Budget

WRD
WATER REPLENISHMENT DISTRICT

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Mission Statement and Standing Committees

Mission Statement

To provide, protect and preserve safe and sustainable high-quality groundwater.

The District's mission statement is interpreted and directed by the District's policymaking and governing body, the Board of Directors, which represents the highest authority within the management structure of the District. The five member Board is elected by the voting public every four years and accomplishes its stated goals and objectives through a Committee structure which is responsible for and reports to the Board of Directors and which also delegates certain of its authorities to staff in the interest of efficiency, stability and prudent management for completion.

Strategic Goals

The Board of Directors' Strategic Goals for the District and staff are to:

- Expand Replenishment Opportunities
- Expand Extraction Capacity
- Maximize Innovation and Environmental Resiliency
- Promote Organizational Excellence

Standing Committees

The Board shall be organized into the following Standing Committees that are advisory to the Board with respect to matters within their respective areas of responsibility:

- Administrative Committee
- Capital Improvement Projects Committee
- External Affairs Committee
- Finance/Audit Committee
- Groundwater Quality Committee
- Water Resources Committee

Administrative Committee

The Administrative Committee shall study, advise and make recommendations regarding the following:

1. Administrative and personnel policies and procedures to be considered by the Board of Directors;
2. Policies and procedures pertaining to the oversight and management of the organization, including but not limited to the District's organization and the flow of the authority and responsibilities; and,
3. Periodic independent reviews and studies of the organization, classification of positions and related compensation ranges, some of which are outlined in the Memorandum of Understanding with the employees bargaining unit.

Capital Improvement Projects Committee

The Capital Improvement Projects Committee, composed of the five members of the Board, shall advise the Board of Directors on all capital improvement program-related projects and issues related to the same.

External Affairs Committee

The External Affairs Committee, composed of the five members of the Board, shall study, advise and make recommendations regarding the following:

1. Proposals and recommendations concerning local, regional, state and federal legislation, or amendments thereto, that may affect the District;
2. Opportunities for Directors to assist in outreach activities, including but not limited to efforts to inform members of the Legislature or the Congress of the District's position regarding proposed legislation;
3. The effectiveness of legislative advocacy efforts;
4. The development and implementation of school education programs, including the expectations and goals for these programs;
5. The effectiveness of the District's external affairs programs and general communications efforts directed at member agencies and the general public; and
6. The selection of public information consultants and the scope of their assignments.

Finance/Audit Committee

The Treasurer of the Board must serve on the Finance/Audit Committee. The committee shall study, advise and make recommendations regarding the following:

1. Financial activities of the District by reviewing the monthly demands, financial statements, reimbursements and other key financial issues of the District;
2. The coordination of the annual budget process and monitoring the budget as necessary to ensure that the operations of the District are conducted pursuant to it;
3. The District's investment policy and the District's investment portfolio. The committee is to monitor any short, intermediate, and long-term capital needs of the District; and
4. Acts as the Audit Committee relating to the Comprehensive Annual Financial Audit conducted by the District's independent financial auditor.

Groundwater Quality Committee

The Groundwater Quality Committee shall study, advise and make recommendations regarding the following:

1. The operation, protection and maintenance of the District's water quality facilities;
2. Engineering aspects of all water quality projects;
3. The effect on the District of existing and proposed federal, state and local water quality statutes and regulations; and
4. The District's Capital Improvement Program as it relates to water quality projects.

Water Resources Committee

The Water Resources Committee shall study, advise and make recommendations regarding the following:

1. The operation, protection and maintenance of the District's replenishment water facilities;
2. Policies, sources and means related to the stewardship of the Central and West Coast Groundwater Basins, including but not limited to, importing and distributing water, transferring water and wheeling as required by the District;
3. Policies regarding the use, reuse, recycling and underground storage of water;

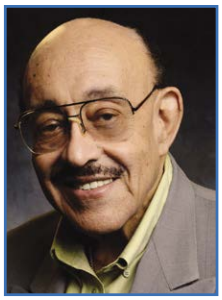
4. Environmental compliance and requirements and the effect on the District of existing and proposed federal, state and local environmental statutes and regulations;

5. Engineering aspects of all replenishment water projects;

6. Input related to the District's Capital Improvement Program as it relates to replenishment water projects; and,

7. Policies related to the District's conjunctive use efforts, including but not limited to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

Board of Directors

Division 1	Division 2	Division 3	Division 4	Division 5
				
Willard H. Murray, Jr. Secretary	**Rob Katherman** Treasurer	**John D. S. Allen** President	**Sergio Calderon** Vice President	**Vera Robles DeWitt** Director

Management Team

Stephan Tucker | General Manager
Rob Beste | Assistant General Manager/Chief Operating Officer
Lawrence Chiu | Chief Financial Officer
Eric Owens | Manager of Engineeering
Brian Partington | Manager of Hydrogeology
Diane Gatza | Manager of Water Resources
Angie Mancillas | Manager of External Affairs
Dina Hidalgo | Manager of Admin & Human Resources
Evan Lue | Manager of Data & Technology Services

Contact

Water Replenishment District of Southern California

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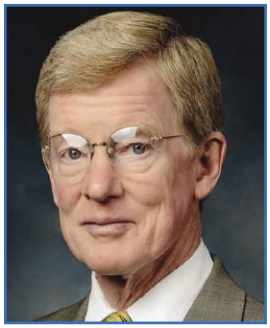
Vision Statement

"Utilizing groundwater storage
to create a locally sustainable water supply
for the Los Angeles Basin."

Board President's Report



John D. S. Allen
President

The past year has been eventful for WRD, with the emergence of PFAS as a significant issue for our pumper community, historic levels of state and federal water infrastructure funding proposed, additional awards for the Albert Robles Center for Water Recycling and Environmental Learning (ARC), and the retirement of the longest-serving General Manager in WRD's history. All of this with the ever-present backdrop of a devastating pandemic with all its tragic consequences.

PFAS Challenge

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been used in a variety of industries since the 1940s. PFAS are found in a wide range of everyday consumer products and they are common in firefighting foams. PFAS are sometimes referred to as "forever chemicals" because they can accumulate and stay in the human body for long periods of time. They can cause adverse health effects. Over the past three years, regulatory agencies have been working to establish PFAS drinking water standards.

While PFAS have been discovered in several wells in WRD's service area, it is important to stress that all water providers are required to only serve water that meets or exceeds state and federal quality standards.

Existing law requires a water system to either stop well production or blend/treat the impacted water to reduce concentrations or issue a public notice if PFAS are detected above a certain concentration level. A water system operator may provide treatment to the water (remediate) to improve the water quality. Remediation can cost over $4 million per well. If the well is removed from operation, it can cost 50% more to import water compared to extracting and treating the groundwater for PFAS.

So the good news is that PFAS can be treated using common filtration technologies. The bad news is that it is expensive --- but not as expensive as buying imported water. WRD to date has invested $34 million to treat wells with PFAS contamination. The total treatment costs for our service area may eventually exceed $100 million.

Funding Opportunities

Historic amounts of potential funding for water projects are emerging at the federal and state levels. President Biden's $2 trillion American Jobs Plan includes $111

billion for water infrastructure projects, including $10 billion for PFAS monitoring and remediation. The U.S. Environmental Protection Agency has announced $6.5 billion in new funding opportunities, primarily through low interest loans, to fund a range of water projects, including drinking water treatment, desalination and aquifer recharge. Governor Newsom's 2021/22 budget contains $5.1 billion in water-related funding, including $1.3 billion for drinking water and wastewater infrastructure and $150 million for groundwater cleanup.

State legislative efforts are underway to appropriate state money specifically for PFAS remediation. WRD is leading a coalition of cities and groundwater pumpers seeking $500 million to treat affected wells in the state and $100 million in PFAS funding specifically for our service area.

WRD has enjoyed great success over the years in securing outside funding for our projects, thereby reducing the replenishment assessment burden on our pumpers and the rate burden on their customers. To date, we have received $130 million in state funding and $30 million in federal funding.

A priority for us in the coming months will be to secure funding for PFAS remediation, our regional desalter, and wellhead treatment for wells in disadvantaged communities. We will seek state and federal earmarks in the appropriations process and relentlessly pursue grant opportunities wherever they present themselves.

Honors for the Albert Robles Center

The Albert Robles Center for Water Recycling and Environmental Learning (ARC) has been awarded the Leadership and Environmental Design (LEED) Platinum certification, the highest rating offered to environmentally sustainable buildings.

ARC achieved the certification through a planned effort to obtain the highest score possible from the outset. The site has 995 solar panels that reduce carbon dioxide emissions and power the learning center. Outdoor landscaping reduces water costs by 60 percent through an efficient low-flow irrigation system using recycled water. At least 20 percent of the building's construction is derived from recycled content and over 20 percent of those materials are locally sourced. Thoughtfully designed windows minimize the need for electric lighting and create energy savings.

ARC is also a finalist for the Global Water Intelligence (GWI) Global Water Awards Project of the Year. ARC is in the running alongside international water projects from Atlanta, France, and China. If selected, ARC will be recognized as "the water project that shows the greatest innovation in terms of optimizing its physical or environmental footprint."

The biggest achievement of ARC, of course, is that it produces 14 million gallons a day of advanced treated water to replenish groundwater resources in the region. It is rewarding to do it in an environmentally responsible way warranting LEED Platinum certification and international recognition.

General Manager Robb Whitaker Retires

After a career spanning 30 years with WRD, General Manager Robb Whitaker retired in March. During Robb's tenure the district completed its Water Independence Now (WIN) Initiative, a 15-year effort to implement a suite of programs and projects to make WRD completely independent of imported water for groundwater replenishment. Virtually every legacy project or program completed by WRD for the past three decades was conceived, developed, or implemented by Robb. He also led the ultimately successful 17-year effort to create a legal framework for the storage of groundwater, an accomplishment that enables what Robb coined the WIN 4 ALL initiative, a suite of programs and projects to eliminate the need for imported water in the region by 2040.

The Association of California Water Agencies awarded its prestigious Excellence in Water Leadership Award for 2020 to Robb, noting his "remarkable and visible contribution to the enhancement, protection, and development of water resources in California." WRD as an agency has been fortunate to have him. The people of the region and the state are lasting beneficiaries of his service.

The Board appointed Stephan Tucker as Interim General Manager effective April 1, 2021 and permanent General Manager on July 1, 2021. Stephan is formerly an Assistant General Manager at the Los Angeles Department of Water and Power (LADWP), where most recently he managed the department's Corporate Program Management Office. Prior to that assignment, Stephan was the Manager of LADWP's Project and Construction Management Section. His 30 years of experience at LADWP enabled him to step in where Robb left off. We are pleased to welcome Stephan to the WRD family!

Thank you!

On behalf of the Board of Directors, I want to thank the WRD staff for their extraordinary efforts to advance the work of the District under difficult circumstances. Our appreciation as well to retired General Manager Robb Whitaker and new General Manager Stephan Tucker for a seamless transition. We are grateful as well to the pumper community and to the individual pumpers who serve so capably on the Technical Advisory Committee and Budget Advisory Committee. Special thanks go to my fellow Directors whose dedication and commitment to the District are reflected in the good work that we do.

John D. S. Allen
President

While WRD is sensitive to the challenge many parts of the state face with persistently dry conditions, we effectively drought-proofed our replenishment needs by eliminating altogether the use of imported water.

General Manager's Report

Stephan Tucker
General Manager

The Drought Is Back

With memories of the 2011-2017 drought still fresh, it appears that California and the American Southwest are heading into a sustained dry weather period once again. Snowpack in the Sierra and Colorado Basin, where much of our imported water originates, is below 50% of average. Implications for the imported water supply to Southern California are ominous. The Metropolitan Water District will receive only 5% of its State Water Project entitlement to water from Northern California. With snowpack in the Colorado Basin substantially below average as well, Colorado River deliveries to the Western states will be curtailed in the not too distant future, with the seven states that rely on that water, including California, about to begin negotiations on how to share the pain.

Rainfall for the year in WRD's service area is 43% of "average," although with the accelerating impacts of climate change, we are not quite sure what "average" means anymore. Over a 100-year period, we averaged 14.1 inches of annual rainfall. We have been below that number in 14 of the past 18 years, so the recent average is well below the 100-year average.

Fortunately for WRD and the pumpers in our service area, we no longer rely on imported water to replenish the underground supply or inject into the seawater barriers. While at one time WRD was among the largest users of imported water in Southern California, it is no longer the case. Because of the increasing uncertainty of the availability of imported water as a source of replenishment supply, WRD made the conscious decision 18 years ago to develop projects and programs to replace imported water with local supply in the form of recycled water and enhanced stormwater capture, when stormwater is available. The Water Independence Now (WIN) initiative was completed with the opening of the Albert Robles Center for Water Recycling and Environmental Learning (ARC) two years ago.

Altogether, WRD's WIN projects undertaken on its own or in partnership with other agencies have resulted in an additional 110,000 acre-feet of local supply. While WRD is sensitive to the challenge many parts of the state face with persistently dry conditions, we effectively drought-proofed our replenishment needs by eliminating altogether the use of imported water.

Groundwater Storage is Paying Dividends

Another tool WRD and the pumper community have for dealing with drought is to store water in relatively wet years to extract in dry years. Until judgment amendments establishing a legally certain way to store and extract stored water were adopted in 2014 and 2015, groundwater storage in the Central and West Coast Basins was a lost opportunity. Since they were adopted, storage has become a significant water resource option. Eleven pumpers in the Central Basin have 56,500 acre-feet in storage. Three pumpers in the West Coast Basin have 13,400 acre-feet in storage. 70,000 acre-feet represents a water resource insurance policy for over one-half million people. It is a readily available local drought-proof water supply that is not subject to damage from earthquakes or loss from evaporation. It has proven to be a critical tool in creative water management.

WIN 4 All

When the WIN initiative was completed two years ago, WRD turned its attention to what we call WIN 4 All, a 20-year plan to develop a suite of local supply programs and projects to do for the region what WIN did for WRD's replenishment needs. Groundwater storage is an indispensable part of that plan.

There are 230,000 acre-feet of total storage capacity in the Central basin and 120,000 acre-feet in the West Coast basin. Storage in the West Coast basin is currently constrained by a plume of 600,000 acre-feet of brackish water that entered the basin before the seawater intrusion barriers were built starting in the 1950s and ending in the 1970s. In addition to individual pumper programs, how do we remove the brackish water in the West Coast Basin to take advantage of its storage capacity? Where do we get the water supply to enable water purveyors in both basins to pump groundwater instead of relying on imported water?

Expanded Use of Recycled Water for Storage

With respect to the brackish water, WRD and seven stakeholder partners including the West Basin Municipal Water District have completed a study that outlines the technical challenges and solutions to the saline plume. Environmental documentation for a proposed Regional Brackish Water Reclamation project is underway and a plausible location for a major desalter has been identified. As is the case with the Robert W. Goldsworthy Desalter, treated water will be a potable water supply that can offset imported supply.

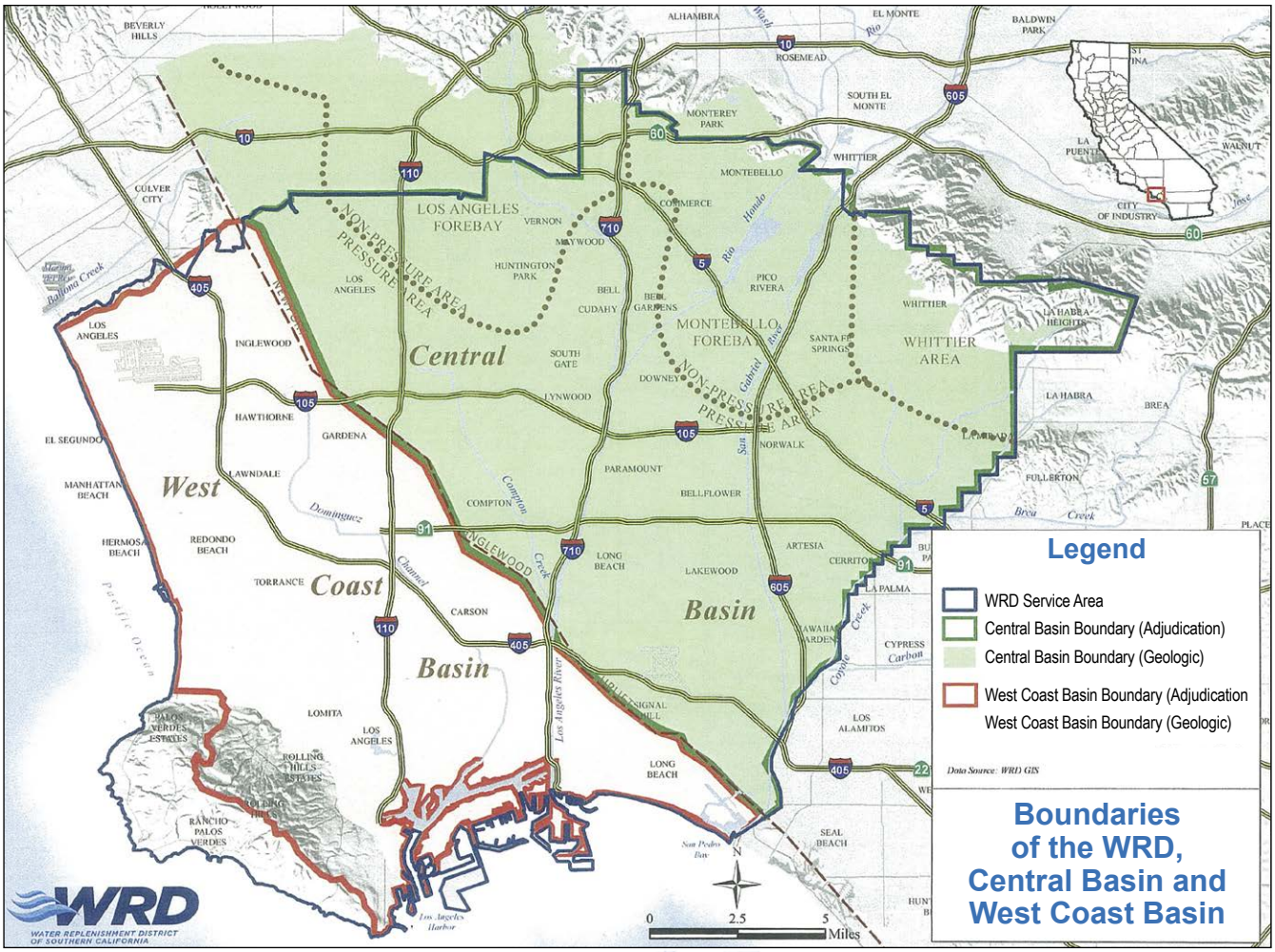
Water taken out and treated will need to be replaced and effectively put into storage. Where will that water come from? As it happens, there are two very promising options. WRD and the Los Angeles Department of Water & Power are developing a Joint LA Basin Master Plan. A key provision of that plan is to figure out how to store up to 200,000 acre-feet of water from the Hyperion Water Reclamation Plant, conceivably in both basins. Plans to advance treat Hyperion water are well underway.

A second option will be to take and store up to 150,000 acre-feet of advanced treated water from the Joint Water Pollution Control Plant in Carson. The Metropolitan Water District and the LA County Sanitation Districts have already completed a demonstration project documenting the feasibility of advance treating the water. WRD is providing the groundwater modeling to Metropolitan to assess storage opportunities in both basins from a technical standpoint.

While smaller in scale and limited in scale another WIN 4 All project we are exploring has great promise. The District has an unused annual allocation from the County Sanitation Districts of 10,000 acre-feet of tertiary water from the Los Coyotes Water Reclamation Plant. The idea is to deliver that water to the Leo J. Vander Lans Advanced Water Treatment Facility for treatment to advanced standards. The treated water would then be injected into inland injection wells in the Central Basin. WRD does not need this water for replenishment, so the objective would be to develop a storage and water rights augmentation program for participating pumpers.

All of these projects are plausible. While they carry significant capital price tags, once built, the water produced will be less costly than water imported from distant places. More importantly, they will provide a reliable, sustainable local supply to drought-proof the region and protect against the vulnerabilities of imported supply.

Stephan Tucker
General Manager


Legend
WRD Service Area
Central Basin Boundary (Adjudication)
Central Basin Boundary (Geologic)
West Coast Basin Boundary (Adjudication
West Coast Basin Boundary (Geologic)
Data Source: WRD GIS
Boundaries of the WRD, Central Basin and West Coast Basin
Central
West Coast
Basin
LOS ANGELES FOREBAY
MONTEBELLO FOREBAY
WHITTIER AREA
NON-PRESSURE AREA
PRESSURE AREA
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
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Strategic Goals & Strategies

Overview

The Water Replenishment District (WRD) has developed a vision statement to supplement the Mission Statement as a guiding principle for future strategic planning efforts:

Utilizing groundwater aquifers to create a locally sustainable water supply for the Los Angeles Basin region

WRD has been committed to provide, protect, and preserve the region's groundwater supply since the formation of the District in 1959. Since then, WRD has been able to maintain these goals through a strategic planning process for both long-term and near-term efforts.

The 5 year Strategic Plan is a blueprint to ensure that the District's goal to further offset the region's use of imported water is achieved in a timely and sustainable manner.

The future of our region's groundwater supply has been secured through the District's foresight to develop and implement planning efforts to increase regional sustainability. The District is proud to develop these strategies and goals to continue WRD's mission:

To provide, protect and preserve safe and sustainable high-quality groundwater

Strategic Planning: Purpose & Process

The strategic planning process is a guide to the District's near-term and long-term planning efforts. These efforts begin at the highest level, looking 20 years into the future and setting visionary goals for increased regional sustainability. Building upon the successful WIN program, this effort is envisioned as ***WIN 4 ALL: The 2040 Plan for Regional Water Independence.***

To provide near-term focus for accomplishing the WIN 4 ALL goals, WRD annually produces the 5-Year Strategic Plan, which incorporates planning efforts from the regularly updated 5-Year Capital Improvement Projects Program document and enlists a 1-Year work plan for immediate District strategy moving into the following year.

WRD'S VISION FOR THE FUTURE:

WIN 4 ALL

After successful completion of the Albert Robles Center Advanced Water Treatment Facility, WRD has completed the Water Independence Now (WIN) Program and realized a long-term goal of eliminating imported water use for groundwater replenishment. With this milestone behind us, the District is now poised to focus new efforts on regional sustainability.

As captured in the vision statement above, WRD's new effort – WIN 4 ALL will aim to further offset the region's imported water use by securing locally sustainable groundwater supplies for the greater Los Angeles Basin. Key components of WIN 4 ALL include expanded recycled water sources and increased stormwater capture, reflecting the goals and accomplishments of the initial WIN program and prioritizing local supply and environmental resiliency over traditional supplies.

Strategic Goals

Building upon the success of WRD's Water Independence Now (WIN) Program, the District has established strategic goals to accomplish WIN 4 ALL which will utilize groundwater aquifers to create a locally sustainable water supply for the Los Angeles Basin. The strategic goals focus on maintaining strong internal and external relationships, expanding innovation and adaptive planning, and look toward a future of increased regional sustainability through expanded regional groundwater reliance and security.

Expand Replenishment Opportunities

WRD will identify and secure new replenishment sources and locations to ensure reliable recharge water for adjudicated pumping allocations and also to utilize available storage space for increased local water supply.

Expand Extraction Capacity

WRD will expand groundwater extraction capacity through remediation, identification of new extraction sites and through incentives for groundwater pumpers.

Maximize Innovation and Environmental Resiliency

WRD will strive for continued increased efficiency in all treatment and recharge operations and will plan adaptability into new and existing projects.

Promote Organizational Excellence

WRD will optimize internal operations, continue outreach and engagement with the public, regulators, and elected officials, and will maintain strong financial standing through accurate budgeting and obtainment of funding sources.

WIN 4 ALL Programs & Projects

WIN 4 ALL is comprised of a suite of programs and projects that will work together to achieve increased regional reliance on locally available water supplies and integrating resiliency into ongoing and future water supply operations.

Descriptions of key WRD WIN 4 ALL programs and projects are included below and fall into two overarching categories:

- Projects to Increase Groundwater Extraction Capacity Through Remediation and Infrastructure Improvements; and
- Projects to Build Replenishment Resiliency & Secure New Sustainable Supplies for the Region.

Projects to Increase Groundwater Extraction Capacity through Remediation and Infrastructure Improvements

Safe Drinking Water Program & Disadvantaged Communities Outreach Assistance Program

WRD's Safe Drinking Water Program (SDWP) works in collaboration with well owners to promote the cleanup of groundwater resources through installation of wellhead treatment facilities at existing production wells. The facilities remove contaminants from extracted groundwater and deliver the treated water for potable uses.

A total of 16 facilities have been constructed and one facility has successfully achieved complete removal of the contaminant. The SDWP also includes the Disadvantage Communities (DAC) Outreach Assistance Program, which aids water systems in disadvantaged areas with applying for State funding. There are currently 11 participants in the DAC Outreach Assistance Program, with several projects in various stages of implementation and four projects currently under construction.

Benefits:

- Contamination Remediation
- Partnership Program with Well Owners
- Provides Directed Resources for Disadvantaged Communities
- Enables Use of Groundwater Storage Space

Regional Brackish Water Reclamation Program

Within the West Coast Basin, a large plume (approximately 600,000 acre-feet) of brackish groundwater has been trapped due to past seawater intrusion and the implementation of the West Coast Seawater Intrusion Barrier. WRD has developed the Regional Brackish Water Reclamation Program to remediate the salty plume, working with six additional stakeholders within the basin to determine the optimal project and partnership structure. These stakeholders pump groundwater for wholesale potable water supply.

Benefits:

- Contamination Remediation
- Up to 20,000 AFY New Local Water Supply
- Regional Partnership
- Enables Use of Groundwater Storage Space
- Reduces Reliance on Imported Water Supplies

Well Construction and Rehabilitation Loan Program

The Well Construction and Rehabilitation Loan Program is designed to allow pumpers to utilize their unused pumping rights through a loan program for new well construction or existing well rehabilitation. The program stipulates that pumpers must increase their 5-year extraction average by 10% to receive funding. WRD released the first program application in the summer of 2018 and received four applications totaling over $10 million in requests. WRD plans to expand this program to provide additional loans and ensure the pumping community can see the full benefit of their pumping rights.

Benefits:

- Partnership Program with Well Owners
- Enables Well Owners to Perform Groundwater Infrastructure Upgrades
- Increases Use of Existing Groundwater Rights
- Reduces Reliance on Imported Water Supplies

Projects to Build Replenishment Resiliency & Secure New Sustainable Supplies for the Region

Groundwater Replenishment Facilities Supplemental Source Water Project

WRD has a currently unused allocation of 10,000 acre-feet per year of tertiary treated recycled water at the Los Coyotes Water Reclamation Plant (LCWRP). WRD is evaluating the potential use of this allocation as a supplemental replenishment supply for two District-owned advanced water treatment facilities that provide highly-purified water for groundwater replenishment. Supplemental source water for these projects will provide operational flexibility to the District and our partners. WRD has initiated planning studies to determine the feasible and preferred alternatives for use of this allocation.

Benefits:

- Regional Partnership Program with Multiple Agencies
- Up to ~10,000 AFY New Local Water Supplies
- Provides Replenishment Resiliency
- Enables Use of Groundwater Storage Space

Sustainable Water Supply Partnership: Los Angeles Basin Joint Replenishment & Extraction Master Plan

WRD and the Los Angeles Department of Water and Power (LADWP) are working collaboratively to investigate opportunities for additional replenishment and extraction of groundwater from the West Coast and Central groundwater basins, utilizing new sustainable local water sources. LADWP has access to flows from the Hyperion Water Reclamation Plant as a potential source of replenishment water (~200,000 acre-feet per year available) and shares WRD's goal of increased local sustainability and water resiliency. The two agencies are collaborating on a plan that will develop possible project alternatives to utilize local water supplies and increase resiliency for replenishment operations and drinking water supplies.

Benefits:

- Partnership Program with City of Los Angeles
- Up to ~170,000 AFY New Local Water Supplies
- Provides Replenishment Resiliency
- Enables Use of Groundwater Storage Space
- Reduces Reliance on Imported Water Supplies

Sustainable Water Supply Partnership: The Regional Recycled Water Advanced Purification Center

The Metropolitan Water District of Southern California (MWD) and the Sanitation Districts of Los Angeles County (LACSD) are currently completing a demonstration plant at the LACSD wastewater treatment facility in Carson to produce 500,000 gallons per day, or 560 acre-feet per year, of advanced treated recycled water. The facility will generate information needed for future design and construction of a full-scale recycled water plant producing as much as 150 million gallons per day, or 168,000 acre-feet per year. Since 2016, WRD and MWD have worked collaboratively to evaluate potential groundwater recharge and storage opportunities that will take advantage of this new source of recycled water. MWD's project concepts currently include conveyance of water from Carson to the Montebello Forebay for injection or spreading, to the West Coast Basin as a potential replenishment source for extraction associated with WRD's Regional Brackish Water Reclamation Program, to the Long Beach area for injection and storage, to oil refineries, or possibly to water treatment facilities as a new raw water augmentation source.

Benefits:

- Regional Partnership Program with Multiple Agencies
- Up to ~200,000 AFY New Local Water Supplies
- Provides Replenishment Resiliency
- Enables Use of Groundwater Storage Space

Fiscal Year 2022 Budget Overview

Profile of the District

The Water Replenishment District of Southern California (WRD) is a special water district that was established in 1959 by popular vote to counteract the effects of over pumping of groundwater from the Central and West Coast Groundwater Basins in Los Angeles County.

WRD is the only replenishment district in California operating under the provisions of the California Water Code, Section 60000 et seq., which specifically governs water replenishment district. The District manages the two major groundwater basins which provide groundwater for approximately four million residents in 43 cities of southern Los Angeles County.

Prior to the formation of the District, over-pumping of the two groundwater basins caused overdraft, and many wells went dry and seawater intruded into the groundwater aquifers – underground geological formations that store water. In 1957, the accumulated overdraft in the Central Basin was almost one million acre-feet, which translates to a tremendous withdrawal of water from aquifers in excess of the amount of water that naturally, or artificially, replaces it. In both basins, groundwater levels had dropped to below sea level.

In 1959, the Central Basin Water Association and West Basin Water Association, comprised of the major groundwater producers from each basin, jointly proposed and obtained voter approval for formation of the Water Replenishment District of Southern California to manage the Central and West Coast Groundwater Basins. Today the basins have recovered, are in balance, and independent of imported water for groundwater replenishment, using only recycled water and stormwater for recharge.

The District's mission is "to provide, protect and preserve safe and sustainable high quality groundwater". The District accomplishes this through its various programs and projects to ensure a reliable supply of high quality groundwater. In addition, the District's role has expanded as it developed programs to capture stormwater, recharge recycled wastewater, monitor water quality and build advanced water treatment plants to ensure safe and reliable groundwater supplies.

Local Economy

The District office is located in Los Angeles County, California's most populous county, with over 10 million residents in 88 cities spread across 4,100 square miles; Los Angeles (LA) County's population exceeds that of 43 states. LA boasts a workforce of more than 5.1 million people and is the nation's largest manufacturing center. LA County's

economy is supported by a diverse group of industries, including entertainment, health services, education, high-tech research and development, professional fields such as architecture and engineering, and construction.

Los Angeles County is the nation's largest port in terms of the total value of goods handled and tonnage. This port joins with the Port of Long Beach to form a massive port complex that has built LA into the largest business investment area in the United States. The large commercial facilities available at Los Angeles International Airport make the Los Angeles Customs District the largest in the nation.

At the onset of 2020, LA County was enjoying a long and unprecedented expansionary period where the economy was strong. In March 2020, the COVID-19 pandemic brought business and life to a grinding halt. In a typical economic recession, the contraction may take place over several quarters, but the COVID-19 disruption hit in just a matter of weeks.

On March 19, 2020, California Governor Gavin Newsom issued a "Stay-at-Home Order", which required all individuals statewide to remain at their place of residence and social distancing measures were enacted across the state. All non-essential businesses were mandated to close. The shutdown of restaurants, retail stores and other non-essential businesses left many workers unemployed.

LA County experienced a significant downturn in economic activities. As the number of COVID-19 cases surged in March and April of 2020, LA County lost 716,000 jobs. The seasonally adjusted unemployment rate peaked at 21.1 percent in May 2020. The summer yielded marginal relief; with COVID-19 case numbers declining, and a corresponding relaxation on restrictions. Nearly 30 percent of the 716,000 jobs lost in LA County were recovered by September 2020.

According to Beacon Economics, the Leisure and Hospitality sector in LA County is struggling the most, with a drop in open businesses of around 50% compared to January 2020. Professional and Business Services is the best performing sector, with a drop of 24.8% in open small businesses compared to a year ago.

In 2020, the real Gross Domestic Product (GDP) in the United States decreased 3.5%, compared with an increase of 2.2% in 2019. The decrease in real GDP reflected decreases in personal consumption expenditures, exports, private inventory investment, and state and local government that were partly offset by increases in federal government spending.

The COVID-19 pandemic devastated every business sector in 2020. However, Government action through the Paycheck Protection Program, extended unemployment insurance and stimulus checks helped bolstered the economy, setting the stage for a rebound as vaccinations continue and the pandemic subsides. The University of California, Los Angeles, Anderson School of Management Forecast anticipates 6.3% real GDP growth in 2021, 4.6% growth in 2022 and 2.7% growth in 2023.

The national unemployment rate is projected to decline from an average of 6.7% in the last quarter of 2020 to 5.2%, 4.1% and 3.7% in 2021, 2022 and 2023 respectively. As of

June 2021, the United States has recovered 69.8% of the 22.4 million jobs lost in March and April 2020 due to COVID-19.

California's unemployment rate for the first quarter of 2021 is expected to be 7.7%, and the average for 2021, 2022 and 2023 will be 6.8%, 5.1% and 4.1% respectively. As of June 2021, California has recovered 54.2% of the 2.7 million jobs lost in March and April 2020. In California, the leisure and hospitality sector will be the last to recover because of the depth of decline during recession and its reliance on tourism. Recovery will be faster in residential construction, as California's shortage of housing drives new developments.

While the anticipated economic recovery is good news, there are still some challenging factors that could impact the local economy. New waves of COVID-19 infection, variants, or a failure of vaccines to reduce the spread could curtail the progress made so far. As LA County transitions from the pandemic to community and economic recovery, a healthy economy prior to the pandemic offer an optimistic post-pandemic economic recovery outlook in 2022. It will take time to determine how the LA region recovers, and which industries will be at the forefront of the rebuilding process.

Economic Statistics – United States, California and Los Angeles County

	2016	2017	2018	2019	Forecast 2020	Forecast 2021
Population (1 & 2)						
United States	321.98 million	324.21 million	326.08 million	327.68 million	329.17 million	330.04 million
California	39.10 million	39.35 million	39.52 million	39.61 million	39.65 million	39.47 million
Los Angeles County	10.15 million	10.18 million	10.19 million	10.16 million	10.14 million	10.04 million
Median Home Listing Price (3)						
United States	$256,000	$272,200	$293,600	$311,600	$334,100	$310,200
California	$494,300	$517,200	$536,200	$567,200	$663,200	$588,200
Los Angeles County	$656,200	$692,800	$715,200	$773,100	$797,300	$792,400
Real GDP Growth (3)						
United States	1.7%	2.3%	3.0%	2.2%	-3.5%	3.0%
California	3.3%	4.3%	3.1%	3.4%	-0.6%	2.0%
Los Angeles County	2.4%	3.1%	2.0%	3.2%	-3.0%	2.8%
Unemployment Rate (3)						
United States	4.9%	4.4%	3.9%	3.7%	8.1%	5.2%
California	5.5%	4.8%	4.2%	4.1%	10.4%	6.8%
Los Angeles County	5.3%	4.8%	4.6%	4.4%	13.6%	9.3%
Real Per Capita Income (3)						
United States	1.0%	1.7%	2.4%	1.7%	2.2%	-5.2%
California	2.2%	2.3%	2.8%	2.9%	4.1%	-4.5%
Los Angeles County	2.8%	1.8%	2.6%	2.8%	5.3%	-3.2%

Sources:

(1) U.S. Census Bureau

(2) California Department of Finance

(3) Los Angeles County Economic Development Corporation

Financial Overview – Replenishment Assessment

The District's budget is divided into three major categories:

1. Operating Expenses – Primarily used to track expenses related to projects, programs and administrative costs

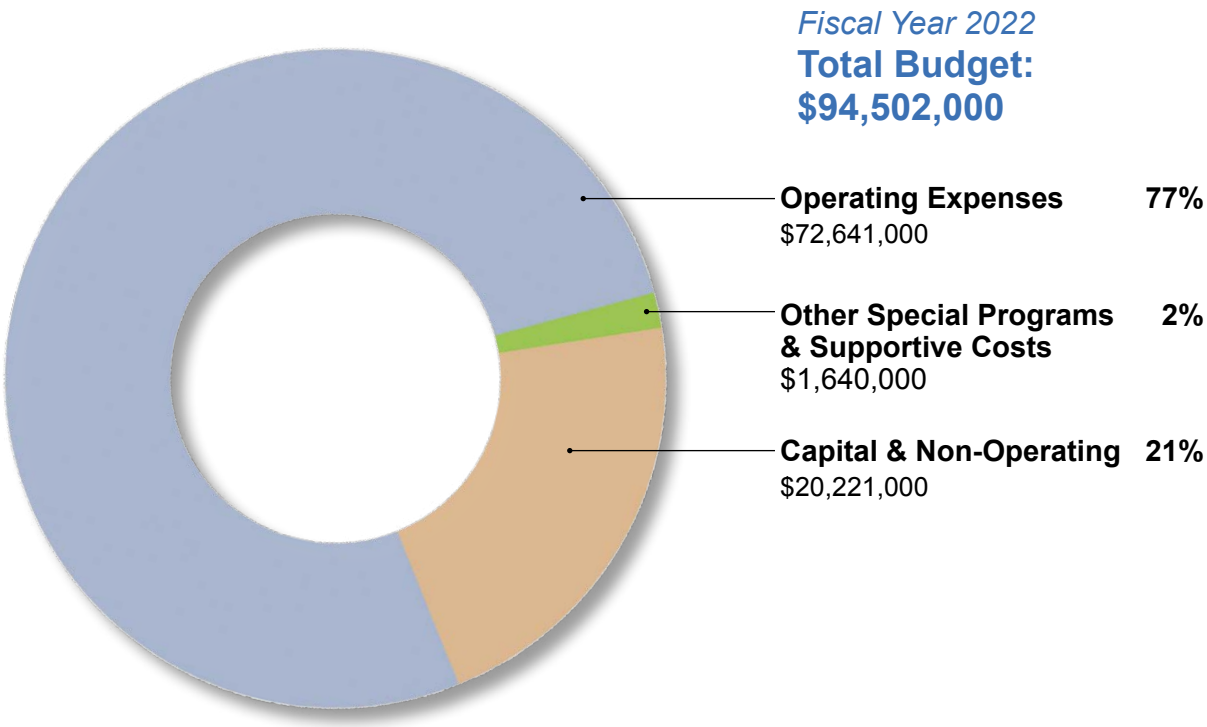
2. Other Special Programs and Supportive Costs

3. Capital and Other Non-Operating Revenues and Expenses

Project, program and administrative costs are tracked in the category of operating expenses. These projects and programs include activities that enhance the replenishment operations, increase the reliability of groundwater resources, improve and protect groundwater quality and ensure that groundwater supplies are suitable for beneficial use. Direct administrative support costs include the Board of Directors, Administration and Finance.

Other special programs and supportive costs include expenses related to litigation and election expenses (which represent mandatory pass-through costs from the County Registrar-Recorder to manage the election of the District's elected officials.)

The District has debt service payments on its 2015 Replenishment Assessment Revenue Bonds, 2018 Replenishment Assessment Revenue Bonds and Clean Water Sate Revolving Fund Loan. Debt service is included in the third category of expenses: Capital and Other Non-Operating Expenses.



Fiscal Year 2022 Budget			
Description	FY 2021 Adopted Budget	FY 2022 Adopted Budget	FY 2022 Budget compared to FY 2021 Budget
OPERATING EXPENDITURES			
Water Costs	$34,133,000	$35,766,000	$1,633,000
Dominguez Gap Water Purchase Contingency Fund	900,000	-	(900,000)
Albert Robles Center (ARC)	10,050,000	11,090,000	1,040,000
Water Conservation	629,000	693,000	64,000
Water Supply Production - Vander Lans	5,814,000	5,966,000	152,000
Water Supply Production - Goldsworthy Desalter	2,748,000	2,978,000	230,000
Montebello Forebay Recycled Water	540,000	753,000	213,000
Groundwater Resource Planning	1,486,000	1,666,000	180,000
Water Quality Improvement Program	353,000	564,000	211,000
Geographic Information Systems (GIS)	260,000	266,000	6,000
Groundwater Monitoring Program	1,514,000	1,433,000	(81,000)
Safe Drinking Water Program	44,000	374,000	330,000
Dominguez Gap Barrier Recycled Water	333,000	357,000	24,000
Replenishment Operations	272,000	292,000	20,000
Hydrogeology Program	853,000	515,000	(338,000)
West Coast Basin Barrier Program	20,000	22,000	2,000
Engineering Program	296,000	303,000	7,000
Asset Management	-	108,000	108,000
Regional Brackish Water Program	350,000	350,000	-
Well Construction & Rehabilitation Program	31,000	25,000	(6,000)
Water Education	1,153,000	1,249,000	96,000
Board of Directors	357,000	382,000	25,000
Administration	6,175,000	6,599,000	424,000
GASB 45 (Required Retirement Funding)	897,000	890,000	(7,000)
SUB-TOTAL	**69,208,000**	**72,641,000**	**3,433,000**
OTHER SPECIAL PROGRAMS & SUPPORTIVE COSTS			
Litigation	125,000	125,000	-
Cost of Services and Notices	15,000	15,000	-
Election Expense	1,250,000	1,500,000	250,000
SUB-TOTAL	**1,390,000**	**1,640,000**	**250,000**
CAPITAL & OTHER NON-OPERATING COSTS			
Revenue Bond Debt Service Payments	19,765,000	19,795,000	30,000
Funding for PAYGO Projects	-	426,000	426,000
SUB-TOTAL	**19,765,000**	**20,221,000**	**456,000**
TOTAL BUDGET	**$90,363,000**	**$94,502,000**	**$4,139,000**
REVENUES			
Replenishment Assessment	$81,366,000	$83,106,000	$1,740,000
Vander Lans Income/OCWD/MWD Subsidy	1,765,000	3,430,000	1,665,000
Goldsworthy Desalter Income/MWD Subsidy	4,250,000	3,150,000	(1,100,000)
Albert Robles Center Income/MWD Subsidy	600,000	630,000	30,000
Other Income & Expense	382,000	186,000	(196,000)
Carryover Conversion	2,000,000	4,000,000	2,000,000
TOTAL REVENUES	**$90,363,000**	**$94,502,000**	**$4,139,000**

Relationship of Funds, Projects, and Programs

The District operates two major funds: the Replenishment Fund and the Clean Water Fund. Expenses from the projects and programs are allocated to each fund, reflecting the benefits arising from these expenditures. For budget purposes, projects and programs are separated into either Replenishment, Clean Water Projects or Dual Purpose Projects and Programs. Dual purpose projects and programs are those that address both replenishment operations and clean water efforts.

Replenishment Fund

The annual amount pumped from the Central and West Coast Groundwater Basins is greater than the natural replenishment of groundwater aquifers, creating an annual deficit or annual overdraft. The District has the authority and responsibility under the California State Water Code to acquire water supplies for recharge to make up this overdraft.

The Replenishment Fund is the budgetary control for all expenses related to the District's replenishment efforts. This includes three primary expenses of the District: Water Supply Purchases, Water Supply Production and the Albert Robles Center for Water Recycling & Environmental Learning (ARC), which make up 61% of Fiscal Year 2021 Replenishment Fund operating expenses. Total budgeted operating expenses related to the Replenishment Fund are $86.7 million or 92% of the total budget.

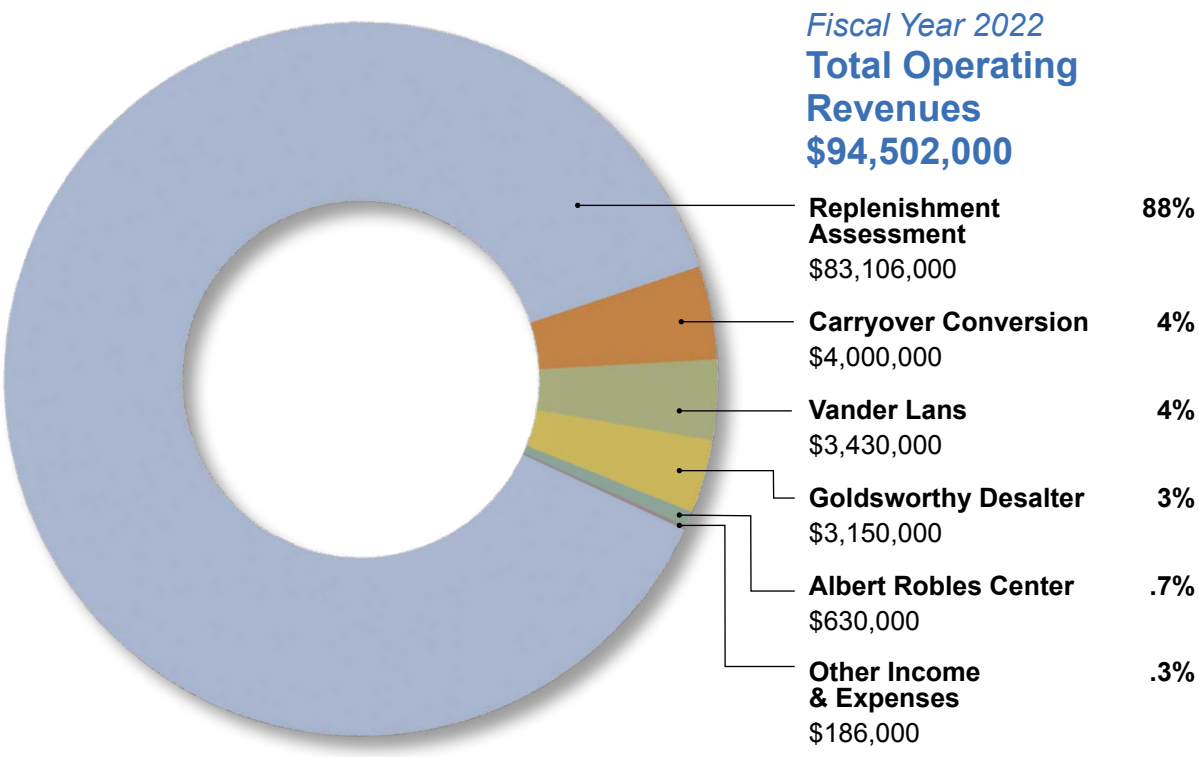
Clean Water Fund

Consistent with the District's mission to provide, protect and preserve safe and reliable high quality groundwater, the District annually collects nearly 600 groundwater samples from its monitoring well network. The District tests these samples for over 100 water quality constituents to produce nearly 60,000 individual data points to help track the water quality in the basins. By analyzing and reviewing the results on a regular basis, any new or growing water quality concerns can be identified and managed. In addition, the District funds programs to help prevent, reduce and eliminate contamination in the basin to increase the amount of water available for pumping.

The Clean Water Fund is the budgetary control for all expenses related to the District's efforts to provide clean and safe water to the nearly four million residents in the District's service area. Total budgeted operating expenses related to the Clean Water Fund are $7.8 million or 8% of the total budget.

The table below illustrates Programs/Projects and Funds relationship.

Program / Project Number & Name		Replenishment Fund	Clean Water Fund
001	Leo J. Vander Lans Water Treatment Facility	100%	
002	Robert W. Goldsworthy Desalter		100%
004	Montebello Forebay Recycled Water	100%	
005	Groundwater Resource Planning Program	100%	
006	Water Quality Improvement Program		100%
010	Geographic Information Systems	50%	50%
011	Regional Groundwater Monitoring Program	50%	50%
012	Safe Drinking Water Program		100%
018	Dominguez Gap Barrier Recycled Water Injection	100%	
023	Replenishment Operations	100%	
025	Hydrogeology Program	50%	50%
033	Albert Robles Center (ARC)	100%	
035	West Coast Basin Barrier Program	100%	
038	Engineering Program	100%	
043	Regional Brackish Water Program	100%	
046	Well Construction & Rehabilitation Program	100%	
WTR	Water Supply Purchases	100%	
EAC	Water Conservation	50%	50%
EAE	Water Education	50%	50%



Revenues

The District's primary source of revenue comes from the Replenishment Assessment, making up 88% or $83.1 million of the District's revenue. Replenishment Assessment is based on the amount of water pumped from the Central and West Coast basins, and is applied to every acre-foot of water pumped.

Carryover Conversion to Groundwater Storage, known simply as "Carryover Conversion", is a relatively new option for pumpers in the Central and West Coast groundwater basins. A groundwater pumper has the option to transfer their unpumped rights each year into a storage account so that they can pump those rights in a later year. Otherwise, they may lose those rights permanently. Carryover conversion revenues are expected to increase by $2 million to $4 million or 4% of total revenue.

The District also expects to collect $3.4 million or 4% of total revenue from recycled water sales to the Orange County Water District (OCWD) from the Leo J. Vander Lans Advanced Water Treatment Facility, along with incentives received from the Metropolitan Water District of Southern California (MWD) for every acre-foot produced by the plant. This facility provides advanced treated water to the Alamitos Seawater Intrusion Barrier Project which would otherwise be supplied with more expensive imported water from MWD.

The Goldsworthy Desalter is located in the West Coast Basin and treats brackish groundwater for sale to the City of Torrance. The anticipated revenue is $3.2 million or 3% of total revenue.

The Albert Robles Center purifies approximately 10,000 acre feet of tertiary treated (recycled) water annually to near-distilled levels through an advanced water treatment facility. Since the Albert Robles Center offsets the need for imported water from Metropolitan Water District (MWD) of Southern California, the District receives MWD's Local Resources Program subsidy through the City of Torrance, a MWD member agency. The estimated total revenue from this treatment facility is $0.6 million or 0.7% of total revenue.

Other income and expenses account for $0.2 million or 0.3% of total revenue and is the net of interest income, property tax revenue and other expenses not charged to the Replenishment Assessment.

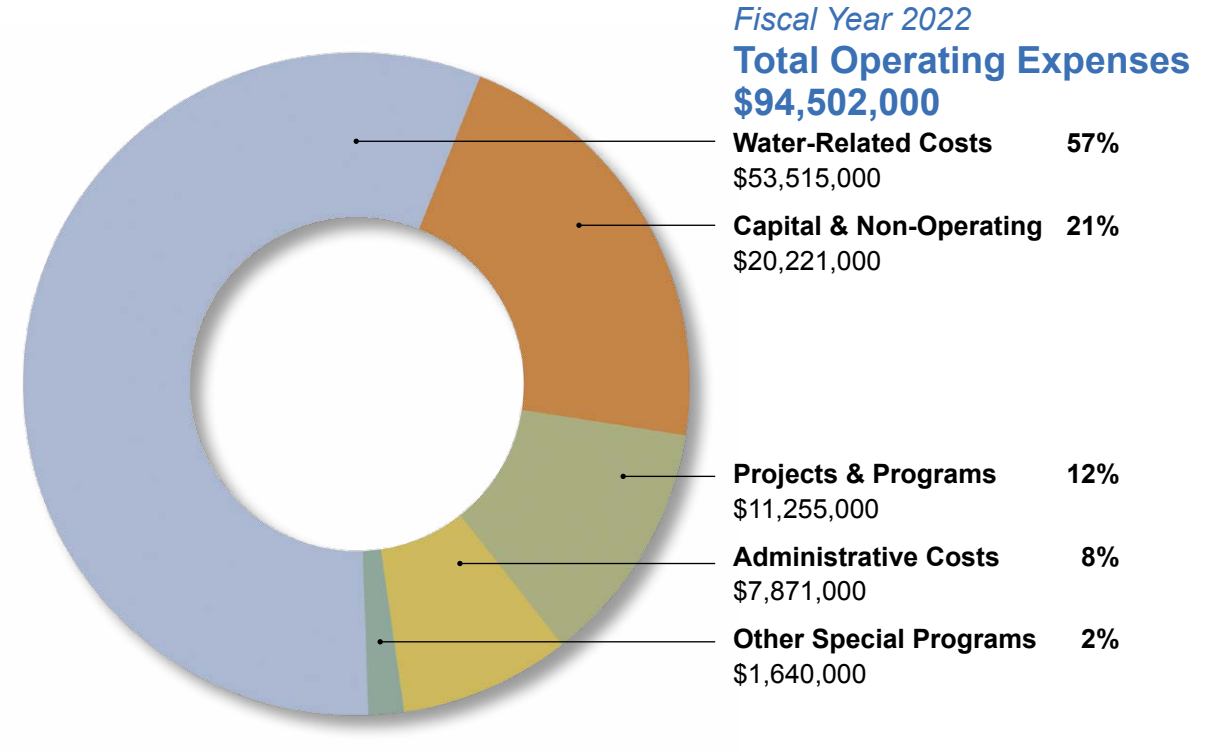
Comparison to Prior Fiscal Year 2021 Budgeted Revenues

Budgeted revenues for Fiscal Year 2022 are approximately 5% or $4.1 million higher than the budget in prior fiscal year due primarily to the increase in the Replenishment Assessment effective on July 1, 2021. As a result, Replenishment Assessment revenues are approximately $1.7 million or 2% higher than the last year's budget. In addition, Carryover Conversion revenues are up $2 million, while Vander Lans revenues are projected to increase by $1.7 million.

Expenses

The most significant budgetary item for the District is water and water-related costs. Of the District's total budgeted expenses of $94.5 million, about $53.5 million or 57% of total expenses is related to either water supply purchases, production of water or water conservation efforts.

Capital and non-operating costs related to debt service are budgeted at $20.2 million or 21% of total expenses. Project and program expenses are projected at $11.3 million or 12% of total expenses. Administrative costs, including funding for Other Post-Employment Benefits (OPEB) payments are projected at $7.9 million. Other special programs, including election expenses are projected at $1.6 million or 2% of total expenses.



Comparison to Prior Fiscal Year 2021 Budgeted Expenses

Total budgeted expenses for the prior fiscal year were $90.4 million, while total expenses for Fiscal Year 2022 are expected to increase by $4.1 million or 5% to $94.5 million. Water and water-related costs increased by $2 million or 4% from $51.5 million in Fiscal Year 2021 to $53.5 million in Fiscal Year 2022. Capital and other non-operating costs are anticipated to be $20.2 million, an increase of $0.5 million over the prior fiscal year, reflecting debt service payment associated with the 2015 and 2018 Replenishment Assessment Revenue Bonds and Clean Water State Revolving Fund Loan, and funding for PAYGO projects. Projects and programs are anticipated

to increase by $1 million or 10% from $10.3 million to $11.3 million in Fiscal Year 2022 due to higher operating costs. Administrative costs are anticipated to increase by $0.4 million to $7.9 million, due to a change from 30-year to 15-year amortization schedule to accelerate paying off unfunded pension liability.

Short-term Factors Influencing Fiscal Year 2022 Budget

The challenges and short-term factors which impact the development of the District's budget are different every year. The Southern California region experienced below average rainfall during the past year. The District is currently 44% of normal rainfall through January 2021. Water levels in the Montebello Foreway dropped nearly 13 feet by the start of the winter season but are presently about 4.6 feet lower than the previous water year. Basin conditions have improved over the past couple water years but are still below pre-drought conditions.

The groundwater pumping for Fiscal Year 2022 is expected to remain the same as last year at 213,000 acre-feet. The Replenishment Assessment is increased from $382/acre-foot in Fiscal Year 2021 to $394/acre-foot in Fiscal Year 2022, or a 3.1% increase, which includes a $4/acre-foot for the per- and polyfluoroalkyl substances (PFAS) program.

The Albert Robles Center for Water Recycling and Environmental Learning (ARC) was completed in 2019. The Fiscal Year 2022 budget includes $11.1 million for ARC operating costs, an increase of $1 million over the last year, reflecting a full year of operation.

As was done last year, the Fiscal Year 2022 budget includes revenues for anticipated carryover conversions. This occurs when a pumper determines it is in their interest to convert a pumping right to storage and pays the District even though it has not pumped its right – but, rather reserves the water to be pumped in a future year. The estimated carryover conversion revenues in Fiscal Year 2022 budget are $4 million, an increase of $2 million over the prior year.

The Coronavirus (COVID-19) pandemic is an unprecedented event in modern history, with businesses and industries temporarily shutting down, causing water demands to be reduced significantly. The impacts to the District's Fiscal Year 2022 revenues and projected groundwater pumping of 213,000 acre-feet are unknown at this time. The District is taking prudent steps to mitigate some of the adverse impacts on revenue losses over COVID-19 pandemic due to lost water sales. In April 2020, the Board of Directors increased the Operating Reserve from three months to four and a half months of the cost of operations. The Fiscal Year 2022 budget includes hiring freeze and reduction in operating costs of ARC and other programs, resulting in projected savings of $1.8 million.

Long-range Operating Financial Plans

In the past, a large percentage of replenishment water for the Central and West Coast Basins came from sources in Northern California and the Colorado River. Over the last 15 years, the District has been moving toward its goal of independence from imported water through the Water Independence Now (WIN) initiative, a series of projects that will fully utilize storm water and recycled water sources to restore and protect the groundwater resources of the Central and West Coast Groundwater Basins.

The WIN-related projects are expected to allow the District to become completely independent from imported water. In order to fund WIN, the District obtained financing through its 2015 and 2018 Replenishment Assessment Revenue Bonds, and Clean Water State Revolving Fund Loan. The State Revolving Fund Loan of $80 million bears a 1% interest rate and will be repaid on a level debt basis over the next thirty years. With the leadership provided by the Water Replenishment District's Board of Directors, the transparency and financial stability of the District and AA+ ratings from both Standard and Poor's and Fitch Ratings, the District was able to obtain low cost financing for these important capital initiatives. This will provide benefits to the pumpers and ratepayers in the Central and West Coast basins for decades to come.

The District has been monitoring groundwater quality for the past couple decades using a groundwater monitoring network of 335 monitoring wells, which monitor over 120 contaminants throughout the basin, including Perfluorooctanic Acid (PFOA) and Perfluorooctanesulfonate (PFOS). The District is actively working with the pumping community to address PFOA and PFOS within the basins by forming a working group which convenes stakeholders to discuss treatment options and current research. The District is also working with the State and Federal partners to secure funding to provide treatment programs when necessary.

The table below shows the projected budget impact of principal and interest payments associated with the 2015 and 2018 Replenishment Assessment Revenue Bonds, and Clean Water State Revolving Fund Loan.

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
2015 Bonds	$11.1M	$11.1M	$11.1M	$11.1M	$11.1M
2018 Bonds	5.2M	5.2M	5.2M	5.2M	5.2M
State Revolving Fund Loan	3.5M	3.5M	3.5M	3.5M	3.5M
TOTAL	**$19.8M**	**$19.8M**	**$19.8M**	**$19.8M**	**$19.8M**

Debt service costs will be mitigated by reduced purchases of imported replenishment water as the District will be able to use additional recycled water and capture more

storm water runoff. Each year, more water is pumped from the Central and West Coast Groundwater Basins than nature can replenish. The District makes up the difference by purchasing imported and recycled water. In the past, the District purchased 21,000 acre-feet of imported spreading water to help replenish the basins. Given the completion and commercial operation of ARC in 2019, the District replaced 21,000 acre-feet of imported water with highly treated recycled water.

The District's 5-Year Capital Improvement Plan includes projects which will need additional funding. To lessen the financial burden to rate payers, staff will continue to seek grant funding when available and seek cost-effective borrowings as needed. Through coordination and planning with other local and regional water suppliers, the District continues to engage in developing long-term solutions to the various water supply challenges. These efforts are evidenced in the District's participation in regional conjunctive use programs as well as local groundwater storage and recovery projects. It is through participation in these and other programs, such as the WIN program, that will enable the District to continue to meet its long-term water supply needs.

The WIN program is specifically designed to make use of local water supplies to become completely independent of imported water from the Colorado River and the California State Water Project. Before 1961/62, the West and Central Groundwater Basins received about 36% of the replenishment water from stormwater and 64% from imported water. Today, with the completion of the ARC, the demand for imported water to replenish the basin has dropped to zero.

As part of the long-range financial planning, the District has taken steps to address the unfunded pension liabilities. The latest actuarial reports from California Public Employees' Retirement System (CalPERS) projected the District's unfunded pension liabilities at $6.2 million as of June 30, 2021. Under the 30-year amortization schedule, the annual employer contribution is projected at $0.93 million. The unfunded accrued liability (UAL) will be paid off by June 30, 2044 and the total interest paid is projected at $4.8 million.

In December 2020, the Board of Directors approved the 15-year amortization to accelerate paying off unfunded person liability. Projected annual employer contribution will increase by $0.2 million to $1.13 million. The current UAL will be paid off by June 30, 2035 and total interest paid is projected at $3.6 million, a saving of $1.2 million over the 30-year amortization schedule.

Staffing

The District has 45 budgeted professional and administrative staff in Fiscal Year 2021; 41 are paid for through the collection of the Replenishment Assessment and 4 staff positions are allocated to the District's Watermaster function and are paid for independently outside of the Replenishment Assessment.

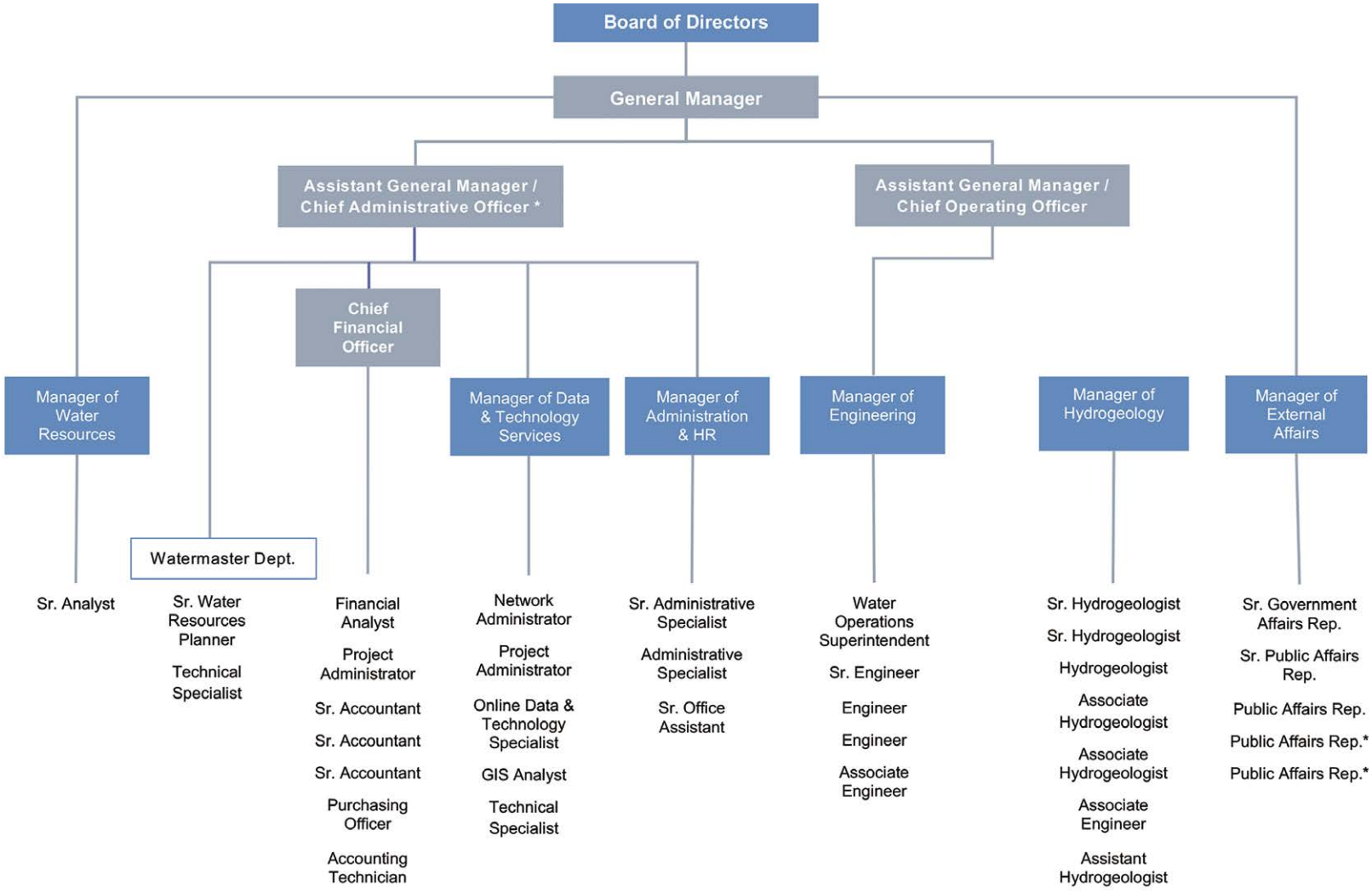
In Fiscal Year 2022, three vacant positions are frozen, including Assistant General Manager/Chief Administrative Officer and two Public Affairs Representatives. The District's staffing on its various projects remain relatively stable. WRD's organizational structure adjusts from time to time in an effort to adjust to changes in the District responsibilities and to provide increased efficiencies.

Acknowledgment

The District's management team and the Finance Department acknowledge the leadership and dedication of the Board of Directors, as well as the cooperation and assistance of the District staff in addressing the financial challenges of Fiscal Year 2022. Many staff members throughout the District contributed a high degree of commitment and professionalism in the production of this document. Through their combined efforts the issuance of this report has been made possible, and their collective dedication is both acknowledged and sincerely appreciated.

Lawrence Chiu
Chief Financial Officer

Organization Chart



42 Total Full Time Equivalent (FTE) positions
(38 funded by WRD Replenishment Assessment + 4 funded by Watermaster)

Note: *Frozen positions in Fiscal Year 2022

Summary of Personnel by Department

	FY 2020 Budget	FY 2021 Budget	FY 2022 Budget	Change from FY 2021 Budget
GENERAL MANAGEMENT				
GENERAL MANAGER	1	1	1	0
ASSISTANT GENERAL MANAGER/CHIEF OPERATING OFFICER	1	1	1	0
ASSISTANT GENERAL MANAGER/CHIEF ADMIN. OFFICER	1	1	0	(1)*
HYDROGEOLOGY DEPARTMENT				
Manager of Hydrogeology	1	1	1	0
Senior Hydrogeologist	1	2	2	0
Hydrogeologist	3	1	1	0
Associate Hydrogeologist	2	2	2	0
Associate Engineer	1	1	1	0
Assistant Hydrogeologist	0	1	1	0
WATERMASTER DEPARTMENT				
Senior Water Resources Planner	0	1	1	0
Water Resources Planner	1	0	0	0
Technical Specialist	0	1	1	0
Office Assistant	1	0	0	0
ENGINEERING DEPARTMENT				
Manager of Engineering	1	1	1	0
Water Operations Superintendent	1	1	1	0
Senior Engineer	1	1	1	0
Engineer	2	2	2	0
Associate Engineer	1	1	1	0
WATER RESOURCES DEPARTMENT				
Manager of Water Resources	1	1	1	0
Senior Analyst	1	1	1	0
FINANCE DEPARTMENT				
Chief Financial Officer	1	1	1	0
Manager of Financial Services	1	0	0	0
Financial Analyst	0	1	1	0
Project Administrator	0	1	1	0
Senior Accountant	3	3	3	0
Purchasing Officer	1	1	1	0
Accounting Technician	0	1	1	0
EXTERNAL AFFAIRS				
Manager of External Affairs	1	1	1	0
Senior Government Affairs Rep.	1	1	1	0
Senior Public Affairs Rep.	1	1	1	0
Public Affairs Rep.	3	3	1	(2)*

Summary of Personnel by Department

	FY 2020 Budget	FY 2021 Budget	FY 2022 Budget	Change from FY 2021 Budget
ADMINISTRATION AND HUMAN RESOURCES DEPARTMENT				
Manager of Administration and HR	1	1	1	0
Senior Administrative Specialist	1	1	1	0
Administrative Specialist	1	1	1	0
Project Administrator	2	0	0	0
Senior Office Assistant	0	1	1	0
Office Assistant	1	0	0	0
Data and Technology Services				
Manager of Data and Technology Services	1	1	1	0
Network Administrator	1	1	1	0
Project Administrator	0	1	1	0
Online Data and Technology Specialist	1	1	1	0
Geographic Information Systems Analyst	1	1	1	0
Technical Specialist	1	1	1	0
TOTAL	**44**	**45**	**42**	**(3)**

Note: * Frozen positions in Fiscal Year 2022

Financial Policies

Budget Controls and Revisions

The District reports its activities as an enterprise fund, which is used to account for operations that are financed and operated in a manner similar to a private business enterprise. The intent of the District is that the costs of managing the groundwater basins on a continuing basis be financed or recovered primarily through user charged replenishment assessments, capital grants and similar funding. Revenues and expenses are recognized on the full accrual basis of accounting.

Operating Revenues result from exchange transactions associated with the District's principal activity. Exchange transactions are those in which each party receives and gives up essentially equal values. Non-operating revenues, such as grant funding and investment income, result from non-exchange transactions in which the District gives (receives) value without directly receiving (giving) value in exchange. Operating expenses, such as water purchases, are the result of the District's exchange transactions along with associated expenses for running the District's day-to-day operations. Non-operating expenses, such as interest paid on debt service or election costs are the result of expenses that do not relate to the District's day-to-day operations.

Financial Reporting

The District's basic financial statements are presented in conformance with the provisions of Government Accounting Standards Board (GASB) Statement No. 34, "Basis Financial Statement and Management's Discussion and Analysis for State and Local Governments". This statement established revised financial reporting requirements for state and local governments throughout the United States for the purpose of enhancing the understandability and usefulness of financial reports.

Budgetary Policies

The District adopts an annual budget for planning, control, and evaluation purposes. Budgetary control and evaluation are affected by comparisons of actual revenues and expenses with planned revenues and expenses for the period. Each year, the Board of Directors follows the legislation as set forth in the California State Water Code when preparing and adopting the annual budget and establishing the ensuing year's Replenishment Assessment.

Replenishment Assessment Policy

On or before the second Tuesday of May each year, the Board of Directors, in accordance with California Water Code Section 60315 sets the Replenishment Assessment rate for the ensuing fiscal year. In order to prepare for this action, the District holds public hearings in the spring of each year to determine to what extent the estimated costs for the ensuing year shall be paid for by a Replenishment Assessment. In preparing for these hearings, the District develops an annual operating budget and updates its five-year capital plan. These documents outline the funds needed to:

1. Purchase replenishment water
2. Protect and preserve the groundwater supply
3. Pay for the related administrative expenses

Investment Policy

The Board of Directors has adopted an investment policy that conforms to California Government Code Sections 53600-53686. The objectives of the investment policy are safety, liquidity, and yield. In 2009, at the direction of the Board of Directors, the District implemented its Community Banking Program and invested in several local community banks that are fully insured by the Federal Deposit Insurance Corporation (FDIC) or secured as required by state law. The Board of Directors reviews the adopted investment policy on an annual basis and approves any changes.

Capital Assets

Capital assets acquired and/or constructed are capitalized at historical cost. District policy has set the capitalization threshold for reporting capital assets at $5,000. Donated assets are recorded at estimated fair value at the date of donation. Upon retirement or other disposition of capital assets, the cost and related accumulated depreciation are removed from the respective balances and any gains or losses are recognized. Provision for depreciation is computed using the straight-line method over the following estimated useful lives of the assets:

- Utility plant and equipment – 30 years
- Monitoring and injection equipment – 3 to 20 years
- Service connection – 50 years
- Office furniture and equipment – 5 to 10 years

Procurement Policy

Purchases will be made in accordance with the District's Procurement Policies & Procedures as outlined in the District's Administration Code. The District gives preference to local businesses when the District enters into contracts for supplies, materials and equipment, construction and professional services totaling under

$25,000. Summarized below are the significant provisions of the District's procurement policies and procedures:

1. All contracts for construction work, materials, equipment, supplies and professional services shall be in writing and, at a minimum, include the relevant scope of work, duration and terms of payment.

2. All contracts valued less than $10,000 may be approved and signed by the General Manager or other District's representative authorized by the Board of Directors. The General Manager may not execute multiple contracts on behalf of the District with the same person or entity within a one-year period that cumulatively total $10,000 or more without the Board of Directors' prior approval.

3. All contracts valued $10,000 or more shall be authorized by the Board of Directors and signed by the President and the Secretary except that the Board of Directors may, by resolution for a specific expense, authorize the General Manager or the other District's representative to sign contracts in the name of the District, not to exceed $25,000.

4. Where the contract amount is less than $25,000, an informal solicitation may be made by the General Manager by informal quotes through telephone, mail or electronic inquiry, comparison of prices on file or other. Every attempt shall be made to receive at least three price quotations.

5. Before making any contract for construction work or purchase of materials, supplies, and equipment that total $25,000 or more within any 12 month period, the District shall advertise for bids by issuing a Contract Solicitation.

6. Advertising should be in a newspaper of general circulation in Los Angeles County at least once a week for four consecutive weeks. Advertisement for bids shall set forth all of the following information:

    a. That plans and specifications for the work to be done can be seen and obtained at the District's office;
    b. That the Board of Directors will receive sealed bids for the contract;
    c. That the contract will be awarded to the lowest responsive and responsible bidder; and
    d. That bids will be publicly opened at a given time and place.

7. Bids shall be opened in public at the time and place stated in the notice inviting bids. Two District employees and/or representatives shall be present at the bid openings. As each bid is opened, the bidder's name and bid amount shall be

announced. At the conclusion of the bid opening, the name of the apparent low bidder and its bid amount shall be announced. A tabulation of all bids received shall be open for public inspection during regular business hours for a period of not less than 30 calendar days after the bid opening.

8. Before making any contract for professional services, the District may solicit a Request for Proposals (RFP) for such services. However, a RFP is not required for professional services contracts. The District from time to time may issue a request for qualifications for the purpose of developing a list of qualified consultants to provide professional services for future work. Prior to issuing a request for qualifications or a request for proposal, District staff shall obtain the approval from the Board of Directors.

9. Request for qualifications may be advertised in a publication of the respective professional society or by any other means reasonably calculated to reach its intended audience. Upon review and receipt of the qualifications from the interested consultants, the District shall develop the list of qualified consultants based upon criteria established by the District.

Debt Management

Each year during the budgeting process the Board of Directors reviews the District's Capital Improvement Plan to determine the ensuing year's capital needs. Based on this review, the Board of Directors determines whether there is a need for any additional long-term debt financing or whether projects can be funded on a pay-go basis.

If the Board of Directors determines that additional debt financing is necessary, the Board holds public workshops in order to obtain stakeholder input relating to any increases to the Replenishment Assessment due to annual debt service payments. Additionally, as part of this process, the District prepares a five-year financial projection in order to ascertain the long-term impact to the Replenishment Assessment. The Board of Directors approves the debt management structure when adopting the five-year Capital Improvement Plan.

Auditing

As required by the California State Water Code Section 60292, the district shall order, review, and maintain on file an independent, audited financial statement not later than 180 days from the conclusion of the District's fiscal year. The independent audited financial statement shall be prepared by a certified public accountant and shall be consistent with standards provided in the Generally Accepted Government Auditing Standards. Copies of the independent audited financial statement shall be submitted to the Governor, the Senate Committee on Governance and Finance or its successor, the Assembly Committee on Local Government or its successor, and the California State Auditor on or before December 31 of each year.

Internal Control Structure

The Board of Directors manages the District's internal control structure through the Board-adopted Administrative Code, which provides internal control guidelines. They also monitor internal controls through communications with the independent financial auditor. District Management is responsible for the establishment and maintenance of the internal control structure that ensures the assets of the District are protected from loss, theft, or misuse. The internal control structure also ensures that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The District's internal control structure is designed to provide reasonable assurance that these objectives are met. The concept of reasonable assurance recognizes that (1) the cost of control should not exceed the benefits likely to be derived, and (2) the valuation of costs and benefits requires estimates and judgments by management.

Risk Management

The District is exposed to various risks of loss related to torts, theft of, damage to and destruction of assets; errors and omissions, injuries to employees, and natural disasters. The District is a member of the Association of California Water Agencies/ Joint Power Insurance Authority (ACWA/JPIA), an intergovernmental risk sharing joint powers authority created to provide self-insurance programs for California water agencies. The purpose of the ACWA/JPIA is to arrange and administer programs of self-insured losses and to purchase excess insurance coverage. Risk management policy is not adopted by the Board of Directors, but is a requirement of membership in the ACWA/JPIA.

Reserve Policies

The annual analysis of the District's reserve funds are an important part of responsible financial planning, particularly as the District transitions from an agency that produces water to one that produces water and operates and maintains three capital facilities.

Restricted Reserve Fund

Debt Service Reserve – established pursuant to the debt covenants in the Clean Water State Revolving Fund Loan. The District is required to maintain one year of debt service in reserve as security for the State Revolving Fund Loan.

Unrestricted Reserve Funds

Safe Drinking Water Reserve – to account for, and fund loans and grants to help clean up the groundwater basin.

Well Rehabilitation & Construction Reserve – to provide zero interest loans to help finance well construction and rehabilitation to increase pumping capacity in the basin.

Equipment Replacement Reserve – to fund periodic replacement of assets with expected useful life of three to twenty years.

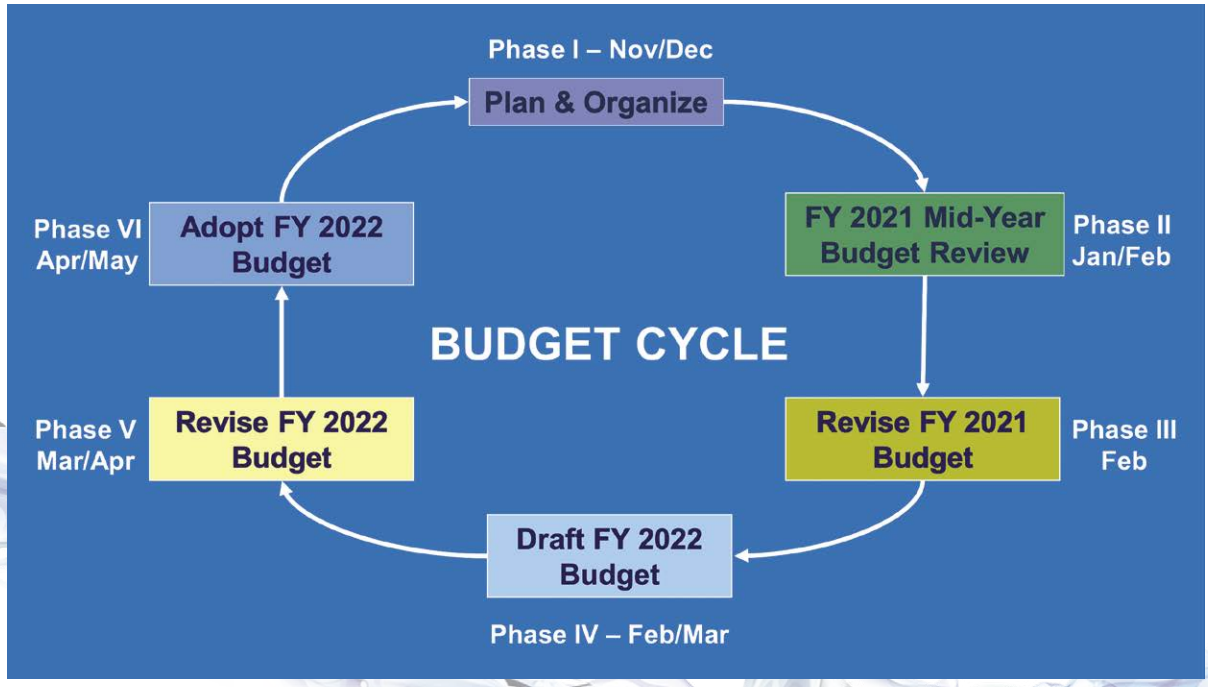
Operating Reserve – to provide needed working capital and to help ensure against unforeseen events, including lower than expected sales, unbudgeted expenses, emergencies (e.g. earthquakes or other natural disasters), and other unforeseen events. Due to the potential impact of COVID-19 on projected District revenues, at its meeting on April 23, 2020, the Board of Directors increased the Operating Reserve from three months to four and a half months of the cost of operations.

Water Purchase Carryover & Rate Stabilization Reserve – to ensure the District's ability to acquire or develop water supplies to replenish the Central and West Coast groundwater basins and to stabilize rates.

Budget Process

The budget process is not simply an exercise in balancing one year at a time, it is strategic in nature, encompassing a multi-year financial and operating plan that allocates resources on the basis of identified goals and objectives. These goals and objectives were established by the Board of Directors and District staff through the District's Strategic Plan and the five-year Capital Improvement Program.

The District moved beyond the traditional concept of line item expense control and provided incentives and flexibility to Project/Program Managers that has led to improved program efficiency and effectiveness. The District's staff continually assesses program and financial performance to encourage progress toward achieving the goals and objectives of the District.



Plan & Organize

The budget sets forth a strategic resource allocation plan that is distinctly aligned with the District's mission and the Board of Director's goals and objectives for staff. The budget process is a year-long effort of monitoring revenue and adjusting expenses based on the changing needs of operations. The Finance Department organizes the ensuing year's budget as early as November and December the year before. This phase includes preparing election ballots for the Budget Advisory Committee (in election years), preparing a mid-year budget review as well as budget request forms that are provided to the Project/Program Managers.

Mid-Year Budget Review

The Mid-Year Budget Review is a time when the District measures how we are tracking according to the planned budget and how we expect to end the fiscal year. It provides a financial assessment of the District's budget condition and is based on six months of actual data and six months of projected data. The mid-year analysis is also a platform and guide to the ensuing year's budget. The mid-year budget analysis is presented to the Board of Directors and the public. It is a time when the Board is given details of how well District projects and programs are aligned with the Board's goals and objectives.

Revise Current Year's Budget

Based on feedback provided by the Board of Directors and the public, the Board may direct staff to adjust resources to various projects or programs and modify the budget through Board approval. This process helps to ensure that the Board is aware of the financial and human resources allocated to each of the District's goals.

Draft Ensuing Year's Budget

With the mid-year budget review and adjustments completed, staff prepares the first draft of the ensuing year's budget. Project/Program Managers prepare their budget requests and submits to the Finance Department who then organize and compile all budget information into a consolidated package. To confirm that all project and program expense requests are in line with the directions of the Board, the General Manager, Assistant General Manager, Chief Financial Officer along with the Finance Staff, review each individual line item expense prior to submitting it to the Finance/Audit Committee for review. The Finance/Audit Committee of the Board of Directors is responsible to study, advise and make recommendations regarding the budget to the Board of Directors. Once reviewed and verified through the Finance/Audit Committee, the budget is presented to the Board of Directors.

Revise Ensuing Year's Budget

Staff makes the necessary adjustments to the budget based on the feedback obtained through meetings with the General Manager and public budget workshops with the Finance/Audit Committee and the Board of Directors. These refinements are related to reallocation of resources to best accomplish the Board's goals and objectives.

Adopt Ensuing Year's Budget

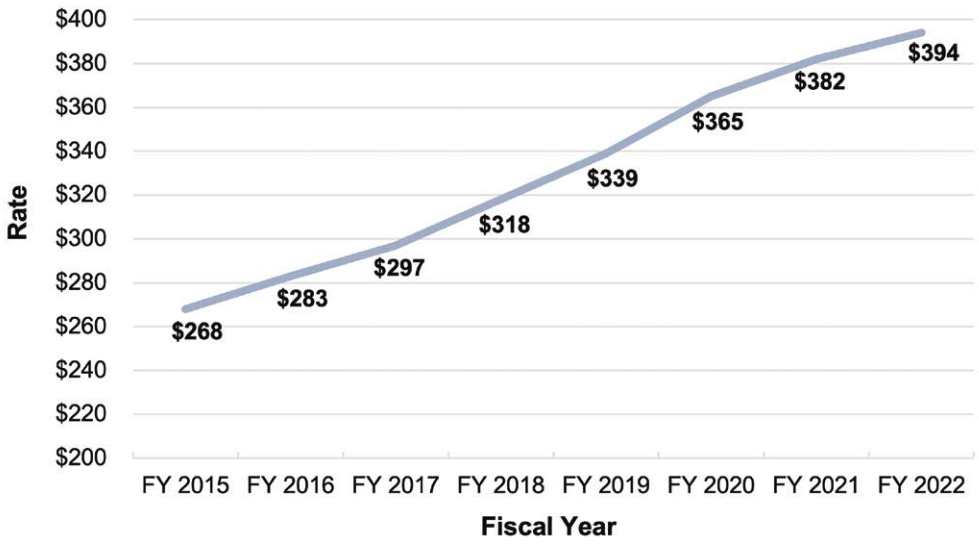
Based on section 60315 of the California Water Code, the Board of Directors must adopt the ensuing year's Replenishment Assessment no later than the second Tuesday in May. The basis of the Replenishment Assessment is the annual budget, which is adopted at the same time as the Board sets the Replenishment Assessment. Every year, the District conducts a series of public budget meetings to seek comments pursuant to the Water Code and other applicable regulatory requirements.

To ensure transparency, accountability, and fiscal responsibility, the District has an independent Budgetary Advisory Committee (BAC) comprised of stakeholders from the groundwater pumping community that are charged with providing guidance and advice on budgetary, finance, and technical matters relating to the District's projects and programs. The BAC was initiated by state law under Senate Bill 620 but was sunset in January 2020. However, the Water Replenishment District's Board of Directors recognized the benefits of having the BAC and allowed its continuance through amendment of its Administrative Code to incorporate the BAC as a standing entity.

The BAC consists of seven members who serve a two-year term, are elected from among representatives of groundwater producers and who are owners or operators of groundwater producing facilities that are subject to the Replenishment Assessment. No later than the second Tuesday in April of each year, the BAC will make its recommendation to the Board of Directors of the Water Replenishment District on the annual Replenishment Assessment, reserve funds and the draft budget. After considering the recommendations from the BAC, as well as the public, the Finance/Audit Committee makes budget recommendations to the Board of Directors.

Upon final approval by the Board of Directors, the preliminary estimates will be revised accordingly to reflect the approved budget amounts and corresponding levels of services. The District's Replenishment Assessment rate have increased gradually over the years as shown in the chart below, for the District to meet the demands of maintenance and preservation of the Basins, and, thus, availability of water for pumpers to pump.

Replenishment Assessment



To estimate the ensuing year's Replenishment Assessment rate, WRD has made a forecast based on the current year's anticipated pumping. The Finance/Audit Committee's recommendation for the Fiscal Year 2022 Replenishment Assessment is $394.00 per acre-foot, which included $4 per acre-foot of the Replenishment Assessment to the per- and polyfluoroalkyl substances (PFAS) program. The recommendation was based on the following assumptions:

1. Ensuing year's pumping to be 213,000 acre-feet. It anticipates that pumpers will remove 213,000 acre-feet from the Basins;
2. Ensuing year's water purchases to be 89,900 acre-feet to replenish the Basins; and
3. $4.0 million of revenue will come from the Water Purchase Carryover (water storage for future extraction by pumpers).

The District anticipates that the net cost of its operations for Fiscal Year 2022 will be $83,106,000, therefore, the cost of providing services including $4 per acre-foot of the Replenishment Assessment to the PFAS program will be $394 per acre-foot of water removed from the Basins.

Budget Controls and Revisions

The District's budget is prepared on an annual basis and since the budget is an estimate, at times it is necessary to make adjustments to meet the priorities and needs of the District.

The first milestone in this process is the mid-year budget review. During this process, the District compiles the six months of actual financial data and projects the final six months of data to obtain a new 12 month projected budget. The Finance Department compares the adjusted 12 month projection to the original budget adopted by the Board of Directors and presents the results to the Finance/Audit Committee and the Board of Directors. The budget is revised when expenses are anticipated to exceed estimates. A report outlining the reasons for increasing any budget appropriation is prepared and submitted to the Board of Directors for consideration.

Increases in budget appropriations must be approved by the Board of Directors. Budget transfers affecting personnel and capital outlay must be approved by the General Manager. Reallocations or transfers within a department or program require the approval of the General Manager or Department Manager.

Pumper Notification Process

The District also conducts a separate process known as the Pumper Notification Process in setting the budget and Replenishment Assessment. This process generally follows the notice requirements and protest rights granted by Proposition 218 for property-related fees. However, the District conducts the process voluntarily as an extra measure for transparency and opportunity for public input and comment, and not because it believes that the Replenishment Assessment is a property-related fees that is subject to the requirements of Proposition 218. If the Board receives written protests to the proposed Replenishment Assessment from more than 50% of the active pumpers it has been given notice to, the Board will not approve an increase to the current Replenishment Assessment rate.

As part of the Pumper Notification Process, a detailed Cost of Service Report is prepared each year by the District to explain how the Replenishment Assessment complies with these requirements. The Cost of Service Report describes the services the District anticipates performing during the ensuing fiscal year and analyzes the costs of providing these services. The costs associated with these services are described using the best available information, along with an evaluation of the fair and equitable Replenishment Assessment necessary to cover these costs. The Cost of Service Report is available via the District's web site at www.wrd.org.

The District approved the Fiscal Year 2022 Replenishment Assessment of $394 per acre-foot at the public hearing on May 4, 2021. The Replenishment Assessment was approved after an extensive and transparent process to inform all parcel owners and groundwater pumping rights holders in the District's service area. The funds generated from the Replenishment Assessment cover the cost of water purchased to replenish the two largest and most utilized groundwater basins in Southern California. Moreover, the new Replenishment Assessment is critical to helping achieve the District's goal in becoming 100% independent from costly and unreliable imported water.

Budget Calendar

NOVEMBER/DECEMBER

Internal budget meetings with District Staff to communicate the expectations, responsibilities and projected timeline to all staff involved in the budget.

JANUARY

The budget team interviews with Project and Program Managers in order to complete the Mid-Year Budget Review of the District's operations. This review process starts with six months of actual financial data from July 1 through December 31, six months of financial projections and a twelve month analysis of all of the data. The Mid-Year Budget Review serves as the basis for planning for the ensuing year's budget.

FEBRUARY

Staff prepares budget requests for the ensuing year's budget. The Finance Department compiles all of staff's budget requests into a draft report which accounts for all of the District's financial needs. The draft budget is reviewed by the General Manager and the budget team. The resulting draft budget is presented to the public through several budget workshops, ending with the final budget workshop and the Board of Directors setting the Replenishment Assessment no later than the second Tuesday in May.

February 10, 2021 – Finance/Audit Committee

Discussed Fiscal Year (FY) 2021 mid-year budget, previewed FY 2022 proposed budget and the 5-year rate forecast model.

February 17, 2021 - Budget Advisory Committee

Previewed FY 2022 budget and the Replenishment Assessment (RA) upper limit scenarios. The Committee provided feedback on the proposed budget.

February 18, 2021 – Board of Directors

Reviewed FY 2021 Mid-Year Projection, FY 2022 proposed budget and the RA upper limit. Discussed feedback from the Budget Advisory Committee on the proposed budget.

MARCH

Based on input received from the public budget meetings, Finance staff continues to refine the budget.

March 3, 2021 – Budget Advisory Committee

The Committee discussed per- and polyfluoroalkyl substances (PFAS) funding strategies and recommended adopting the FY 2022 RA upper limit at $398 per acre-foot, which includes an estimated 211,000 acre-feet of assessable pumping and a $4 per acre-foot for the PFAS program.

March 4, 2021 – Board of Directors

The Board of Directors received and filed the 2021 Engineering Survey and Report. The report determines the groundwater conditions, the District's replenishment water

needs and the estimated costs for the water. The report combined with the FY 2022 proposed budget, provides the Board and the public with the necessary information to determine the RA for the next FY.

March 10, 2021 – Finance/Audit Committee

The Committee discussed the proposed budget and recommended that the Board of Directors adopted the FY 2022 RA upper limit at $398 per acre-foot, which is a 4.2% or $16 increase on the current RA of $382 per acre-foot.

March 18, 2021 – Board of Directors

The Board of Directors accepted the Finance/Audit Committee recommendation and approved the FY 2022 RA upper limit at $398 per acre-foot to provide on the Pumper Notification mailing on March 19, 2021.

APRIL

Present the proposed budget to the Board of Directors for consideration in setting the annual Replenishment Assessment rate.

April 1, 2021 – Board of Directors

The Board of Directors received and filed the 2021 Cost of Service Report. The report is intended for use in the FY 2022 budget review and public input process.

April 7, 2021 – Special Budget Advisory Committee

Staff presented an overview on the District's annual budget process.

April 14, 2021 – Finance/Audit Committee

The Finance/Audit Committee recommended the FY 2022 RA at $394 per acre-foot, which is a 3.1% or $12 increase on the current RA of $382 per acre-foot. The FY 2022 RA includes a $4 per acre-foot for the PFAS program.

April 15, 2021 – Board of Directors

Discussed FY 2022 proposed budget and convened public hearing on the FY 2022 proposed RA per Water Code section 60306.

MAY

Adopt the proposed budget and Replenishment Assessment for the next fiscal year.

May 4, 2021 – Board of Directors

The Board convened the continued Water Code Public Hearing, received public comments and closed the Public Hearing. The Board opened the Pumper Notification Public Hearing on the Fiscal Year 2022 RA, received staff reports and testimony, and closed the Public Hearing.

The Board adopted the FY 2022 budget and the RA of $394 per acre-foot, which includes a $4 per acre-foot for the PFAS program.

Financial Highlights

Basis of Accounting and Budgeting

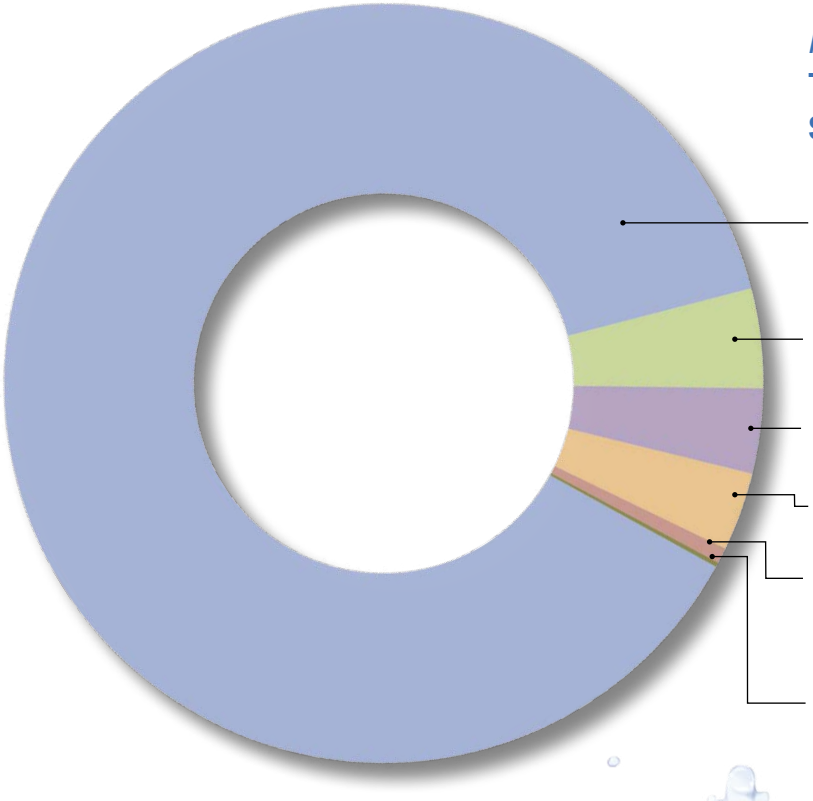
The basis of accounting and budgeting refers to the method of recognition of revenues and expenses in financial and budgetary reporting.

The District operates as a utility enterprise, and Enterprise Funds are accounted for using the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when incurred.

During the year end June 30, 2012, the District implemented certain provisions of Government Accounting Standards Board (GASB) No 62, Codification of Accounting and Financial Reporting Guidance contained in Pre-November 30, 1989 FASB and AICPA Pronouncements, specifically the accounting for rate-regulated activities which allows deferral of the recognition of revenues until the related costs or charges associated with the rates assessed are incurred. The District's accounting and financial reporting systems are maintained in compliance with Generally Accepted Accounting Principles and standards of the Government Accounting Standards Board (GASB).

As the District's financials are accounted for as an Enterprise Fund, the budget is prepared based on the full accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when a liability is incurred. Exceptions are as follows:

Depreciation and amortization are handed differently in financial reporting and budgetary reporting. In financial reporting, depreciation and amortization are included, and the repayment of principal on debt is not reported as expenses. In budgetary reporting, depreciation and amortization are excluded, and the repayment of principal on debt as expenditures are included.



Fiscal Year 2022

Total Operating Revenues
$94,502,000

Replenishment Assessment — **87.9%**
$83,106,000

Carryover Conversion — **4.2%**
$4,000,000

Vander Lans — **3.6%**
$3,430,000

Goldsworthy Desalter — **3.3%**
$3,150,000

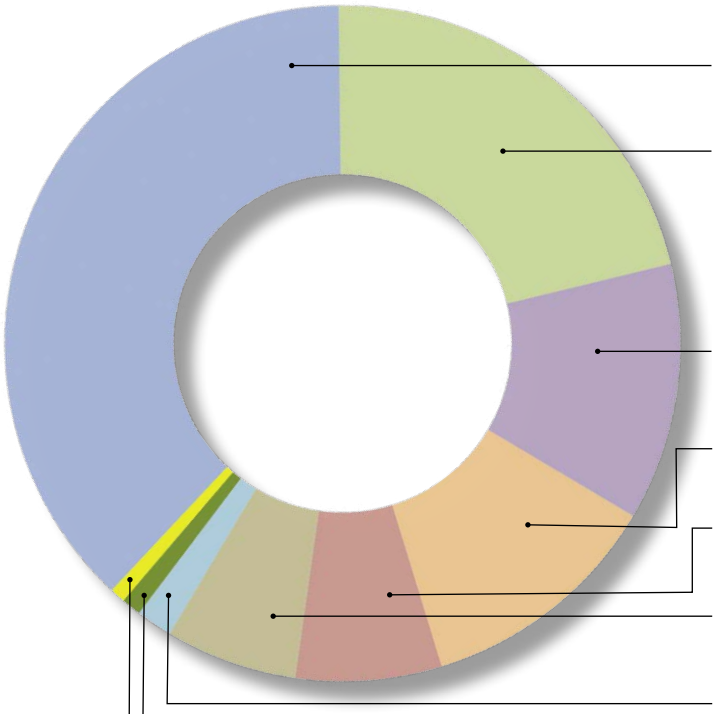
Albert Robles Center (ARC) — **.7%**
$630,000

Other Income & Expenses — **.3%**
$186,000

Fiscal Year 2022

Total Expenses

$94,502,000



Water Purchases	$35,766,000	**37.9%**
Capital & Non-Operating	20,221,000	**21.4%**
Projects and Programs	$11,637,000	**12.3%**
Albert Robles Center (ARC)	$11,090,000	**11.7%**
Administration	$6,599,000	**7.0%**
Vander Lans	$5,966,000	**6.3%**
Other Special Programs	$1,640,000	**1.7%**
GASB 45	$890,000	**1.0%**
Water Conservation	$693,000	**.7%**

The table below shows the District's Statement of Revenues, Expenses, and Changes in Net Assets. These statements reflect the operations and maintenance expenses and does not include capital expenses, except for the payments to cover debt service.

Fiscal Year 2022
Proposed Statement of Revenues, Expenses and Changes in Net Assets

	FY 2020 Actual	FY 2021 Projection	FY 2022 Budget
Operating Revenues			
Replenishment Assessment	$70,949,000	$78,310,000	$83,106,000
LJVWTF - Water Supply	489,000	3,069,000	3,430,000
Goldsworthy Desalter Sales	1,552,000	2,409,000	3,150,000
Albert Robles Center (ARC)	239,000	646,000	630,000
Total Operating Revenues	**$73,229,000**	**$84,434,000**	**$90,316,000**
Operating Expenses			
Water Purchases	$35,844,000	$32,958,000	$35,766,000
Water Conservation	388,000	561,000	693,000
LJVWTF - Water Supply	2,442,000	5,252,000	5,966,000
Albert Robles Center (ARC)	8,413,000	11,205,000	11,090,000
Projects/Programs	7,997,000	10,197,000	11,255,000
Administration	6,932,000	6,707,000	6,599,000
Board of Directors	338,000	342,000	382,000
GASB 45 (Required Retirement Funding)	700,000	890,000	890,000
Total Operating Expenses	**$63,054,000**	**$68,112,000**	**$72,641,000**
Operating Income (Loss)	**$10,175,000**	**$16,322,000**	**$17,675,000**
Non-Operating Revenues (Expenses)			
Debt Service Expenses & PAYGO Projects	$(15,776,000)	$(19,765,000)	$(20,221,000)
Other Special Programs & Supportive Costs	(838,000)	(3,090,000)	(1,640,000)
Property Taxes, Interest & Other Revenues	2,161,000	382,000	186,000
Misc. Revenue (Carryover Conversion)	7,002,000	4,000,000	4,000,000
Transfer from Reserve - Election Expense	-	1,700,000	
Total Other Revenues (Expenses)	**$(7,451,000)**	**$(16,773,000)**	**$(17,675,000)**
Change in Net Assets	**$2,724,000**	**$(451,000)**	**$-**

Revenue Sources

The District's major revenue sources are as follows:

Replenishment Assessment (RA)

The District bills the users of groundwater on a monthly basis for water pumped from the basins. The basins' top twenty pumpers are as follows:

PRODUCTION SUMMARY

Fiscal Year 2020 Top Twenty Pumpers

Number	Name	Production (Acre Feet)
1	Long Beach, City of	32,337
2	Golden State Water Company	25,331
3	Cal. Water Service Company	15,820
4	Downey, City of	14,289
5	South Gate, City of	8,200
6	Cerritos, City of	8,086
7	Tesoro Refining & Marketing Company, LLC	7,885
8	Compton, City of	7,510
9	Lakewood, City of	7,344
10	Whittier, City of	6,494
11	Vernon, City of	6,420
12	Phillips 66 Company	5,203
13	Liberty Utilities Corporation	5,163
14	Bellflower-Somerset Mutual Water Company	5,148
15	Lynwood, City of	4,912
16	Pico Rivera, City of	4,572
17	Torrance, City of	4,369
18	Paramount, City of	3,166
19	Huntington Park, City of	3,083
20	La Habra Heights County Water District	3,070
	Total	**178,401**

Leo J. Vander Lans AWTF - Water Supply

The revenue from the Leo J. Vander Lans Advanced Water Treatment Facility comes from the sale of the product water to Orange County Water District as well as a subsidy received from Central Basin Municipal Water District through a Local Resources Program offered by MWD.

Goldsworthy Desalter

Over pumping of the West Coast Basin caused seawater to intrude into some aquifers in coastal area cities affecting the local groundwater supply. To respond to seawater intrusion, the District constructed the Goldsworthy Desalter that is capable of removing 2,000 gallons of brackish water per minute from the City of Torrance's drinking water supply. The product water is then sold to the City of Torrance.

Revenues

Basis for Replenishment Assessment Revenue Estimate

The District has statutory authority to set and collect a Replenishment Assessment (RA) from all entities that own or lease water rights on each acre-foot (AF) of groundwater that they pump from the basins.

For Fiscal Year 2022, the District estimates that it will collect approximately $83,106,000 from the Replenishment Assessment based on the estimated groundwater pumping of 213,000 AF. The adopted Replenishment Assessment of $394.00 per AF, which included $4 per AF to the per- and polyfluoroalkyl substances (PFAS) program.

Pursuant to the Water Code and applicable regulations, the RA is established annually by the Board of Directors. Mathematically, the RA is calculated based on the cost allocation analysis which includes assessing the beneficiaries (i.e. pumpers) their proportional share of the cost to provide water replenishment service.

As required by the Water Code, the District annually prepares the Engineering Survey & Report (ESR) that provides the Board of Directors with the necessary information to justify the setting of an RA for the ensuing fiscal year to purchase replenishment water and to fund projects and programs related to groundwater replenishment and groundwater quality. The ESR contains the following key components:

- A discussion of groundwater production with the District;
- An evaluation of groundwater conditions with the District, including estimates of the annual overdraft, the accumulated overdraft, changes in water levels, and the effects of water level fluctuations on the groundwater resources;
- An appraisal of the quantity, availability, and cost of replenishment water required for the ensuing water year; and
- A description of current and proposed programs and projects to accomplish replenishment goals and to protect and preserve high quality groundwater supplies within the District.

Specifically, the ESR provides an estimate of the total groundwater pumping quantity for the ensuing year, which is approximately 213,000 AF in the District's service area. Furthermore, the ESR identifies the quantity of supplemental water required to replenish and protect the groundwater basins from pumping. The total estimated cost of service for FY 2022 is approximately $83,106,000 which is necessary to service the estimated

213,000 AF of groundwater pumped from the basins. Therefore, the estimated total cost of service is allocated in proportion to the estimated total groundwater pumped.

The unit cost, or RA, per AF of water pumped is calculated as follows:

$$\frac{\text{Total Cost of Service \$}}{\text{Total Groundwater Pumped (AF)}} = \text{Unit Cost (\$/AF pumped)}$$

The FY 2022 pumping estimates were evaluated and refined throughout the budget process. Based on the series of budget presentations during the budget process, the Board of Directors arrived at the total groundwater AF pumped to determine the unit cost as follows:

$$\frac{\text{Total Cost of Service } (\$83{,}106{,}000)}{\text{Total Groundwater Pumped (213,000 AF)}} = \text{Unit Cost (\$390/AF)}$$

Unit Cost $390/AF and $4/AF to the PFAS program = $394/AF

The amount of RA charged to an individual operator is calculated based on the quantity of water they pump multiplied by the RA. For example, if an operator pumps a total of 1,000 AF, that operator will be charged a total of $394,000 (1,000 AF x $394/AF).

The RA consists of two components: funds for replenishment and funds for clean water. Most of the District's efforts are related to the replenishment of the Central and West Coast Groundwater Basins. The revenue collected through the RA is split 94% to the Replenishment Fund and 6% to the Clean Water Fund based on the anticipated use of the revenue.

Basis for Capital Revenue Estimates

The District receives revenue from the Leo J. Vander Lans Advanced Water Treatment Facility, the Robert W. Goldsworthy Desalter and the Albert Robles Center for Water Recycling & Environmental Learning.

The Leo J. Vander Lans Advanced Water Treatment Facility provides advanced treated water to the Alamitos Seawater Barrier Project in order to keep seawater from intruding into the fresh groundwater supplies in the Central Basin. The revenue from the facility comes from the sale of water production to the Orange County Municipal Water District as well as a subsidy received from the Central Basin Municipal Water District through a Local Resource Program offered by the Metropolitan Water District of Southern California.

The District completed the Leo J. Vander Lans Expansion Project in FY 2016, which doubled the capacity of the treatment plant and completely replaced the need for imported water with highly treated recycled water at the Alamitos Seawater Intrusion Barrier. This is one of the key components in the District's Water Independence Now (WIN) Program. Projected revenues for FY 2022 is $3.4 million.

Fund Allocation – The primary purpose of this project is to provide a more reliable means of replenishing the basins through the use of advanced treated recycled water, 100% of this revenue is allocated to the Replenishment Fund.

The Robert W. Goldsworthy Desalter has been operating since 2002 to remove 18,000 acre-feet of brackish groundwater from a seawater intrusion plume in the Torrance area that was stranded inland of the West Coast Basin Seawater Intrusion Barrier after the barrier project was put into operation in the 1950s and 1960s. The production well and desalting facility are located within the City of Torrance and the product water that would otherwise be useless due to the Saline Plume located in the West Coast Basin is delivered for potable use to the City's distribution system. The treatment capacity is about 2,200 acre-feet per year.

The District expanded the Goldsworthy Desalter and completed the construction in 2017. The expansion project increased the treatment capacity to 4,800 acre-feet per year. The City of Torrance is responsible for the operation and maintenance of the treatment plant under contract with WRD. The revenue from the Desalter comes from the sale of water production to the City of Torrance as well as a subsidy received from the City of Torrance through a Local Resource Program offered by the Metropolitan Water District of Southern California. Projected revenues for FY 2022 is $3.2 million.

Fund Allocation – The purpose of the Desalter is directly related to remediating degraded groundwater quality and costs are thus attributed 100% to the Clean Water Fund.

The Albert Robles Center for Water Recycling & Environmental Learning is a 5.2 acre facility in the City of Pico Rivera, adjacent to the San Gabriel River, allowing for direct delivery of purified recycled water to an existing pipeline leading into the spreading grounds.

The Albert Robles Center purifies approximately 10,000 acre feet (3.25 billion gallons) of tertiary treated (recycled) water annually to near-distilled levels through an advanced water treatment facility. The facility takes in tertiary treated recycled water as source water and subjects it to additional advanced treatment through ultrafiltration, reverse osmosis, and advanced oxidation to further purify the water for groundwater replenishment in the Montebello Forebay.

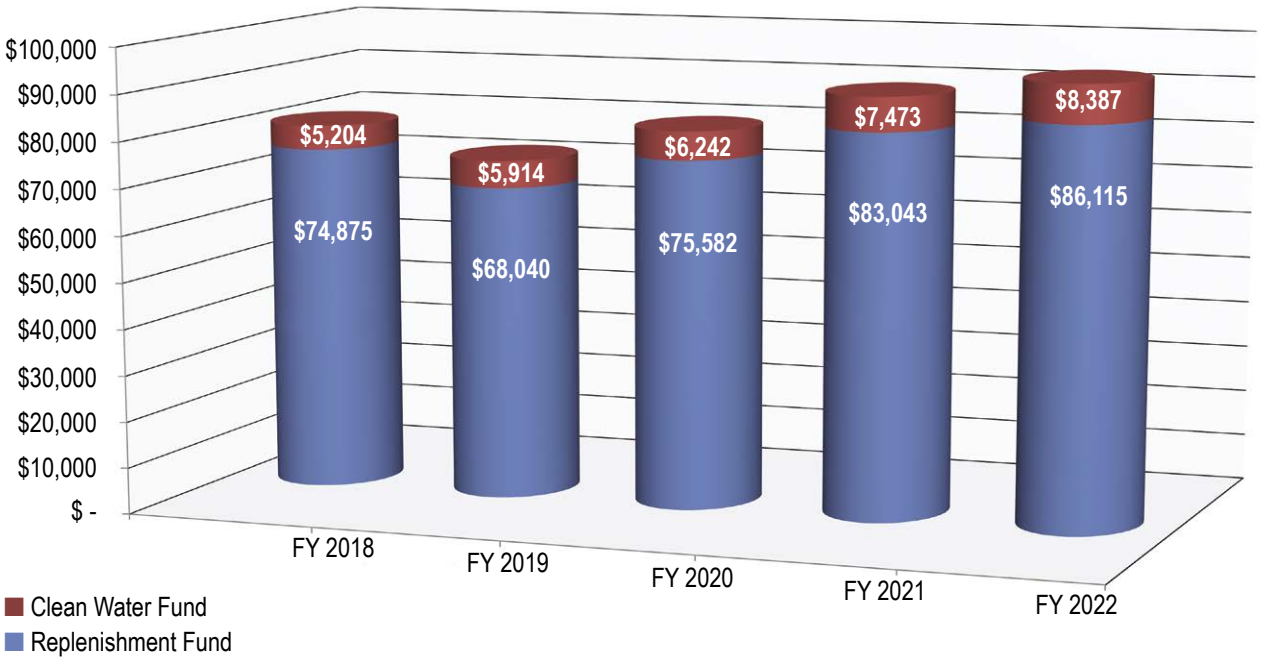
Since the Albert Robles Center offsets the need for imported water from Metropolitan Water District (MWD) of Southern California, the District receives MWD's Local Resources Program subsidy through the City of Torrance, a MWD member agency. Projected revenues for FY 2022 is $0.6 million.

Fund Allocation – The primary purpose of this project is to provide a more reliable means of replenishing the basins through the use of advanced treated recycled water, 100% of this revenue is allocated to the Replenishment Fund.

Comparative Revenue by Fund

Description	Allocation % Replen-ishment Fund	Allocation % Clean Water Fund	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual	FY 2021 Projection	FY 2022 Budget
Replenishment Fund							
Replenishment Assessment	94%		$69,267,000	$63,927,000	$66,684,000	$73,611,000	$78,120,000
LJVWTF - Water Supply	100%		166,000	114,000	489,000	3,069,000	3,430,000
Albert Robles Center	100%		-	-	239,000	646,000	630,000
Other Revenues	94%		1,618,000	1,559,000	1,573,000	359,000	175,000
Carryover Conversion	94%		3,824,000	2,440,000	6,597,000	3,760,000	3,760,000
Transfer from Reserve	94%		-	-		1,598,000	-
Sub-Total Replenishment Fund			**$74,875,000**	**$68,040,000**	**$75,582,000**	**$83,043,000**	**$86,115,000**
Clean Water Fund							
Replenishment Assessment		6%	$4,421,000	$4,080,000	$4,256,000	$4,699,000	$4,986,000
Goldsworthy Desalter Sales		100%	436,000	1,579,000	1,464,000	2,409,000	3,150,000
Other Revenues		6%	103,000	100,000	101,000	23,000	11,000
Carryover Conversion		6%	244,000	155,000	421,000	240,000	240,000
Transfer from Reserve		6%	-	-		102,000	-
Sub-Total Clean Water Fund			**$5,204,000**	**$5,914,000**	**$6,242,000**	**$7,473,000**	**$8,387,000**
Total All Funds			**$80,079,000**	**$73,954,000**	**$81,824,000**	**$90,516,000**	**$94,502,000**

Comparative Revenue by Fund (in thousands)



Basis for Other Revenue Estimates
Other Income

The District is estimating revenue for FY 2022 from property tax to be $0.7 million and interest income to be $0.1 million. There are non-RA related expenses of $0.6 million which off-set the above that will bring the estimated revenue from this source to $0.2 million.

Fund Allocation – The revenue collected through other revenue (e.g. property taxes and interest income) is split 94% to the Replenishment Fund and 6% to the Clean Water Fund based on the anticipated use of the revenue.

Groundwater is an economical source of water. In FY 2022, the District's Replenishment Assessment is $394/AF. The additional cost to the water purveyors to operate their systems and serve the water could add $50/AF to $200/AF to the Replenishment Assessment rate. In contrast, the price of treated imported water, which is the alternative source to groundwater, is projected at $1,450/AF. Therefore, groundwater is over 50% less than the cost of treated imported water.

Taking a longer view on the cost-benefit side, water imported from Northern California and the Colorado River cannot be relied on to meet the replenishment needs of WRD and the cost of imported water keeps climbing up every year. The only way to stabilize groundwater rates is to become independent of imported water.

The District's primary responsibilities are to protect the basins by replenishing groundwater, deter seawater intrusion, and remove contaminants from the groundwater. Furthermore, with the recent drought and future uncertainty of imported water, the District is moving forward with the WIN program, a series of projects that will fully utilize stormwater and recycled water sources to protect the basins and to ensure sustainable, reliable local groundwater supply to WRD's stakeholders.

Expenses

Operating and Capital Expenses by Fund Allocation

California Water Code Sections 60220 through 60226 describe the broad purposes and powers of the District to perform any acts necessary to replenish, protect, and preserve the groundwater supplies of the District. In order to meet statutory responsibilities, WRD has instituted numerous projects and programs in a continuing effort to effectively manage groundwater replenishment and groundwater quality in the Central and West Coast Basins. These projects and programs include activities that enhance the replenishment program, increase the reliability of the groundwater resources, improve and protect groundwater quality, and ensure that the groundwater supplies are suitable for beneficial uses. These projects and programs have had a positive influence on the basins, and WRD will continue these activities into the ensuing year as a necessary act to replenish, protect, preserve and enhance the groundwater resources in the basins.

The following sections discuss the projects and programs that WRD will continue or initiate during the upcoming budget year. The tables below breakdown the expenses by fund. The percentages are calculated by relating the costs to the purpose benefited by those costs – replenishment or clean water. The capital expenses are funded through long-term financing.

Basis for Fiscal Year 2022 Expense Estimate

Comparing with the prior fiscal year projection, budgeted expenses have increased by $3.5 million to $94.5 million in FY 2022.

The Albert Robles Center has completed and started producing water to replace expensive imported water in FY 2021. This project is the corner stone to the District's Water Independence Now (WIN) Initiative. The operating costs associated with the plant are projected to be $11.1 million for FY 2022, a $0.1 million decrease over the prior year. Water purchase cost is projected to increase by $2.8 million to $35.7 million in FY 2022. Based on the completion of Albert Robles Center, an advanced treated recycled water facility, and the expansions of advanced treated recycled water facilities for the barriers, the local supply from these facilities will eliminate WRD's need for imported water.

Changes made to the operations of the Leo J. Vander Lans Advanced Water Treatment Facility (LVL), resulted in a higher output of product water sent to the Alamitos Seawater Intrusion Barrier. The District is anticipating LVL producing close to the plant's production capacity in FY 2022. The operating costs are projected to increase by $0.7 million to $6.0 million in FY 2022.

WRD's Safe Drinking Water Program has operated since 1991 and is intended to promote the cleanup of groundwater resources at specific well locations. Through the installation of wellhead treatment facilities at existing production wells, the District expects to remove contaminants from the underground supply and deliver the extracted water for potable purposes. Projects implemented through this program are accomplished through direct input and coordination with well owners. Expenses are projected to decrease slightly to $0.4 million in FY 2022. The program expenses included planning and designing services for the Safe Drinking Water projects and on-call engineering service for the Disadvantage Community projects. These expenses are reimbursed through grant funding.

Other special programs and election expenses are projected to decrease by $1.5 million from $3.1 million in FY 2021 to $1.6 million in FY 2022. The decrease is mainly due to election expenses in FY 2021.

The District has debt service covenants that required funds set aside to meet the District's debt service obligations. Currently, the District has three majors debt instruments: Clean Water State Revolving Fund – Proposition 1 Funding, 2015 and 2018 Replenishment Assessment Revenue Bonds that increased the FY 2022 budget by $0.1 million to $19.8 million. PAYGO projects are projected at $0.4 million in FY 2022.

The remaining projects, programs, administration and supportive costs are projected to increase by $1.2 million.

Water Replenishment District of Southern California
Expenses Analysis

Description	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Water Purchases	$38,716,000	$33,463,000	$35,844,000	$32,958,000	$35,766,000	$2,808,000
Albert Robles Center (ARC)	272,000	2,027,000	8,413,000	11,205,000	11,090,000	(115,000)
Water Conservation	328,000	416,000	388,000	561,000	693,000	132,000
Water Supply - Vander Lans	2,510,000	1,843,000	2,442,000	5,252,000	5,966,000	714,000
Goldsworthy Desalter	826,000	1,301,000	1,741,000	2,688,000	2,978,000	290,000
Montebello Forebay Recycled Water	338,000	229,000	230,000	282,000	753,000	471,000
Groundwater Resource Planning	378,000	1,125,000	305,000	1,471,000	1,666,000	195,000
Water Quality Improvement Program	506,000	562,000	589,000	487,000	564,000	77,000
Geographic Information Systems (GIS)	299,000	295,000	241,000	178,000	266,000	88,000
Groundwater Monitoring Program	1,146,000	1,314,000	1,370,000	1,362,000	1,433,000	71,000
Safe Drinking Water Program	559,000	752,000	713,000	419,000	374,000	(45,000)
Dominguez Gap Barrier Recycled Water	173,000	213,000	195,000	250,000	357,000	107,000
Replenishment Operations	205,000	203,000	328,000	146,000	292,000	146,000
Hydrogeology Program	334,000	814,000	955,000	1,027,000	515,000	(512,000)
West Coast Barrier Program	-	22,000	-	-	22,000	22,000
Engineering Program	181,000	208,000	540,000	420,000	303,000	(117,000)
Asset Management	-	-	13,000	52,000	108,000	56,000
Annex Building Program	-	-	26,000	113,000	-	(113,000)
Regional Brackish Water Program	-	-	7,000	350,000	350,000	-
Well Construction Program	-	-	7,000	9,000	25,000	16,000
Water Education	1,192,000	997,000	736,000	943,000	1,249,000	306,000
Board of Directors	329,000	314,000	338,000	342,000	382,000	40,000
Administration	5,756,000	6,254,000	6,932,000	6,707,000	6,599,000	(108,000)
GASB 45 (Required Retirement Funding)	760,000	878,000	700,000	890,000	890,000	-
Other Special Programs & Supportive Costs	2,436,000	2,792,000	838,000	3,090,000	1,640,000	(1,450,000)
Capital & Other Non-Operating Costs	6,174,000	10,106,000	15,776,000	19,765,000	20,221,000	456,000
Total Expenses	**$63,418,000**	**$66,128,000**	**$79,667,000**	**$90,967,000**	**$94,502,000**	**$3,535,000**

Water Replenishment District of Southern California
Schedule of Expenses by Fund Allocation
Replenishment Fund

Description	Replen-ishment Assessment Fund	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Water Purchases	100%	$38,716,000	$33,463,000	$35,844,000	$32,958,000	$35,766,000	$2,808,000
Albert Robles Center (ARC)	100%	272,000	2,027,000	8,413,000	11,205,000	11,090,000	(115,000)
Water Conservation	50%	164,000	208,000	194,000	280,500	346,500	66,000
Water Supply - Vander Lans	100%	2,510,000	1,843,000	2,442,000	5,252,000	5,966,000	714,000
Montebello Forebay Recycled Water	100%	338,000	229,000	230,000	282,000	753,000	471,000
Groundwater Resource Planning	100%	378,000	1,125,000	305,000	1,471,000	1,666,000	195,000
Geographic Information Systems (GIS)	50%	149,500	147,500	120,500	89,000	133,000	44,000
Groundwater Monitoring Program	50%	573,000	657,000	685,000	681,000	716,500	35,500
Dominguez Gap Barrier Recycled Water	100%	173,000	213,000	195,000	250,000	357,000	107,000
Replenishment Operations	100%	205,000	203,000	328,000	146,000	292,000	146,000
Hydrogeology Program	50%	167,000	407,000	477,500	513,500	257,500	(256,000)
West Coast Barrier Program	100%	-	22,000	-	-	22,000	22,000
Engineering Program	100%	181,000	208,000	540,000	420,000	303,000	(117,000)
Asset Management	100%	-	-	13,000	52,000	108,000	56,000
Annex Building Program	100%	-	-	26,000	113,000	-	(113,000)
Regional Brackish Water Program	100%	-	-	7,000	350,000	350,000	-
Well Construction Program	100%	-	-	7,000	9,000	25,000	16,000
Water Education	50%	596,000	498,500	368,000	471,500	624,500	153,000
Board of Directors	94%	309,260	295,160	317,720	321,480	359,080	37,600
Administration	94%	5,410,640	5,878,760	6,516,080	6,304,580	6,203,060	(101,520)
GASB 45 (Required Retirement Funding)	94%	714,400	825,320	658,000	836,600	836,600	-
Other Special Programs & Supportive Costs	94%	2,289,840	2,624,480	787,720	2,904,600	1,541,600	(1,363,000)
Capital & Other Non-Operating Costs	94%	5,803,560	9,499,640	14,829,440	18,579,100	19,007,740	428,640
Sub-Total Replenishment Assessment Fund		**$58,950,200**	**$60,374,360**	**$73,303,960**	**$83,489,860**	**$86,724,080**	**$3,234,220**

Water Replenishment District of Southern California
Schedule of Expenses by Fund Allocation
Clean Water Fund

Description	Clean Water Fund	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Water Conservation	50%	$164,000	$208,000	$194,000	$280,500	$346,500	$66,000
Goldsworthy Desalter	100%	826,000	1,301,000	1,741,000	2,688,000	2,978,000	290,000
Water Quality Improvement Program	100%	506,000	562,000	589,000	487,000	564,000	77,000
Geographic Information Systems (GIS)	50%	149,500	147,500	120,500	89,000	133,000	44,000
Groundwater Monitoring Program	50%	573,000	657,000	685,000	681,000	716,500	35,500
Safe Drinking Water Program	100%	559,000	752,000	713,000	419,000	374,000	(45,000)
Hydrogeology Program	50%	167,000	407,000	477,500	513,500	257,500	(256,000)
Water Education	50%	596,000	498,500	368,000	471,500	624,500	153,000
Board of Directors	6%	19,740	18,840	20,280	20,520	22,920	2,400
Administration	6%	345,360	375,240	415,920	402,420	395,940	(6,480)
GASB 45 (Required Retirement Funding)	6%	45,600	52,680	42,000	53,400	53,400	-
Other Special Programs & Supportive Costs	6%	146,160	167,520	50,280	185,400	98,400	(87,000)
Capital & Other Non-Operating Costs	6%	370,440	606,360	946,560	1,185,900	1,213,260	27,360
Sub-Total Clean Water Fund		**$4,467,800**	**$5,753,640**	**$6,363,040**	**$7,477,140**	**$7,777,920**	**$300,780**
Total Expenses		**$63,418,000**	**$66,128,000**	**$79,667,000**	**$90,967,000**	**$94,502,000**	**$3,535,000**

Fund Balances

Reserve Fund Policy

The level of reserves maintained by the District is an important component of short and long-term financial management, and is a key consideration in the rate-setting process. Furthermore, the level of reserves is one of the key financial metrics used by credit rating agencies when evaluating the financial strength of an organization. Prudent reserves are an important financial tool that benefits both WRD and the pumpers. A prudent level of reserves helps mitigate financial risks due to changes in pumping levels, unexpected cost increases, and emergencies.

WRD's reserve policy is to ensure that reserves meet WRD's financial and operational objectives. Among other things, the Reserve Policy includes:

- How these balances are established
- How funds are used
- How the adequacy of each respective reserve fund balance is determined
- How reserves are replenished when used

The District's reserve policy will be reviewed annually during the budgeting process to monitor current levels and evaluate compliance with the policy. Decisions can then be made to maintain, increase, or spend down reserve balances, as appropriate, with an understanding of the impact of such decisions to the upcoming budget period and the long-term financial plan. The annual analysis of funds is an important part of responsible financial planning, particularly as WRD transitions from an agency that produces water to one that produces water and operates and maintains three capital facilities.

As of June 30, 2021, the District had $78,597,000 in Reserve Funds. This includes $3,000,000 of restricted reserves and $75,597,000 in unrestricted reserves. The following pages provide a detailed breakdown of the District's reserve funds.

Restricted Reserve Fund

1. **Debt Service Reserve** – established pursuant to the covenants in WRD's State Revolving Fund (SRF) Loan. The District is required to maintain one year of debt service in reserve as security for the SRF loan.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Debt Service	
Reserved for Debt Service		**$3,000,000**

Unrestricted Reserve Funds

1. **Safe Drinking Water Reserve** - to account for, and fund loans and grants to help clean up the groundwater basin.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Safe Drinking Water Projects	
Reserved for Safe Drinking Water		**$5,000,000**

2. **Well Rehabilitation & Construction Reserve** - to provide zero interest loans to help finance well construction and rehabilitation to increase pumping capacity in the basin.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Well Rehabilitation Program	
Reserved for Well Rehabilitation & Construction		**$7,500,000**

3. **Equipment Replacement Reserve** - to fund periodic replacement of assets with expected useful life of three to twenty years.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Equipment Replacement Costs	
Reserved for Equipment Replacement		**$5,000,000**

4. **Operating Reserve** - to provide needed working capital and to help ensure against unforeseen events, including lower than expected sales, unbudgeted expenses, emergencies (e.g. earthquakes or other natural disasters), and other unforeseen events. Due to the potential impact of COVID-19 on projected District revenues, at its meeting on April 23, 2020, the Board of Directors increased the Operating Reserve from three months to four and a half months of the cost of operations, including annual debt services, in the current year budget.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Non-Recurring Operating Expenses	
Reserved for Operating		**$34,000,000**

5. **Water Purchase Carryover & Rate Stabilization Reserve** – to ensure WRD's ability to acquire or develop water supplies to replenish the Central and West Coast groundwater basins and to stabilize rates.

Source of Funds:	Replenishment Assessment	
Use of Funds:	Acquire or Develop Water Supplies	
Reserved for Water Purchase Carryover & Rate Stabilization		**$24,097,000**

The District's reserve balances are summarized as follows:

Reserve Fund Balances	
Reserve Funds:	
Debt Services (Restricted)	$ 3,000,000
Safe Drinking Water	5,000,000
Well Rehabilitation & Construction	7,500,000
Equipment Replacement	5,000,000
Operating	34,000,000
Water Purchase Carryover & Rate Stabilization	24,097,000
TOTAL Reserve balances as of June 30, 2021	**$ 78,597,000**

Trust Funds

A relationship whereby funds are legally held and managed by another party or organization for the benefit of specific purpose.

The Water Replenishment District has a number of trust funds related to District's Capital Improvement Plan. The District's Trustee, U.S. Bank, holds the majority of the funds which were received from the issuance of 2015 and 2018 Replenishment Assessment Revenue Bonds. The remaining amount relates to the funds received from the California Department of Transportation (CalTrans) settlement of $8.0 million which was received in June 2004. Since that time, the District has been reimbursed for costs associated with the project, as well as for charges tied to the amount of water pumped from the basin for dewatering the freeway.

The balance of trust funds as of June 30, 2021 was as follows:

Restricted for Capital Projects – Funds held in trust with U.S. Bank for use in accordance with the Official Statement and the Master Trust Agreement.

Proceeds from the 2015 Debt Issuances	
Total in Trust for 2015 Debt Issuance	**$117**

Proceeds from the 2018 Debt Issuances	
Source of Funds:	2018 Revenue Bond
Use of Funds:	Restricted for Capital Projects Only
Total in Trust for 2018 Debt Issuance	**$47,656,510**

CalTrans Trust – These funds are held in trust by WRD as part of a settlement with the California Department of Transportation (CalTrans) for dewatering the 105 freeway.

Source of Funds:	CalTrans Settlement
Use of Funds:	Restricted for CalTrans Project and Replenishment Assessment

Originally, the CalTrans settlement of $8.0 million was received in June 2004. Since that time, the District has been reimbursed for costs associated with the project, as well as for charges tied to the amount of water pumped from the basin for dewatering the freeway.

Total in Trust for CalTrans Project	**$ 5,557,588**
TOTAL Trust balances as of June 30, 2021	**$53,214,215**

Projected Unreserved Fund Balance at June 30, 2021 and 2022

Description	Estimated Unreserved Fund Balance 6/30/2021	Estimated Revenues	Estimated Expenses	Debt Service	Estimated Unreserved Fund Balance 6/30/2022
Replenishment Fund	$16,171,811	$86,115,000	$(68,116,780)	$(18,607,300)	$15,562,731
Clean Water Fund	$1,032,243	$8,387,000	$(6,590,220)	$(1,187,700)	$1,641,323
Total All Funds	**$17,204,054**	**$94,502,000**	**$(74,707,000)**	**$(19,795,000)**	**$17,204,054**

Projected Unreserved Fund Balance (5-Year Forecast)

Description	FY 2022 Budget	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast
Beginning Funds Balance	**$17,204,054**	**$17,204,054**	**$17,420,369**	**$17,857,535**	**$18,101,296**
Add: Estimated Revenues	$94,502,000	$97,337,060	$100,257,172	$103,264,887	$106,362,834
Total Funds Available	**$111,706,054**	**$114,541,114**	**$117,677,541**	**$121,122,422**	**$124,464,130**
Less: Estimated Expenditures	$(74,707,000)	$(77,321,745)	$(80,028,006)	$(83,229,126)	$(86,558,291)
Annual Debt Service	$(19,795,000)	$(19,799,000)	$(19,792,000)	$(19,792,000)	$(19,792,000)
Ending Funds Balance	**$17,204,054**	**$17,420,369**	**$17,857,535**	**$18,101,296**	**$18,113,839**

Long-Term Debt

Debt Management Policy

Pursuant to the requirements of SB-1029 California Debt and Investment Advisory Commission, the District adopted the Debt Management Policy that established guidelines for the issuance and the on-going administration process for debt securities and other forms of indebtedness issued by the District.

The District is committed to long-term financial planning, maintaining appropriate reserves levels and employing prudent practices in governance, management and budget administration. The District intends to issue debt for the purposes stated in these Debt Management Policies and to implement policy decisions incorporated in the District's Five-Year Financial Plan and its annual operating budget.

The District recognizes that a fiscally prudent debt policy is required to:

- Maintain the District's sound financial position.
- Ensure the District has the flexibility to respond to changes in future service priorities, revenue levels, and operating expenses.
- Protect the District's credit-worthiness.
- Ensure that all debt is structured to protect both current and future taxpayers, ratepayers and constituents of the District.
- Ensure that the District's debt is consistent with the District's planning, goals and objectives and capital improvement program or budget, as applicable.

The District issued long-term debt to finance the constructions, acquisition, and rehabilitation of capital improvements and facilities, equipment and land to be owned and operated by the District. Long-term debt financings are not appropriate for current operating expenses and routine maintenance expenses. Details of the District's long-term debt are presented as follows:

Replenishment Assessment Revenue Bonds, Series 2015

With water independence on the horizon, on December 10, 2015 the District issued $148,345,000 Replenishment Assessment Revenue Bonds, Series 2015. Additionally,

the District formed “The Authority”, a joint exercise of powers agency organized under the laws of the State of California and formed pursuant to that certain Joint Exercise of Powers Agreement dated August 6, 2015 by the California Municipal Finance Authority, a joint exercise of powers authority organized and existing under and by virtue of the laws of the State of California.

Both Standard and Poor’s and Fitch ratings affirmed the WRD’s credit rating of AA+ with a stable outlook. This helped in the District obtaining AAA pricing, in line with the Metropolitan Water District pricing the day before WRD priced its bonds. The District will have level debt service payments of $9.25 million annually for 30 years. The result of the refunding resulted in a net present value (NPV) of $9.72 million and an all-in lowering of total interest cost of 3.49%, compared to the 2004 COP – 4.52%, 2008 COP – 6.15%, and 2011 COP – 4.70%. Due to the District’s strong credit rating and aggressive pricing by the District’s underwriting team, the demand for the bonds was four-times the offering amount.

The bonds were issued by the Authority to: (i) finance the acquisition, construction and installation of certain capital improvement projects of the WRD, (ii) prepay the 2004, 2008 and 2011 Certificates of Participation, and (iii) to pay costs of issuance of the bonds.

The net proceeds of $69,500,000 are being used to fund the following capital projects:

1. Albert Robles Center for Water Recycling and Environmental Learning
2. Goldsworthy Brackish Water Reclamation Program
3. Stormwater Conservation and Groundwater Storage Program
4. Groundwater Basin Management Program
5. Improvements related to the Safe Drinking Water Program
6. Improvements related to the Groundwater Infrastructure Management Program

Replenishment Assessment Revenue Bonds, Series 2018

As the District goes through the annual update of its Capital Improvement Plan, the District looks to the capital funding needs for the next three to five years. With the completion of the Albert Robles Center for Water Recycling and Environmental Learning and the Goldsworthy Desalter expansion, it is evident that additional funds will be needed to continue WRD’s mission to supply clean and reliable water to the West Coast and Central Groundwater Basins.

In December 2018, the District issued $65,785,000 Replenishment Assessment Revenue Bonds, Series 2018. The 2018 Revenue Bond are being issued pursuant to an Indenture of Trust among the Water Replenishment District of Southern California Financing Authority (‘the Authority’), WRD (‘the District”) and U.S. Bank as trustee. The Bonds were being issued by the Authority to finance the acquisition, construction, and installation of the following capital improvement projects and pay costs of issuance of bonds.

1. Leo J. Vander Lans (LVL) Facility Improvement Projects
2. Regional Brackish Water Reclamation Project
3. Field Operations and Storage Annex Facility Project
4. Whittier Narrows Conservation Pool Feasibility Study
5. Dominguez Gap Seawater Intrusions Barrier – Second Connection/potable backup supply
6. Groundwater Basin Management Program
7. Safe Drinking Water Program

Clean Water State Revolving Fund

As the District moves towards independence from imported water from both the Colorado River and the California State Water Project, we continue to find ways to keep the costs as low as possible. As part of this effort, the District applied for and has been awarded a $15,000,000 million grant and an $80,000,000, 30-year one-percent loan to assist with the building of the Groundwater Reliability Improvement Project through the California Clean Water State Revolving Fund. The savings will amount to nearly $47,000,000 to the District's customers when compared to a 30-year Replenishment Assessment Revenue Bonds at the District's last borrowing interest rate of 3.49%.

Projected Budget Impact of Debt Service

The projected budget impact of principal and interest payments with the 2015 and 2018 Replenishment Assessment Revenue Bonds, and Clean Water State Revolving Fund is as follows:

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
2015 Revenue Bonds	$11.1M	$11.1M	$11.1M	$11.1M	$11.1M
2018 Revenue Bonds	5.2M	5.2M	5.2M	5.2M	5.2M
State Revolving Fund Loan	3.5M	3.5M	3.5M	3.5M	3.5M
Total	**$19.8M**	**$19.8M**	**$19.8M**	**$19.8M**	**$19.8M**

The projects constructed with these borrowings will replace the need to purchase 21,000 acre-feet of imported water for replenishment purposes. The reduction in imported water costs mitigates the impact of the ongoing debt service payments shown above. In addition, the cost of imported water is expected to increase over time, while debt service will be essentially level for the next thirty years, providing a hedge against uncertainty regarding the future cost of imported water supplies.

Debt Ceiling

There is currently no debt limit or ceiling in the California State Water Code for water districts such as WRD. The District has the authority to collect the cost of debt in its Replenishment Assessment. Capital Improvement Program additions and betterments will be primarily funded through long-term debt.

Debt Service Payments Schedule

		2015 Revenue Bonds			2018 Revenue Bonds			Clean Water State Revolving Fund Loan		
Due Date	Fiscal Year	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
08/01/2016		1,655,000	4,118,895	**5,773,895**						
02/01/2017	**2017**		3,472,350	**3,472,350**						
08/01/2017		2,350,000	3,472,350	**5,822,350**						
02/01/2018	**2018**		3,425,350	**3,425,350**						
08/01/2018		2,445,000	3,425,350	**5,870,350**						
02/01/2019	**2019**		3,376,450	**3,376,450**		392,883	**392,883**			
08/01/2019		2,560,000	3,376,450	**5,936,450**		1,644,625	**1,644,625**			
12/31/2019							-			
02/01/2020	**2020**		3,312,450	**3,312,450**		1,644,625	**1,644,625**	2,295,672	628,866	**2,924,539**
08/01/2020		2,690,000	3,312,450	**6,002,450**	1,035,000	1,644,625	**2,679,625**			
12/31/2020								2,191,480	733,059	**2,924,539**
02/01/2021	**2021**		3,245,200	**3,245,200**		1,618,750	**1,618,750**			
08/01/2021		2,830,000	3,245,200	**6,075,200**	1,085,000	1,618,750	**2,703,750**			
12/31/2021								2,213,395	711,144	**2,924,539**
02/01/2022	**2022**		3,174,450	**3,174,450**		1,591,625	**1,591,625**			
08/01/2022		2,975,000	3,174,450	**6,149,450**	1,145,000	1,591,625	**2,736,625**			
12/31/2022								2,235,529	689,010	**2,924,539**
02/01/2023	**2023**		3,100,075	**3,100,075**		1,563,000	**1,563,000**			
08/01/2023		3,125,000	3,100,075	**6,225,075**	1,200,000	1,563,000	**2,763,000**			
12/31/2023								2,257,884	666,655	**2,924,539**
02/01/2024	**2024**		3,021,950	**3,021,950**		1,533,000	**1,533,000**			
08/01/2024		3,285,000	3,021,950	**6,306,950**	1,260,000	1,533,000	**2,793,000**			
08/01/2024								2,280,463	644,076	**2,924,539**
02/01/2025	**2025**		2,939,825	**2,939,825**		1,501,500	**1,501,500**			
08/01/2025		3,455,000	2,939,825	**6,394,825**	1,325,000	1,501,500	**2,826,500**			
12/31/2025								2,303,268	621,271	**2,924,539**
02/01/2026	**2026**		2,853,450	**2,853,450**		1,468,375	**1,468,375**			

		2015 Revenue Bonds			2018 Revenue Bonds			Clean Water State Revolving Fund Loan		
08/01/2026		3,630,000	2,853,450	**6,483,450**	1,395,000	1,468,375	**2,863,375**			
12/31/2026								2,326,300	598,238	**2,924,539**
02/01/2027	**2027**		2,762,700	**2,762,700**		1,433,500	**1,433,500**			
08/01/2027		3,815,000	2,762,700	**6,577,700**	1,465,000	1,433,500	**2,898,500**			
12/31/2027								2,349,563	574,975	**2,924,539**
02/01/2028	**2028**		2,667,325	**2,667,325**		1,396,875	**1,396,875**			
08/01/2028		4,015,000	2,667,325	**6,682,325**	1,540,000	1,396,875	**2,936,875**			
12/31/2028								2,373,059	551,480	**2,924,539**
02/01/2029	**2029**		2,566,950	**2,566,950**		1,358,375	**1,358,375**			
08/01/2029		4,220,000	2,566,950	**6,786,950**	1,620,000	1,358,375	**2,978,375**			
12/31/2029								2,396,790	527,749	**2,924,539**
02/01/2030	**2030**		2,461,450	**2,461,450**		1,317,875	**1,317,875**			
08/01/2030		4,435,000	2,461,450	**6,896,450**	1,705,000	1,317,875	**3,022,875**			
12/31/2030								2,420,758	503,781	**2,924,539**
02/01/2031	**2031**		2,350,575	**2,350,575**		1,275,250	**1,275,250**			
08/01/2031		4,660,000	2,350,575	**7,010,575**	1,790,000	1,275,250	**3,065,250**			
12/31/2031								2,444,965	479,574	**2,924,539**
02/01/2032	**2032**		2,234,075	**2,234,075**		1,230,500	**1,230,500**			
08/01/2032		4,900,000	2,234,075	**7,134,075**	1,885,000	1,230,500	**3,115,500**			
12/31/2032								2,469,415	455,124	**2,924,539**
02/01/2033	**2033**		2,111,575	**2,111,575**		1,183,375	**1,183,375**			
08/01/2033		5,155,000	2,111,575	**7,266,575**	1,980,000	1,183,375	**3,163,375**			
12/31/2033								2,494,109	430,430	**2,924,539**
02/01/2034	**2034**		1,982,700	**1,982,700**		1,133,875	**1,133,875**			
08/01/2034		5,415,000	1,982,700	**7,397,700**	2,080,000	1,133,875	**3,213,875**			
12/31/2034								2,519,050	405,489	**2,924,539**
02/01/2035	**2035**		1,847,325	**1,847,325**		1,081,875	**1,081,875**			
08/01/2035		5,695,000	1,847,325	**7,542,325**	2,190,000	1,081,875	**3,271,875**			
12/31/2035								2,544,240	380,298	**2,924,539**
02/01/2036	**2036**		1,704,950	**1,704,950**		1,027,125	**1,027,125**			
08/01/2036		5,985,000	1,704,950	**7,689,950**	2,300,000	1,027,125	**3,327,125**			
12/31/2036								2,569,683	354,856	**2,924,539**
02/01/2037	**2037**		1,555,325	**1,555,325**		969,625	**969,625**			
08/01/2037		6,295,000	1,555,325	**7,850,325**	2,420,000	969,625	**3,389,625**			
12/31/2037								2,595,380	329,159	**2,924,539**
02/01/2038	**2038**		1,397,950	**1,397,950**		909,125	**909,125**			

		2015 Revenue Bonds			2018 Revenue Bonds			Clean Water State Revolving Fund Loan		
08/01/2038		6,615,000	1,397,950	**8,012,950**	2,540,000	909,125	**3,449,125**			
12/31/2038								2,621,334	303,205	**2,924,539**
02/01/2039	**2039**		1,232,575	**1,232,575**		845,625	**845,625**			
08/01/2039		6,955,000	1,232,575	**8,187,575**	2,675,000	845,625	**3,520,625**			
12/31/2039								2,647,547	276,992	**2,924,539**
02/01/2040	**2040**		1,058,700	**1,058,700**		778,750	**778,750**			
08/01/2040		7,315,000	1,058,700	**8,373,700**	2,810,000	778,750	**3,588,750**			
12/31/2040								2,674,022	250,517	**2,924,539**
02/01/2041	**2041**		875,825	**875,825**		708,500	**708,500**			
08/01/2041		7,685,000	875,825	**8,560,825**	2,955,000	708,500	**3,663,500**			
12/31/2041								2,700,763	223,776	**2,924,539**
02/01/2042	**2042**		683,700	**683,700**		634,625	**634,625**			
08/01/2042		8,040,000	683,700	**8,723,700**	3,105,000	634,625	**3,739,625**			
12/31/2042								2,727,770	196,769	**2,924,539**
02/01/2043	**2043**		522,900	**522,900**		557,000	**557,000**			
08/01/2043		8,370,000	522,900	**8,892,900**	3,265,000	557,000	**3,822,000**			
12/31/2043								2,755,048	169,491	**2,924,539**
02/01/2044	**2044**		355,500	**355,500**		475,375	**475,375**			
08/01/2044		8,710,000	355,500	**9,065,500**	3,430,000	475,375	**3,905,375**			
12/31/2044								2,782,598	141,940	**2,924,539**
02/01/2045	**2045**		181,300	**181,300**		389,625	**389,625**			
08/01/2045		9,065,000	181,300	**9,246,300**	3,610,000	389,625	**3,999,625**			
12/31/2045								2,810,424	114,115	**2,924,539**
02/01/2046	**2046**					299,375	**299,375**			
08/01/2046					3,795,000	299,375	**4,094,375**			
12/31/2046								2,838,529	86,010	**2,924,539**
02/01/2047	**2047**					204,500	**204,500**			
08/01/2047					3,990,000	204,500	**4,194,500**			
12/31/2047								2,866,914	57,625	**2,924,539**
02/01/2048	**2048**					104,750	**104,750**			
08/01/2048					4,190,000	104,750	**4,294,750**			
12/31/2048	**2049**							2,895,583	28,956	**2,924,539**
	TOTAL	148,345,000	129,068,795	**277,413,795**	65,785,000	62,510,258	**128,295,258**	75,601,535	12,134,630	**87,736,165**

Resolution

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA LEVYING A REPLENISHMENT ASSESSMENT ON THE PRODUCTION OF GROUNDWATER FROM THE GROUNDWATER SUPPLIES WITHIN THE DISTRICT DURING THE FISCAL YEAR COMMENCING JULY 1, 2021 AND ENDING ON JUNE 30, 2022 AS PROVIDED IN SECTION 60317 OF CALIFORNIA WATER CODE AND MAKING FINDINGS AND DETERMINATIONS REGARDING SAID ASSESSMENT IN ACCORDANCE WITH SECTIONS 60315 AND 60316 OF THE WATER CODE OF THE STATE OF CALIFORNIA

WHEREAS, the Board of Directors ("the Board") of the Water Replenishment District of Southern California ("the District") on February 4, 2021, in compliance with California Water Code § 60300, timely ordered an Engineering Survey and Report ("ESR") to be made regarding the groundwater supplies and groundwater quality issues within the District; and

WHEREAS, the ESR has been prepared pursuant to the Board's request and the ESR has been available for inspection by any interested party for the time required by law; and

WHEREAS, the Board, by Resolution No. 21-1147, has declared that funds shall be raised to purchase water for replenishment of groundwater supplies within the District during the ensuing fiscal year, 2021-22, and to accomplish all acts reasonably necessary pursuant to said replenishment, including, but not limited to, the development and operation of capital projects, and that such funds shall be raised by a replenishment assessment as provided in Chapter 2 of Part 6 of the California Water Code, and further finding that the funds to be raised will benefit, directly or indirectly, all of the persons or real property and improvements within the District; and

WHEREAS, the Board, by Resolution No. 21-1147, has declared that funds shall be raised to remove contaminants from groundwater supplies and to exercise any other power under California Water Code § 60224, including, but not limited to, the development and operation of capital projects, and that such funds shall be raised by a replenishment assessment as provided in Chapter 2 of Part 6 of the California Water Code, and further finding that the funds so raised will benefit, directly or indirectly, all of the persons or real property and improvements within the District; and

WHEREAS, the District prepared a Cost of Service Report dated April 1, 2021, which has been made available to the public, describing the services the District anticipates performing in Fiscal Year 2021/22, estimating the costs of providing those services, and calculating a Replenishment Assessment that ensures that those costs are spread amongst water producers in an equitable manner; and

WHEREAS, on April 15, 2021, as required by California Water Code § 60307, the Board held a public hearing for the purpose of determining whether and to what extent the estimated cost of water replenishment programs and the estimated cost of water quality programs for the ensuing year shall be paid for by a replenishment assessment; and

WHEREAS, notice of the April 15, 2021 hearing was published as required by law; and

WHEREAS, in addition to the public hearing, the District also held budget workshops that were open to the public, where the District provided the public with information concerning its Fiscal Year 2021/22 budget, which is directly related to the Replenishment Assessment; and

WHEREAS, the District's Budget Advisory Committee has met and the Board has received and considered recommendations from the Budget Advisory Committee; and

WHEREAS, all evidence and testimony relevant to the ESR and the Board's determination that such a Replenishment Assessment shall be levied was heard at the public hearing; and

WHEREAS, all other findings required by law have already been made, including, but not limited to, any findings required by California Water Code § 60231; and

WHEREAS, the Board desires to move forward with the levy of a Replenishment Assessment for the upcoming year.

NOW, THEREFORE, BE IT RESOLVED AND DECLARED BY THE BOARD OF DIRECTORS OF THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA AS FOLLOWS:

1. That said Board pursuant to §60315 of the Water Code of the State of California finds as follows:

    a) The annual overdraft of the preceding water year, 2019/20, was 56,287 acre-feet as provided in the 2021 ESR and any updates.

    b) The estimated annual overdraft for the current water year, 2020/21, is 99,800 acre-feet as provided in the 2021 ESR and any updates.

    c) The estimated annual overdraft for the ensuing water year, 2021/22, is also 75,800 acre-feet as provided in the 2021 ESR and any updates.

d) The accumulated overdraft as of the last day of the preceding water year was 742,240 acre-feet as provided in the 2021 ESR and any updates.

e) The estimated accumulated overdraft as of the last day of the current water year is 764,800 acre-feet as provided in the 2021 ESR and any updates.

f) The total production of groundwater from the groundwater supplies within the District during the preceding water year was 201,767 acre-feet as provided in the 2021 ESR and any updates.

g) The estimated total production of groundwater from groundwater supplies within the District for the current water year is 218,000 acre-feet as provided in the 2021 ESR and any updates.

h) The estimated total production of groundwater from the groundwater supplies within the District for the ensuing water year is also 221,000 acre-feet as provided in the 2021 ESR and any updates.

i) Water Year 2019/20 had normal precipitation, reduced pumping, and an average amount of replenishment by WRD. Therefore, groundwater levels rose on average 5.5 feet Districtwide. This led to an increase in groundwater storage of approximately 24,225 AF. The 2021 ESR and any updates provide details of water levels and basin conditions.

j) The District is currently 44% of normal rainfall through January 26, 2021. Water levels in the Montebello Forebay dropped nearly 13 feet by the start of the winter season but are presently about 4.6 feet lower than the previous water year (January 2021). Basin conditions have improved over the past couple water years but are still below pre-drought conditions. The 2021 ESR and any updates provide details of water levels and basin conditions.

k) The quantity of water that should be purchased by the District for the replenishment of the groundwater supplies of the District during the ensuing water year is 89,900 acre-feet, which includes 61,400 acre-feet at the spreading grounds and 28,500 acre-feet at the seawater barrier wells. Details of the calculations for these amounts are presented in the 2021 Engineering Survey and Report and any updates, and on budget discussions with the Board of Directors and Budget Advisory Committee.

l) The source and estimated cost of the water available for the replenishment described in Section (k) is presented in the 2021 ESR and any updates.

m) The estimated net costs of replenishing the groundwater supplies with the water so purchased are $35,766,072. The derivation of this amount is described in the 2021 ESR, the 2021 Cost of Service Report, and any updates to these documents, and on Board and Budget Advisory

Committee decisions at various public meetings. The estimated rate of the replenishment assessment required to fund these purchases based on the anticipated pumping in the ensuing year described in Section (h) is $168 per acre-foot of groundwater pumped.

The estimated additional costs to the District for its replenishment program costs, estimated capital costs, and other costs relating to accomplishing replenishment of the groundwater supplies, are $50,958,080. The estimated rate of the replenishment assessment required to fund these costs based on the anticipated pumping in the ensuing year described in Section (h) is $239 per acre-foot of groundwater pumped. A listing of the projects and programs and their intended objective – replenishment and/or clean water – is provided in the 2021 ESR and Cost of Service Reports, and any updates to these documents.

n) It is not anticipated that additional replenishment funds need to be raised in the ensuing year for future replenishment water that should be purchased in the ensuing year but cannot be purchased due to an anticipated unavailability of replenishment water in the ensuing year.

o) The estimated rate of the replenishment assessment required to be levied upon the production of groundwater from the groundwater supplies within the District during the ensuing fiscal year for the purposes of accomplishing replenishment activities (replenishment water plus replenishment projects and programs) is $407 per acre-foot.

p) Contaminants should be removed from groundwater supplies during the ensuing fiscal year pursuant to the District's projects and programs described in the 2021 ESR and any updates, the District's capital improvement program, and the District's draft annual budget document. The estimated costs to the District for the groundwater quality program for the 2021/22 fiscal year are estimated at $7,777,920. The estimated additional rate of replenishment assessment required to be levied upon the production of groundwater from the groundwater supplies within the District during the ensuing fiscal year for those purposes is $37 per acre-foot.

q) The programs for the removal of contaminants or other actions under Water Code § 60224 are multi-year programs.

r) The estimated amount of reserves on hand at the end of the fiscal year of 2021/22 will not exceed the applicable limitations provided in Water Code Sections 60290.

2. After accounting for other revenue, possible debt financing, or use of reserves, the estimated rate of the replenishment assessment required to be levied upon the production of groundwater from the groundwater supplies within the District during

the ensuing fiscal year 2021/22, for the purpose of accomplishing such replenishment and water quality programs by the District is $394 per acre-foot of yearly groundwater production. After accounting for the use of an estimated $11,396,000 in other revenue, possible debt financing for capital improvement projects, and District reserve funds as necessary, said replenishment assessment will produce the approximate necessary funds to pay the following costs: $369 per acre-foot for the cost of purchasing water, financing capital improvement projects and other costs relating to accomplishing groundwater replenishment, $25 per acre-foot for clean water programs (including the per- and polyfluoroalkyl substances (PFAS) program). Of the $369 per acre-foot allocated to accomplishing groundwater replenishment, $87 per acre-foot is allocated to capital projects. Of the $25 per acre-foot allocated to clean water programs, $6 per acre-foot may be allocated to capital projects. General and administrative expenses of the District will be met on a pro tanto basis given each function's (replenishment and clean water) load factor on operations.

3. Prior to accounting for other revenue, possible debt financing, or use of reserves, the entire cost of purchasing water for replenishment for the ensuing fiscal year shall be paid for by the assessment identified in Section 2 above. The cost of removing contaminants from groundwater supplies and taking other actions authorized under Water Code § 60224 shall be paid for by the assessment identified in Section 2 above, from possible debt financing for capital improvement projects, and from reserve funds as necessary maintained in accordance with Water Code § 60290. The costs of those capital projects to be undertaken in the ensuing fiscal year, but for which no capital construction accounts have been established pursuant to Water Code § 60291, shall also be paid for by the reserve fund maintained in accordance with Water Code § 60290.

4. All of the estimated costs for the ensuing fiscal year for water replenishment programs and for groundwater quality programs by the District as found in Section 1 of this Resolution shall be paid for by a replenishment assessment levied pursuant to Water Code § 60317 and by the reserve fund maintained in accordance with Water Code § 60290. There is hereby levied on the production of groundwater from groundwater supplies within the District during the fiscal year commencing July 1, 2021 and ending June 30, 2022, a replenishment assessment in the amount of $394 per acre-foot produced during said fiscal year.

5. This Replenishment Assessment complies with the California Environmental Quality Act ("CEQA"), based on any one of the following grounds:

   (a) That the District's groundwater replenishment program is exempt from CEQA pursuant to CEQA Guidelines §15261(a), in that it is an ongoing project commencing at a date such that an environmental impact report has not been required, and the 2021/22 program is part of that ongoing project.

(b) Funds generated by the RA will be used for (1) operating expenses, (2) financial reserve needs, (3) purchasing or leasing supplies, equipment and materials, and (4) funds for capital projects necessary to maintain service within existing service areas. That Finding is based on documents and information provided in the record of these proceedings, including but not limited to the annual Engineering Survey Report, the 2021 Cost of Service Report, the proposed 2021/22 budget, and the staff's written reports and PowerPoint presentations to the Board. Further, the funds raised by the RA will not be used to expand the area or territory in which the District provides services or to fund capital projects that would expand the District's service area or system. Accordingly, the District finds that its adoption of this resolution exempt from CEQA pursuant to, among other bases, CEQA Section 20180(b) (8) and CEQA Guidelines 15261 and 15273, and the Board directs staff to file an appropriate Notice of Exemption.

(c) Notwithstanding the exemptions cited above, an Environmental Impact Report ("EIR") for the District's groundwater replenishment program was previously prepared and that EIR and program have been approved by the District's Board. Subsequent to the preparation of that EIR, the District prepared and certified a number of Mitigated Negative Declarations and Negative Declarations for various water quality and water supply projects (collectively, the "NDs"). The District has examined the imposition of a water replenishment assessment for the 2021/22 fiscal year to determine whether an additional environmental document must be prepared. Based on this examination, the 2021 Engineering Survey and Report and all other evidence in the administrative record of the District's proceedings herein, the District concludes that: (1) the imposition of a water replenishment assessment for the 2021/22 fiscal year would not have any effects that were not examined in the EIR and NDs; (2) pursuant to CEQA Guidelines §15162, no new effects would occur and no new mitigation measures would be required; and (3) the imposition of a water replenishment assessment for the 2021/22 fiscal year is within the scope of the groundwater replenishment program covered by the EIR and NDs and such activity is adequately described in said EIR, and no new environmental document is required.

6. The Replenishment Assessment will be imposed on persons and entities that extract groundwater from the Central Basin and West Coast Basin. Extraction of groundwater from those Basins is governed by court judgments entered in 1962 and 1965 pursuant to groundwater adjudication lawsuits. Those judgments granted certain parties an allocation to pump water based on prescriptive water rights and not based on any aspect of ownership of land overlying either Basin. Accordingly, since the pumping rights granted by the Judgments were based on prescriptive water rights, the parties do not pump the groundwater pursuant to any tenancy or fee interest in the overlying land or any rights that attach as a result of a tenancy or fee interest in overlying land. Further, neither of the Judgments for

the Central and West Coast Basins included a determination of the amount or extent to which any party to said Judgment may extract groundwater from said basin without exceeding the natural safe yield of said basin.

7. The purpose of the Replenishment Assessment is to fund the District's water basin management services. These services are a package of services that make high quality water available to those exercising adjudicated pumping rights, and consist of: monitoring the level and quality of groundwater in the basins; purchasing and producing water needed to replenish the basins; preventing seawater contamination of the groundwater supply; funding replenishment operations; and other activities that make the basins a reliable and low-cost source of safe, high-quality water. Every activity of the District is a part of the water basin management services.

The water basin management services benefit those charged. All persons receiving the services or benefitting from the services by exercising pumping allocations are subject to the Replenishment Assessment. Services are not provided to those who are not charged the Replenishment Assessment and do not benefit those who are not charged the Replenishment Assessment. The amount of the Replenishment Assessment does not exceed the District's reasonable costs to provide services, confer benefits and/or grant privileges as described in this paragraph. Consequently, the Replenishment Assessment is not a "tax" within the meaning of Article XIII C, Section 1(e) of the California Constitution.

Pursuant to the recent California Supreme Court decision in *City of San Buenaventura v. United Water Conservation District*, the District does not believe that its replenishment assessment is a "property-related fee" subject to the requirements of Article XIII D, Section 6 of the California Constitution (Proposition 218). Notwithstanding this, in the interest of public participation, the District has conducted a noticed public hearing with respect to the replenishment assessment. The fact the District has done so should not be interpreted to mean that the District believes that the requirements of Article XIII D, Section 6 apply to the replenishment assessment.

The Board also makes the following findings:

(a) Notice of the May 4, 2021 Public Hearing was mailed by the District to the holders of adjudicated pumping rights in the basins.

(b) The purpose of this mailing was to ensure that every adjudicated pumping rights holder in the basins was kept informed of the Replenishment Assessment proposal.

(c) On April 15, 2021 the Board opened the Public Hearing, provided an opportunity for oral and written comment, and then continued to the Public Hearing to May 4, 2021.

(d) On May 4, 2021 the Board considered all written testimony and protests and heard oral comments from all who wished to speak regarding the proposed Replenishment Assessment.

(e) From the date the hearing notice was mailed through the close of the public testimony portion of the Public Hearing on May 4, 2021, the District accepted written testimony and protests, all of which were entered into the record of the Public Hearing and made available for inspection by the public and by members of the Board.

(f) The Board determines that it has not received written protests from a majority of active pumpers.

(g) The rate of the Replenishment Assessment is such that proceeds of the Replenishment Assessment will not exceed the funds required to provide the water basin management services.

(h) Revenues derived from the Replenishment Assessment will not be used for any purpose other than providing water basin management services.

(i) The amount of the Replenishment Assessment imposed upon any parcel or person does not exceed the proportional cost of water basin management services attributable to that parcel or person.

(j) No Replenishment Assessment is imposed upon any person who neither actually uses water basin management services nor has water basin management services immediately available to them.

(k) Water basin management services are not a "general government service" that is available to the general public.

(l) The Board notes that, in addition to replenishment assessment proceeds, the District receives an allocation of ad valorem property tax revenues. It is the intent of the Board that the District's Grants and Sponsorship Program, memberships and dues, water education expenses, and other community programs, be funded from these property tax revenues.

[RECORD OF THE VOTE AND SIGNATURES ON FOLLOWING PAGE]

PASSED, APPROVED AND ADOPTED THIS 4th day of May 2021 by the following vote:

AYES:3
NOES:0
ABSENT:1
ABSTAIN:1

WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

[redacted]
Board President

ATTEST:

[redacted]
Board Secretary

5/4/2021
DATE

APPROVED AS TO FORM:

[redacted]
Leal, Trejo LLP/ Attorneys for the Water Replenishment District of Southern California

Replenishment Projects and Programs

Program 001 - Leo J. Vander Lans Advanced Water Treatment Facility – Water Supply

Background

The Leo J. Vander Lans (LVL) advanced water treatment facility supplies water to the Alamitos Gap Barrier (AGB) to prevent seawater intrusion and protect the groundwater supplies of the Coastal Plain. Water provided by the LVL treatment facility improves the quality of supply water to the barrier through the use of advanced treatment technologies including microfiltration (MF), reverse osmosis (RO) and advanced oxidation (AOP) using hydrogen peroxide and ultraviolet (UV) light. Product water from this facility offsets imported water used to supply the Alamitos Barrier, thereby improving the reliability of water to the barrier. The treatment facility was originally constructed in 2004 and expanded in 2015.

For the past seventeen years, the Long Beach Water Department (LBWD) operated and maintained the treatment facility under contract with WRD. WRD has recognized the opportunity to standardize its operations across two treatment facilities – LVL and the Albert Robles Center. With one operational group overseeing both treatment facilities, common operational philosophies, procedures and reporting can be realized. In July 2020, the transition of operations from the LBWD to PERC Water was completed and PERC began as the dedicated operator under contract with WRD. This was also met with WRD staff assuming a more active role in operations, including the assignment of a staff engineer to each of the three treatment facilities.

Costs for this budget year are primarily related to expenses associated with operations and maintenance of the facility. Typical expenses include labor, power, water treatment chemicals and analytical costs to ensure water quality meets all regulatory requirements. Additional routine costs are associated with maintenance-related parts and services that address the maintenance needs of the facility. As the facility, and especially the original facility commissioned in 2004, continues to age, additional capital investment through the District's refurbishment and replacement (R&R) program and Capital Improvement Project (CIP) will be anticipated.

The overall goal of Program 001 is to provide a reliable and local, sustainable means of protecting and replenishing the basin. This will be achieved by supplying advanced

treated recycled water to the Alamitos Barrier through operations of the LVL treatment facility. Operations and maintenance costs are drawn from the Replenishment Fund, while capital investments will be paid through local, state and federal grant opportunities or debt financing.

FY 2021 Accomplishments

- The transition of operations from the LBWD to PERC Water, which includes operations, sampling and reporting obligations, was successfully completed. In addition, service and utility contracts, which were managed by the LBWD, have been transitioned to WRD.

- The treatment facility exhibited a significant increase in production during the FY 2021 – consistent with the operational goals of increased on-line time and reduced facility shutdowns.

- Repairs and replacements were completed to address a number of standing issues, which collectively have resulted in a new, higher baseline rate of facility production of 4mgd. This was, in large part, the result of establishing a WRD Maintenance Support Program to support facility operations.

- For the first time, the treatment facility was operated at an elevated rate of production of 6mgd. The goal of this testing is to work toward further increasing baseline production to supply additional recycled water to the Alamitos Barrier in the coming years.

- The project to expand the calcium chloride bulk chemical system was successfully completed – increasing the storage and supply of calcium chloride to support increasing plant production.

- With completion of the condition assessment of the microfiltration (MF) filtrate tank, work will begin to refurbish the tank as well as add an additional filter to prevent damage to the MF modules during backwash.

- Completion of the Arc Flash Incident Energy Analyses, which was previously performed in 2013, to ensure compliance with NFPA and OSHA requirements to ensure a safe work environment for plant operations staff.

- Continue to evaluate the most cost-effective means of increasing plant production through supplying source water from the Los Angeles County Sanitation District Los Coyotes Water Reclamation Plant.

- Continue to evaluate supplying additional product water to the Alamitos Barrier and on and off-site injection wells.

FY 2022 Objectives

- Increase the sustainable operations of the treatment facility to provide a stable supply of advanced treated recycled water to the Alamitos Barrier.

- Continue to evaluate treatment facility systems and operational performance to maximize output beyond the current baseline production to satisfy a greater percentage of barrier demand using recycled water.

- Work with partnering agencies, including the Los Angeles County Department of Public Works, LBWD and the Los Angeles County Sanitation District to develop new and improved operational strategies supportive of the goal to maximize supplying recycled water to the Alamitos Barrier.

- Review treatment facility assets through conducting a comprehensive condition assessment to assist in the development of a program and schedule for both short and long-term R&R and CIP needs.

- Continue evaluation of the current Supervisory Control and Data Acquisition (SCADA) system to develop a strategy for capital upgrade and/or replacement.

- Continue to evaluate alternative uses of advanced treated recycled water beyond supplying the Alamitos Barrier demand, including the use of injection wells.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The treatment plant has demonstrated consistent operations during the FY 2021. This has provided the opportunity to develop budgets based on known and consistent expenditures, including major costing centers such as source water, labor, power and water treatment chemicals. In addition, with consistent operations comes the need to account for maintenance as a result of equipment operating for longer periods of service time. This budget reflects increases associated with sustained operations of the LVL treatment facility and support of treatment facility systems and equipment.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$1,801,000	$1,933,000	$132,000
R&M/Materials/Equipment	1,124,000	1,275,000	151,000
Other Expenses	2,043,000	2,409,000	366,000
Other General & Administration	284,000	349,000	65,000
TOTAL	**$5,252,000**	**$5,966,000**	**$714,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:** Maximize recycled water delivery at the AGB through consistent LVL operations. **MEASURE:** LVL annual production (AF). * Treatment plant off-line due to LBWRP construction.	*	3,800 Acre-Feet	4,500 Acre-Feet	Expand Replenishment Opportunities
2	**GOAL:** Comply with permit regulatory requirements for monitoring and compliance. **MEASURE:** Submit compliance reports (monthly, semi-annual and annual) to the Los Angeles Regional Water Quality Control Board and Los Angeles County Sanitation District to satisfy permit compliance requirements.	100%	100%	100%	Expand Replenishment Opportunities
3	**GOAL:** Conduct recycled water testing to ensure satisfaction of water quality criteria for the County of Los Angeles Department of Public Works. **MEASURE:** Submit monthly Alamitos Barrier Injection Water Quality Reports that satisfy LADPW's water quality standards.	100%	100%	100%	Expand Replenishment Opportunities
4	**GOAL:** Operation and maintenance sufficient to ensure and improve the reliability and sustainable operations of the treatment facility. **MEASURE:** Treatment facility annual production, as impacted by shutdowns and interruptions in service.	N/A	100%	100%	Expand Replenishment Opportunities

Program 004 - Montebello Forebay Recycled Water

Background

Recycled water has been and continues to be a cost-effective, reliable source of water for surface spreading in the Montebello Forebay and injection at the seawater intrusion barriers. In light of exposure to prolonged drought like the region encounters quite frequently, with record-low rainfalls and increasing uncertainty in the winter snow pack and availability of imported supplies, recycled water has become increasingly attractive as a locally sustainable solution to improving the reliability of the local groundwater supply. WRD's Water Independence Now, or WIN, program seeks to replace our imported water supplies with recycled water and stormwater to ensure reliable and high quality groundwater replenishment sources for the Central and West Coast Basins.

WRD participates in a variety of activities to ensure that the use of recycled water for groundwater recharge continues to remain safe and reliable. From an operational standpoint, the District will continue to fulfill groundwater monitoring duties as required by our various recycled water for recharge permits, and submit the results to the regulatory agencies to demonstrate that the current practices and operation of utilizing recycled water, along with other sources of water, remain safe.

In addition to providing regular monitoring and sampling associated with the Montebello Forebay spreading grounds, WRD, in conjunction with other agencies, participates in research efforts to more fully investigate the effectiveness of soil aquifer treatment during infiltration of recycled water into the aquifers, and the travel time of recycled water once recharged to the nearest drinking water wells through tracer studies. The overall objectives are to characterize the percolation process and quantify the purifying properties of the underlying soil on constituents of concern such as nitrogen, total organic compounds (TOC), biodegradable dissolved organic carbon (BDOC), and emerging contaminants, such as pharmaceuticals, endocrine disruptors, personal care products, and perfluorinated compounds (PFAS). For the upcoming year, research into these issues will continue.

Recycled water represents a significant portion of the source water portfolio for the three seawater intrusion barrier projects (Alamitos Gap, West Coast, and Dominguez Gap Barriers) as well as the new Albert Robles Center for Water Recycling and Environmental Learning (ARC – formerly known as GRIP). Preparation for a new tertiary-quality recycled water permit to replace the 1991 permit for the Montebello Forebay will also be a major collaborative effort with the Sanitation Districts of Los Angeles County.

Projects under this program help to improve the reliability and utilization of an available local resource, i.e., recycled water, which is used to improve replenishment capabilities. This is a regular program with standard, recurring year to year activities. The projects under this program are funded entirely from the Replenishment Fund.

FY 2021 Accomplishments

- Continued work on a revised permit for spreading tertiary-treated recycled water into the Montebello Forebay.

- Initiated the preparation of the Title 22 Engineering Reported for the Montebello Forebay Recycled Water Recharge Project.

- Continued to comply with water recycling permit requirements for the Montebello Forebay Spreading Grounds, including bi-monthly sampling of monitoring wells, semi-annual monitoring of production wells and quarterly monitoring of intakes to the spreading facilities.

- Continued to monitor recycled water use at seawater barrier wells, collecting hundreds of groundwater samples for analysis. Completed quarterly and annual permit compliance reports.

- Continued sampling of monitoring wells for the latest chemicals of emerging concern (PFAS).

FY 2022 Objectives

- Continue collaborating with the Sanitation Districts on a revised tertiary-treated recycled water permit for the Montebello Forebay. Work will include data analysis, potential new monitoring well drilling, submitting drafts to the regulatory agencies, and drafting a Title 22 Engineering Report.

- Continue to comply with water recycling permit requirements for the Montebello Forebay Spreading Grounds, including bi-monthly monitoring of monitoring wells, semi-annual monitoring of production wells and quarterly monitoring of intakes to the spreading facilities.

- Continue to comply with water recycling permit requirements for the seawater barrier injection wells, including monitoring well sampling and permit compliance reporting.

- Continue to facilitate the ongoing dialogue between the Sanitation Districts, Metropolitan Water District, and City of Los Angeles to help increase the amount of recycled water available for groundwater recharge in the WRD service area.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

FY 2021 planned budget for staff and professional services was moved forward due to agency delays and is anticipated to be spent in FY 2022.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$150,000	$508,000	$358,000
R&M/Materials/Equipment	39,000	39,000	-
Other Expenses	37,000	41,000	4,000
Other General & Administration	56,000	165,000	109,000
TOTAL	**$282,000**	**$753,000**	**$471,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:** Continue to comply with water recycling permit requirements for the Montebello Forebay Spreading Grounds.				Maximize Innovation and Environmental Resiliency
	MEASURE: % of regulatory permit requirements and deadlines met.	100%	100%	100%	
2	**GOAL:** Continue to facilitate the ongoing dialogue between agencies to provide more recycled water for groundwater recharge.				Expand Replenishment Opportunities
	MEASURE: Quarterly meetings with LACSD, LACDPW, etc.	4	4	4	
3	**GOAL:** Perform additional sampling for PFAS compounds to determine relationship to recycled water for recharge.				Maximize Innovation and Environmental Resiliency
	MEASURE: Collect samples and report results in our annual RGWMR.	1	1	0	
4	**GOAL:** Participate in the preparation of Title 22 Engineering Report.				Expand Replenishment Opportunities
	MEASURE: WRD portion of the report will be submitted to LACSD.	0	1	1	

Program 005 - Groundwater Resource Planning

Background

The Groundwater Resources Planning Program was instituted to evaluate basin management issues and to provide a means of assessing potential projects and the associated impacts over the Central and West Coast Groundwater Basins. Prior to moving forward with a new project, an extensive evaluation is always undertaken. Within the Groundwater Resources Planning Program, new projects and programs are analyzed and evaluated based on benefits to overall basin management. Beyond technical feasibility, this analysis also includes performing an extensive economic evaluation to compare estimated costs with anticipated benefits. As part of this evaluation process, all new capital projects are brought to the District's Technical Advisory Committee (TAC) for review and recommendation. Projects deemed worthy by the TAC and District Board will then be recognized as independent projects and may be included within the District's Five-Year Capital Improvement Program.

WRD will continue to coordinate with basin stakeholders to develop projects that increase replenishment resiliency and utilize available groundwater storage. Meanwhile, the District will continue to determine the effects of such programs on the overall management of the basins and the specific impacts to aspects such as water levels, annual overdraft, accumulated overdraft, etc. The management of this program requires close review and administration by the District staff.

During the coming year, work under this program will focus on WRD's vision for the future under WIN4ALL, the 2040 plan for regional water independence. Under WIN4ALL, WRD will look to utilize available storage in both groundwater basins, secure new locally sustainable water supplies for replenishment and storage, review operational alternatives for the Central and West Coast basins, and full utilization for all existing groundwater pumping rights. In addition to moving forward with WIN4ALL, the Groundwater Resources Planning Program will look to identify and mitigate all potential impacts from Per- and Polyfluoroalkyl Substances (PFAS) in the groundwater basins. PFAS emerged in 2019 through a State Water Resources Control Board (SWRCB) well sampling order and is now being regulated in 2020. Impacts to the pumping community could be significant and a pumper adopted PFAS Funding and Action Plan to provide support to pumpers in need will be the primary objective in 2020/2021 and 2021/2022.

Additionally, the District will continue to evaluate projects identified in the CIP. Specifically, funds have been allocated within this program to perform an in-depth evaluation of projects with the goal of increasing the District's competitiveness for grant funding opportunities.

District staff will continue to monitor and participate in the Greater Los Angeles Integrated Regional Water Management Plan (GLAC IRWMP) and three Los Angeles County Safe Clean Water (Measure W) Steering Committees. The District serves as the co-chair for the GLAC IRWMP Lower Los Angeles and San Gabriel Rivers Subcommittee as well as the Chair of the South Santa Monica Measure W Committee. The District also coordinates the subregion meetings and manages the outreach to subregion members. Participation in this process is necessary if the District wishes to secure grant funding under Proposition 84, Proposition 1, and other state grant funding opportunities. District staff will also continue to monitor State and Federal grant programs to determine applicability to the District's list of potential projects. WRD will continue to work with Federal agencies, such as the U.S. Bureau of Reclamation to identify potential opportunities for funding.

Projects under the Groundwater Resources Planning Program serve to improve replenishment operations and general basin management. Accordingly, this program is wholly funded through the Replenishment Assessment Fund.

FY 2021 Accomplishments

- Executed a new potable water purchase agreement with the City of Torrance for the Goldsworthy Desalter.

- Approved and adopted Title XVI Feasibility Study with the US Bureau of Reclamation for the Regional Brackish Water Reclamation Program.

- Finalized a term sheet with Los Angeles County Sanitation Districts (LACSD) for a dedicated brine line from the Regional Brackish Water Reclamation Project to the Joint Water Pollution Control Plant.

- Executed a Letter of Intent (LOI) with Metropolitan Water District (MWD) for recycled water from their Regional Recycled Water Program.

FY 2022 Objectives

- Execute Joint Powers Authority (JPA) for the cooperative management structure of resiliency structures in Los Angeles County.

- Execute Memorandum of Understandings (MOUs) with Regional Brackish stakeholders for quantities of water from the eventual final program.

- Initiate and complete an agency wide Climate Action Plan for WRD.

- Finalize a Hazard Mitigation Plan (HMP) for WRD to be eligible for future FEMA funding.

- Execute an MOU with Los Angeles Department of Water and Power for recycled water from the Hyperion Water Reclamation Plant for replenishment and storage purposes.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The change in FY 2022 budget is due to increase in professional services and labor allocation to the program.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$815,000	$953,000	$138,000
R&M/Materials/Equipment	-	-	-
Other Expenses	319,000	328,000	9,000
Other General & Administration	337,000	385,000	48,000
TOTAL	**$1,471,000**	**$1,666,000**	**$195,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:** Update strategic plan.				Maximize Innovation and Environmental Resiliency
	MEASURE: Plan to be adopted by the Board of Directors.	N/A	40%	100%	
2	**GOAL:** Continue to develop new projects that meet WIN4ALL resiliency goals.				Maximize Innovation and Environmental Resiliency
	MEASURE: Agreements with key stakeholders to be signed as needed.	N/A	15%	100%	
3	**GOAL:** PFAS Action and Funding Plan to be adopted.				Maximize Innovation and Environmental Resiliency
	MEASURE: Consensus amongst pumper community and Board adopted plan.	N/A	100%	100%	
4	**GOAL:** Regional Brackish Water Program advancing.				Maximize Innovation and Environmental Resiliency
	MEASURE: Signed Letters of Intent (LOIs) with stakeholders.	N/A	60%	100%	

Program 018 - Dominguez Gap Barrier Recycled Water Project

Background

This Project involves the delivery of recycled water from the City of Los Angeles Terminal Island Treatment Plant (TITP) to the Dominguez Gap Barrier (DGB). The portion of the TITP effluent destined for the Barrier first undergoes a set of advanced treatment, consisting of microfiltration, reverse osmosis, and chlorination, at the Advanced Water Treatment Facility. The plant has been recently expanded from 6.0 million gallons per day (mgd) to 12.0 mgd with the goal to eliminate the use of imported water at the DGB.

The City of Los Angeles Bureau of Sanitation (LABOS) and Los Angeles Department of Water and Power (LADWP) are responsible for the treatment and delivery of the recycled water and all the water quality sampling at the treatment plant associated the final recycled water. The District conducts groundwater monitoring, which is required to observe changes in aquifer water quality conditions and to anticipate potential problems before recycled water reaches drinking water wells. The District also performs groundwater modeling to simulate the fate and transport of the recycled water in the aquifers after injection. This monitoring commenced with the start of the recycled water deliveries in February 2006. Baseline monitoring was completed to establish preexisting groundwater quality conditions prior to the start of deliveries.

Recycled water use at the barriers improves the reliability of a water supply that is needed on a continuous basis, in order to prevent seawater intrusion. Traditionally, water purchases for the barriers have been viewed as a replenishment function. Therefore, this program is funded entirely through the Replenishment Fund.

FY 2021 Accomplishments

- Participated in regular meetings with LABOS and LADWP to discuss issues related to the continuous production of ATW and the TITP.
- Ongoing discussions associated with new water purchase agreement with LADWP.
- Continued groundwater monitoring in accordance with permit requirements.
- Continued to prepare groundwater compliance monitoring reports to provide to project permittees LADWP, LABOS, and LACDPW. WRD also assisted with the preparation of the 5 Year Engineering Report.
- Finalized construction agreement for Second Gap Connection & Potable Backup Projects. Prepared and released the RFB with construction anticipated to begin in FY2022.

FY 2022 Objectives

- Increase recycled water contribution to the DGB.
- Continue to conduct groundwater monitoring and modeling as necessary in accordance with permit requirements.
- Continue to provide groundwater compliance monitoring data to project permittees LADWP, LABOS and LACDPW.
- Award construction contracts and begin construction activities associated with the Second Gap Connection & Potable Backup Projects.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Slight increase to professional laboratory services (new contract) and reallocation of staff hours due to Second Gap Connection and Potable Backup Projects.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$136,000	$163,000	$27,000
R&M/Materials/Equipment	24,000	24,000	-
Other Expenses	14,000	14,000	-
Other General & Administration	76,000	156,000	80,000
TOTAL	**$250,000**	**$357,000**	**$107,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:**				
	Prepare compliance monitoring reports and coordinate reporting/compliance for submittal to permittees (LADWP, LABOS, & LACDPW) to ensure all regulatory permit requirements and deadlines are met.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	% of regulatory permit requirements and deadlines met.	100%	100%	100%	
2	**GOAL:**				
	Prepare and post RFBs for Second Gap Connection & Potable Backup Projects. Construction is anticipated to begin in FY2022.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Post RFBs and start construction	0	1 (RFBs)	1 (construction)	

Program 023 - Replenishment Operations

Background

WRD actively monitors the operations and maintenance practices at the spreading grounds and seawater barrier wells owned and operated by the Los Angeles County Department of Public Works (LACDPW). Optimizing replenishment opportunities is fundamentally important to WRD, in part because imported and recycled water deliveries directly affect the District's annual budget. Consequently, the District seeks to ensure that the conservation of stormwater is maximized, and that imported and recycled water replenishment are optimized.

WRD coordinates regular meetings with LACDPW, Metropolitan Water District of Southern California, Sanitation Districts of Los Angeles County (LACSD), and other water interests to discuss replenishment water availability, spreading grounds operations, scheduling of replenishment deliveries, seawater barrier improvements, upcoming maintenance activities, and facility outages or shutdowns. The District tracks groundwater levels in the Montebello Forebay weekly to assess general basin conditions and to determine the level of artificial replenishment needed. Additionally, WRD monitors the amount of recycled water used at the spreading grounds and seawater barriers, to maximize its use while complying with regulatory limits.

As its name implies, this program deals primarily with replenishment issues, and its costs are borne completely by the Replenishment Fund.

FY 2021 Accomplishments

- Continued working cooperatively with the LACDPW, Orange County Water District (OCWD), LACSD, and Long Beach Water Department (LBWD) on the Leo Vander Lans (LVL) Plant Operations, OCWD Barrier Expansion, and Long Beach Waste Treatment Plant (LBWTP) Multi-year Maintenance Project to provide increased recycled water to the Alamitos Gap Barrier.

- Continued working cooperatively with the LACDPW and West Basin Municipal Water District (WBMWD) to maximize recycled water to the West Coast Basin Barrier.

- Continued working cooperatively with the Los Angeles Department of Water and Power (LADWP), Los Angeles Bureau of Sanitation (LABOS), and LACDPW on the Terminal Island Treatment Plant (TITP) to provide increased recycled water to the Dominguez Gap Barrier.

- Continued participating in bimonthly meetings with replenishment agencies to maximize groundwater recharge opportunities.

- Continued to evaluate new potential replenishment opportunities (e.g., replenishment water sources, spreading grounds improvements).

- Presented monthly updates to the WRD Water Resources Committee and posted reports online at https://www.wrd.org/reports/groundwater-basin-update.

FY 2022 Objectives

- Work with United States Geological Survey (USGS), United States Army, Corp of Engineers (USACOE), LACDPW, San Gabriel River Watermaster (SGRWM), and other applicable agencies/stakeholders on enhancement/upgrade of existing surface water gaging stations.

- Work with LACDPW on the West Coast Basin Barrier expansion project (Unit 13).

- Continue working cooperatively with the LACDPW on an operations plan for the Interconnection Pipeline to maximize its usage to move recycled water.

- Continue working cooperatively with the LACDPW on recommendations from the Enhanced-Montebello Forebay Recharge Enhancement Study (eMFRES).

- Working cooperatively with LACDPW, USACOE, LACDPW, San Gabriel River Watermaster (SGRWM), and other applicable agencies/stakeholders on evaluating the results and alternatives presented in the Zone 1 Condition Assessment Report.

- Continue working cooperatively with the LADWP, LABOS, and LACDPW on the expanded TITP to provide increased recycled water to the Dominguez Gap Barrier.

- Continue working cooperatively with the LACDPW, OCWD, LACSD, and LBWD on the LVL Plant Operations follow-up, OCWD Barrier Expansion follow-up, and LBWTP Multi-year Maintenance Project follow-up to provide increased recycled water to the Alamitos Gap Barrier.

- Continue working cooperatively with the LACDPW and WBMWD to maximize recycled water to the West Coast Barrier.

- Continue participating in bimonthly meetings with replenishment agencies to maximize groundwater recharge opportunities.

- Continue to evaluate new potential replenishment opportunities (e.g., replenishment water sources, spreading grounds improvements, WRD/LADWP Joint L.A. Basin Replenishment and Extraction Master Plan, Regional Brackish Water, etc.).

- Continue to provide monthly updates to the WRD Water Resources Committee.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Budget added for agency related response associated with chemicals of emerging concern at the Montebello Forebay.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$12,000	$102,000	$90,000
R&M/Materials/Equipment	24,000	24,000	-
Other Expenses	8,000	6,000	(2,000)
Other General & Administration	102,000	160,000	58,000
TOTAL	**$146,000**	**$292,000**	**$146,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:**				
	Continue working cooperatively with the LADWP, LABOS, and LACDPW on the Terminal Island Treatment Plant Expansion to provide increased recycled water to the Dominguez Gap Barrier.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Recycled water increased to the Dominguez Gap Barrier (Assumes TITP delivering 6.0 MGD).	7,948 AF Total 3,459 AF RW	7,800 AF Total 4,680 AF RW	8,000 AF Total 5,000 AF RW	
2	**GOAL:**				
	Continue working cooperatively with the LACDPW and LACSD on the Montebello Forebay Spreading Grounds to provide increased RW. Goal is 63,000 including 56,000 tertiary and 7,000 GRIP water for its first year.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Recycled water increased to the Spreading Grounds	53,989 AF 3° RW 10,182 AF ATW	36,000 AF 3° RW 10,000 AF ATW	50,000 AF 3° RW 10,000 AF ATW	
3	**GOAL:**				
	Continue working cooperatively with the LACDPW, LBWD, and OCWD on the Alamitos Gap Barrier Project to provide increased recycled water to the Alamitos Gap Barrier.	Maximized Recycled Water in light of LVL start-up and LBWTP shutdowns			Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Recycled water increased to the Alamitos Gap Barrier (assumed full operation of LVL).	5,941 AF Total 1,785 AF RW WRD: 3,606 AF Total 1,062 AF RW	8,600 AF Total 5,600 AF RW WRD: 5,000 AF Total 3,250 AF RW	7,800 AF Total 6,000 AF RW WRD: 4,500 AF Total 3,500 AF RW	
4	**GOAL:**				
	Continue working cooperatively with the LACDPW and WBMWD on the West Coast Barrier Project to provide increased recycled water to the West Coast Barrier.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Recycled water increased to the West Coast Barrier.	14,969 AF Total 13,018 AF RW	17,000 AF Total 16,150 AF RW	16,000 AF Total 14,000 AF RW	

Program 033 - Albert Robles Center for Water Recycling and Environmental Learning (ARC)

Background

The Albert Robles Center (ARC) is a multifaceted campus consisting of the treatment facility, Administration Learning Center (ALC), gardens and two, off-site turnout structures along the San Gabriel River. The advanced water treatment facility (AWTF) supplies advanced treated recycled water for recharge at the San Gabriel Coastal Spreading Grounds. Recycled water provided by the Los Angeles County Sanitation District's San Jose Creek Water Reclamation Plant is treated using technologies including ultrafiltration (UF), reverse osmosis (RO) and advanced oxidation (AOP) using chlorine and ultraviolet (UV) light. With an annual production target of 10,000 acre-feet (AF) of water, coupled with an additional 11,000AF of recycled water, the overall goal is to eliminate the current demand for imported water at the Central Basin. The ALC and gardens provides office space for WRD Board of Directors and staff, conference rooms and facilities to support public outreach and education.

Operations of the ARC treatment facility have been overseen by PERC Water, under contract with J.F. Shea Construction. With the close out of construction-related activities largely completed, the focus during the first full year of operations was to achieve the targeted production, while continuing to develop a working knowledge sufficient to not only operate the facility, but to begin identifying process areas for improved operations and optimizations. For the calendar year 2020, the treatment facility produced 11,300AF of advanced treated recycled water that met all regulatory requirements – exceeding the goal of 10,000AF.

Expected costs for this budget year are reflective of the expenses incurred during the first full year of ARC facility operations, including the treatment facility and administration learning center. Major costing centers for the treatment facility include fixed labor for operations and variable costs, including source water, power and water treatment chemicals – all of which collectively make up a majority of the Program 033 budget. Additional costing centers include analytical costs for regulatory compliance, site-wide security, landscaping and janitorial as well as maintenance of systems and equipment in both the treatment facility and administration learning center. ARC is a multiuse facility and therefore the Program 033 budget is reflective of this - structured to account for both treatment facility and non-treatment facility expenditures. The Replenishment Fund will serve as the funding source for this program.

FY 2021 Accomplishments

- Successfully demonstrated that the treatment facility could achieve the annual production goal of 10,000AF – producing 11,300AF of advanced treated recycled water that met all regulatory requirements for discharge to the San Gabriel Coastal Spreading Grounds.

- As construction of the ARC facility transitioned to operations, WRD staff assumed an increasing role in supporting operations and maintenance of the treatment facility, administration learning center, gardens and turnout structures.

- Successfully petitioned the Los Angeles Regional Water Quality Control Board to relocate the compliance point for monitoring turbidity of the treatment facility finish product water. This will provide operational flexibility for optimization of treatment chemicals used for product water stabilization.

- Implementation of the Computerized Maintenance Management System (CMMS), including training of the PERC Water operations staff.

- Completed the transition for contract operations of the treatment facility from J.F. Shea Construction to PERC Water Corporation.

FY 2022 Objectives

- Achieve the targeted production of 10,000AF of advanced treated recycled water that is consistent with the goal of maximizing the use of recycled water to achieve independence from imported water.

- Work with PERC Water and vendors who supported operations during oversight by J.F. Shea Construction to establish resource availability to ensure sustained operations of all ARC facilities.

- Identify costing centers within the treatment plant for optimization to achieve process operational efficiencies and cost savings such as reduced power and chemical consumption.

- Support PERC Water staff with the continued use of the CMMS system to manage asset operations and maintenance throughout the treatment facility.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The FY 2022 budget supports three distinct facilities – the treatment facility, administration learning center and gardens, and the turnout structures along the San Gabriel River. With the first full calendar year of operations completed in 2020, realized operational expenditures could now be reflected in future budgets. In addition, new asset manufacturer warranties have largely expired and therefore budget will be needed to support repairs and maintenance (including preventative maintenance). Such assets include facility-wide HVAC systems, fire alarm and surveillance systems, pumps, motors, motor control centers, etc.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$3,534,000	$3,245,000	($289,000)
R&M/Materials/Equipment	2,613,000	3,090,000	477,000
Other Expenses	4,648,000	5,328,000	680,000
Other General & Administration	410,000	427,000	17,000
TOTAL	**$11,205,000**	**$12,090,000**	**$885,000**

Performance Measures

Performance measurement results for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:** Consistent and stable operations of the treatment facility to produce 10,000 AF of advanced treated recycled water that meets all regulatory specifications.				Expand Replenishment Opportunities
	MEASURE: ARC annual production (AF).	N/A	10,850 Acre-Feet	10,000 Acre Feet	
2	**GOAL:** Continue to optimize operations of the AWTF to maintain steady costing centers such as power, chemicals and brine disposal.				Expand Replenishment Opportunities
	MEASURE: Specified transition operations performance guarantees.	N/A	100%	100%	
3	**GOAL:** Collaborate with J.F. Shea to ensure remaining operational-related issues and deliverables are addressed.				Expand Replenishment Opportunities
	MEASURE: Significant completion and final approval.	N/A	100%	N/A	
4	**GOAL:** Support ARC campus operations and maintenance activities for both treatment and non-treatment activities such as tours, seminars and community outreach events.				Promote Organizational Excellence
	MEASURE: Sustainable center operations and functionality.	N/A	100%	100%	

Project 038 - Engineering Program

Background

The Engineering Department provides technical, engineering, program management, and hands on support on capital improvement projects ranging from concept development through engineering design, project management and construction inspections. The Engineering Department is also responsible for developing, updating, and managing the capital improvement program (CIP) and its related projects. The Engineering Department prepares and/or oversees the preparation plans, specifications and engineer's estimates of probable construction costs (PS&E's), or creates request for proposals/qualifications (RFPs/RFQs) for professional engineering consultation and construction management services depending on the size and specific needs of the project.

This Engineering Department receives and reviews public bids and provides recommendations to various committees and the Board of Directors to award contracts; applies, secures, and administers/manages grants from various Federal, State and Local organizations to supplement funds allocated by WRD.

The Engineering Department provides (oversees) project planning and environmental review/entitlement services for its Capital Improvement Program (CIP); monitors construction work in progress, reviews/approves progress pay estimates; and provides quality assurance/control oversight services on approved development projects to ensure compliance with Board goals and objectives.

The Engineering Program is intended to provide a mechanism for engineering staff to plan and further develop alternatives for potential capital improvement projects. Not all CIP project concepts develop into multi-year capital improvement program projects, and more often than not require many months of advanced planning and concept development before being capitalized. The Engineering Program deals primarily with replenishment issues and therefore its costs are borne by the Replenishment Fund until such time as alternative capital improvement program funding is identified.

FY 2021 Accomplishments

- Managed and monitor the CIP Budget throughout the fiscal year.
- Developed a Capital Improvement Program Prioritization Process.
- Updated the 5-year CIP Plan

FY 2022 Objectives

- Manage and monitor the CIP Budget throughout the fiscal year.
- Integrate new Capital Improvement Projects into the CIP Prioritization Process.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The reduction in FY 2022 is due to reallocation of staff time to other specific projects and programs.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$ -	$ -	$ -
R&M/Materials/Equipment	-	-	-
Other Expenses	29,000	29,000	-
Other General & Administration	391,000	274,000	(117,000)
TOTAL	**$420,000**	**$303,000**	**$(117,000)**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:**				
	Update the 5-year CIP Plan every 2 years to adapt to real world changes.				Expand Replenishment Opportunities Expand Extraction Capacity Promote Organizational Excellence
	MEASURE:				
	Release of updated 5-year CIP plan	N/A	October 2020	N/A	
2	**GOAL:**				
	Manage and monitor the CIP Budget throughout the fiscal year.				Promote Organizational Excellence
	MEASURE:				
	Ensure individual projects adhere to the CIP Budget and make adjustments as needed	N/A	June 2020	June 2022	

While WRD is sensitive to the challenge many parts of the state face with persistently dry conditions, we effectively drought-proofed our replenishment needs by eliminating altogether the use of imported water.

Program 043 – Regional Brackish Water Reclamation Program

Background

This regional project, which will consist of multiple desalter treatment plants, will remove the saline plume in the Silverado Aquifer, located in the West Coast groundwater basin in south Los Angeles County. Operation of seawater barrier injection wells has effectively curtailed seawater intrusion into the West Coast Basin; however, a large residual saline plume remains trapped inland of the barrier wells, occupying 600,000 acre-feet of volume in the West Coast groundwater basin.

This project will completely remediate the saline plume over a 40-year period by pumping and desalting 15,000 acre-feet of brackish groundwater each year. This project would provide a significant new potable water supply in the West Coast Basin and also reclaim groundwater storage capacity in the basin by removing the brackish plume.

The WRD's Groundwater Basin Master Plan assumes this project would operate on a regional basis, providing a new potable source of water for several groundwater pumpers located within that basin whose pumping options are currently limited by the saline plume. This effort would ultimately adjust pumping patterns to maximize containment and removal of the saline plume, which would result in groundwater contamination remediation, reclamation of significant groundwater storage volume in the basin and creation of a significant new local water supply.

FY 2021 Accomplishments

- Completed Regional Brackish Water Reclamation Program Feasibility Study.

FY 2022 Objectives

- Release Request for Proposals (RFPs) for professional services associated with Environmental Documentation on the California Environmental Quality Act (CEQA) and performance of a pilot test for the project.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

New phase of program will be implemented in FY 2022. No significant budget changes.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$350,000	$350,000	$ -
R&M/Materials/Equipment	-	-	-
Other Expenses	-	-	-
Other General & Administration	-	-	-
TOTAL	**$350,000**	**$350,000**	**-**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District Goal
1	**GOAL:**				
	Complete feasibility planning phase of program in FY 2021 and initiate CEQA and pilot phases of program in FY 2022.				Expand Extraction Capacity
	MEASURE:				
	Complete feasibility study and issue RFPs for professional services.	N/A	100%	100%	

Program 046 - Well Construction & Rehabilitation Program

Background

The District developed a Well Construction and Rehabilitation Loan Program in Fiscal Year 2019 to assist groundwater producers within its service area to increase their groundwater pumping capabilities. This Program will improve the producers' ability to utilize their full groundwater extraction rights and reduce their need for imported water. The Program will provide 10-year, zero percent interest loans, up-front capital, and expert assistance with the design, construction, and implementation of new production wells and well rehabilitation projects.

FY 2021 Accomplishments

- Projected completion and full loan disbursement for the City of Vernon's project.
- Started construction and partial disbursement for the City of Signal Hill's project.
- Continued offering loan program to interested and qualified groundwater producers.

FY 2022 Objectives

- Project completion and full disbursement for the City of Signal Hill's project.
- Continue offering loan program to interested and qualified groundwater producers.
- Continue receiving quarterly payments from the City of Vernon for their completed project.

Basis for Changes FY 2021 Projection to FY 2022 Budget

The City of Signal Hill is scheduled to complete their well construction project in FY 2022. Hence, we are expecting the City to request a disbursement for their total loan amount of $1.5 million during FY 2022.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$ -	$ -	$ -
R&M/Materials/Equipment	-	-	-
Other Expenses	-	-	-
Other General & Administration	9,000	31,000	22,000
TOTAL	**$9,000**	**$31,000**	**$22,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:**				
	Provide well construction and rehabilitation loans to assist pumpers increase ground-water pumping and maximize their groundwater rights.				Expand Extraction Capacity
	MEASURE:				
	Loan recipients to increase annual groundwater extraction beyond their most recent 5-year total extraction average by at least 10%.	N/A	10%	10%	

Clean Water Projects and Programs

Program 002 – Robert W. Goldsworthy Desalter

Background

The Robert W. Goldsworthy Desalter (Desalter), located in the City of Torrance, began operating in 2002 to treat a brackish groundwater plume created inland of the West Coast Basin Barrier after the barrier was put into operation. The Goldsworthy Desalter utilizes reverse osmosis (RO) as the main treatment technology for salinity removal before water can be conveyed to the City of Torrance potable distribution system. Source water to the Desalter is provided by two production wells – the City Yard Well, located in the City of Torrance property and the Delthorne Park Well, located adjacent to the City of Torrance property in Delthorne Park. The Desalter and both wells are operated under contract by the City of Torrance Water Department. In FY 2018, the Desalter was expanded to a design capacity of 5mgd, utilizing the same treatment processes as well as the addition of the two aforementioned production wells.

The project's cost for this budget year center primarily on operations and maintenance of the treatment facility. Typical expenses include labor, power, water treatment chemicals and analytical costs to ensure water quality meets all regulatory requirements. Since the expansion project was completed, the treatment facility has faced operational challenges due to elevated fouling of the RO system, as well as utilization of only two source water wells. With assistance from a WRD staff engineer assigned to the treatment facility, funds will be utilized to support the continued effort to increase production through minimizing the impact of RO fouling and optimization of well operations. Since the overall purpose of the project is to remediate degraded groundwater quality, the costs are attributed to the Clean Water Fund.

FY 2021 Accomplishments

- Continued to optimize Desalter performance to operate at higher and sustainable levels of production, while working to minimize the deleterious effects of RO fouling in part through completion and implementation of recommendations from the Goldsworthy Foulant Study.

- WRD Hydrogeology staff, in conjunction with Operations and the City of Torrance, developed and implemented strategies and operational procedures to mitigate reductions in well performance to sustain optimal well operations.

- Completed repairs and redevelopment of the City Yard Well and pump to restore yield and Desalter production.

- Continued to conduct RO pilot testing to determine the efficacy of various pretreatment options, including chemical pretreatment, mechanical pretreatment and the combination of mechanical and chemical pretreatment to mitigate the impact of membrane fouling.

- Completion of an Arc Flash Incident Energy Analyses to satisfy compliance with NFPA and OSHA requirements to ensure a safe work environment for plant operations staff.

- Implementation of the Computerized Maintenance Management System (CMMS), including training of the City of Torrance Water Department operations staff.

- Installation of a new, modernized analyzer for the monitoring of fluoride addition in the Desalter finish product water.

- Finalize a new contract services agreement with the City of Torrance for the purchase of Desalter product water from WRD that reflects an updated pricing structure. This replaces the previous contract which was established in 2012.

FY 2022 Objectives

- Maximize Desalter production through the implementation of strategies and recommendations from the foulant and pilot studies as well as optimizations from routine operations by the City of Torrance staff.

- Evaluate the feasibility of capital projects such as inflatable well packers, GAC as a pretreatment for RO, construction of a third production well and other projects to increase Desalter production.

- Support the City of Torrance staff with the continued use of the CMMS system.

- Continue to refine the program and schedule for both short and long-term R&R and CIP needs.

- Continue to address issues identified during operations, including the re-location of the RO cleaning system and brine flowmeters.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Operational costs for FY 2022 are consistent with expected expenditures including labor, power and water treatment chemicals – all major costing centers associated with treatment facility operations. In addition, this budget reflects the need to support efforts to minimize RO fouling and optimize operations of the Desalter production wells.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$405,000	$440,000	$35,000
R&M/Materials/Equipment	766,000	890,000	124,000
Other Expenses	1,432,000	1,498,000	66,000
Other General & Administration	85,000	150,000	65,000
TOTAL	**$2,688,000**	**$2,978,000**	**$290,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:** Optimize Desalter performance to increase production, including pilot testing to evaluate pretreatment options.				Expand Extraction Capacity
	MEASURE: Goldsworthy annual production (AF).	1,780 Acre-Feet	2,700 Acre-Feet	3,600 Acre-Feet	
2	**GOAL:** Implementation of a computerized maintenance management system (CMMS).				Expand Extraction Capacity
	MEASURE: Utilization by City of Torrance operators.	N/A	100%	100%	
3	**GOAL:** Resolve system issues, including chemical pump splash guards, hydraulic assessment of the RO sump discharge system, re-location of the RO cleaning system and brine flowmeters.				Expand Extraction Capacity
	MEASURE: Completion of issues identified.	N/A	0%	100%	

Program 006 - Water Quality Improvement Program

Background

This comprehensive program represents the District's ongoing efforts to address water quality issues that affect its projects and the pumpers' facilities. The District monitors and evaluates potential impacts of pending water quality regulations and proposed legislations. WRD reviews the justifications and the rationale accompanying the proposed requirements and, if warranted, joins in coordinated efforts with other interested agencies to resolve significant issues of concerns during the early phases of the regulatory and/or legislative processes.

The District continues to evaluate and project water quality compliance in production wells, monitoring wells, and recharge/injection waters of the basins. And where potential issues are identified, appropriate remedial actions are developed along with the associated cost estimates to achieve compliance.

The WRD service area includes a large and diverse industrial base. Consequently, many potential groundwater contamination sources exist within the District boundaries, including but not limited to leaking underground storage tanks, refineries and petrochemical plants, dry cleaning facilities, auto repair shops, metal works facilities, and others. Such potential contamination sources may pose a threat to the drinking water aquifers. WRD, therefore, established the Groundwater Contamination Prevention Program as a key component of the Groundwater Quality Program, in an effort to minimize or eliminate existing and potential threats to groundwater supplies.

WRD is also participating in the Water Augmentation Study, a multi-year investigation by the Council for Watershed Health for the purpose of evaluating the feasibility and impact of using low impact development strategy to capture storm runoff that would have otherwise been discharged to the surface water.

Much of the work for the coming year will involve additional investigations at well sites known to have contaminated water, continued tracking of water quality regulations and proposed legislation affecting production and replenishment operations, further characterization of contaminant migration into the deeper aquifers, and evaluating the need to initiate cleanup activities at contaminated sites. All work under this program is related to water quality and cleanup efforts and therefore, is funded entirely by the Clean Water Fund.

The District continues to administer the Title 22 Groundwater Monitoring Program in the Central Basin and one system in the West Basin, which provides source water monitoring of 84 active wells owned and operated by 22 pumpers. In addition to performing the required compliance monitoring, the District prepares the annual Consumer Confidence Reports for these pumpers.

FY 2021 Accomplishments

- Coordinated and administered meetings of the Groundwater Contamination Forum as a means for key stakeholders to share data and provide updates on major groundwater contaminated sites in the Central Basin and West Coast Basin.

- Continued to work in close consultation with project managers of the United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), and Los Angeles Regional Water Quality Control Board (LARWQCB) to provide data and technical support to expedite the investigation and cleanup of high-priority groundwater contaminated sites in the Central Basin and West Coast Basin.

- Continued to administer meetings of the Los Angeles Forebay Groundwater Task Force and work with regulatory agencies and water purveyors to implement a groundwater cleanup project using grant funds received from the State Water Resources Control Board (SWRCB). The grant funds will be used to investigate and remediate a perchlorate "hot spot" and other comingled contaminant including 1,4-Dioxane and volatile organic compounds (VOCs) in the Los Angeles Forebay. The State is covering a majority of the costs with Proposition 1 grant funding in the amount of $10,658,561 (or ~80%). WRD will be providing matching funds in the amount of $2,787,359 (or ~20%).

- Participated in the multi-agency Los Angeles Basin Groundwater Restoration Convening meetings to expedite the investigation, identification, and eventual remediation of potential sources associated with contaminated drinking water wells in the Central Basin and West Coast Basin.

- Attended public meetings for various groundwater cleanup projects in the basin including those associated with the Del Amo / Montrose Superfund Sites and restoration of the former Norwalk Tank Farm.

- Coordinated the sampling of three deep nested groundwater monitoring wells installed by WRD. The wells were installed to characterize the vertical extent of groundwater contamination associated with the Omega Chemical Superfund Site. The data resulted in the regulatory agency requiring additional groundwater delineation as documented in a consent decree issued in April 2016 and subsequent investigation work plans issued in April 2017. WRD continues to work closely with the responsible parties and EPA.

- WRD staff continue to provide technical support to multiple pumpers in the basin regarding the installation of water supply wells in proximity of existing groundwater plumes and concerns raised by the Division of Drinking Water (DDW).

- Monitored potential impacts of pending legislation and regulations on drinking water quality by participating in the California WateReuse Legislative / Regulatory Committee, Association of California Water Agencies' Clean Water and Safe Drinking Water Committees, and subscribing to listserv of various regulatory agencies.

- WRD staff have been participating in various activities related to the Sustainable Groundwater Management Act (SGMA):

  – Continue to participate in a group discussion for two fringe areas in the unadjudicated northern portion of the Central Basin. The main stakeholders include the City of Beverly Hills, City of Culver City, Golden State Water Company, and Los Angeles Department of Water and Power (LADWP).

  – Central basin was reclassified as a "very low" priority basin by the Department of Water Resources (DWR). This action allowed the stakeholder group to withdraw an "alternative analysis" previously submitted to the DWR. Thus, no action is currently required to comply with SGMA.

  – Annual Watermaster reports will continue to be submitted as required by SGMA.

- Conducted quarterly status update meetings with our on-call water quality laboratory (Eurofins Eaton Analytical). The meetings provide an opportunity for staff to communicate directly with our vendor partners ensuring the highest quality work for the District.

- Provided groundwater contamination update at the board of director meeting of the Southeast Water Coalition (SEWC).

- Participated in a panel discussion regarding perfluorooctanoic acid (PFOA), collectively per- and polyfluoroalkyl substances (PFAS) with DDW, SWRCB, and LARWQCB staff to update board members of the LARWQCB.

- Continue to participate in various environmental justice events including the 6th Annual Environmental Health & Enforcement Symposium.

- WRD staff continue to track the progress of and provide updates to various pumpers regarding various perfluorinated compounds (an emerging chemical of concern) including perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), collectively PFAS. A working group was formed to provide timely information to the pumpers and provide updates on a pilot testing program developed to evaluate treatment technologies and well profiling being conducted in the Montebello Forebay.

- WRD and the LARWQCB signed an MOU to work collaboratively on mutually selected sites and/or areas to evaluate groundwater contamination or threat of contamination to the Basin. The MOU may help to identify other "high priority" sites and possible identification of groundwater remediation projects that could be partially funded by a grant program such as Proposition 1. Quarterly meetings are held between the WRD and LARWQCB. Two environmental sites (Anadite and Barkens Hardchrome) with limited ability to pay for site cleanup were subsequently accepted into a grant program using funds available through the Site Cleanup Subaccount Program (SCAP).

FY 2022 Objectives

- Maintain a high level understanding of the highest priority contamination sites within the basin and work collaboratively with project managers at the USEPA, DTSC, and LARWQCB. Coordinate regular status update meetings for key sites via the Groundwater Contamination Forum.

- Work collaboratively with various regulatory agencies to identify responsible parties and address groundwater contamination in the Los Angeles Forebay. WRD will continue to build upon the work initiated under the Groundwater Task Force.

- Participate in the multi-agency Los Angeles Basin Groundwater Restoration Convening.

- Monitor potential impacts of pending legislation and regulations on drinking water quality by subscribing to the listserv of various regulatory agencies and participating in the California WateReuse Legislative/Regulatory Committee, Association of California Water Agencies' Clean Water, and Safe Drinking Water Committees.

- Provide technical support to our pumping community and continued communication via the Annual Groundwater Quality Workshop.

- Partner with and evaluate additional stormwater recharge opportunities through the Council for Watershed Health on the Water Augmentation Study and the Southern California Water Committee.

- Participate in the technical advisory committee of the Los Angeles Basin Stormwater Conservation Study undertaken by the Los Angeles County Public Works and United States Bureau of Reclamation.

- Administer the Title 22 Groundwater Monitoring Program.

- Continue groundwater remediation efforts with grant funds being administered by Prop 1. Pursue additional groundwater cleanup projects with available grant funds related to Prop 1.

- Continue working group to provide timely information to the pumpers and provide updates on a pilot testing program developed to evaluate treatment technologies and well profiling being conducted in the Montebello Forebay.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Budget adjustments were made to accommodate laboratory testing associated with the Title 22 Monitoring Program.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$320,000	$452,000	$132,000
R&M/Materials/Equipment	32,000	32,000	-
Other Expenses	11,000	11,000	-
Other General & Administration	124,000	69,000	(55,000)
TOTAL	**$487,000**	**$564,000**	**$77,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:**				
	Coordinate and administer meetings of the Groundwater Contamination Forum as a means for key stakeholders to share data and provide updates on major groundwater contaminated sites in the Central Basin and West Coast Basin.				Maximize Innovation and Environmental Resiliency Promote Organizational Excellence
	MEASURE:				
	Successful coordination and hosting of two meetings each Fiscal Year.	1 (COVID-19)	2	2	
2	**GOAL:**				
	Conduct groundwater quality workshop for local water purveyors to promote professional learning and networking.				Maximize Innovation and Environmental Resiliency Promote Organizational Excellence
	MEASURE:				
	Hold one workshop each Fiscal Year.	1	0 (COVID-19)	1	
3	**GOAL:**				
	Title 22 Monitoring Program.				Maximize Innovation and Environmental Resiliency Promote Organizational Excellence
	MEASURE:				
	Administer program for various pumpers within the District.	22	22	22	

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
4	**GOAL:**				
	Prop 1 grant funding to remediate "hot spot" in the Los Angeles Forebay and identify responsible party in coordination with DTSC and LARWQCB.				Maximize Innovation and Environmental Resiliency Expand Extraction Capacity
	MEASURE:				
	Provide public updates at Committee Meetings.	4	4	4	
5	**GOAL:**				
	Continue gathering additional data and sharing information related to PFAS.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Provide updates to pumpers via Committee Meetings, Board Meetings, Water Rights Association, and BAC/TAC.	4	12	4	

Program 012 - Safe Drinking Water

Background

WRD's Safe Drinking Water Program ("SDWP") has operated since 1991 and is intended to promote the cleanup of groundwater resources at specific well locations. Through the installation of wellhead treatment facilities at existing production wells, the District expects to remove contaminants from the underground supply and deliver the extracted water for potable purposes. Projects implemented through this program are accomplished through direct input and coordination with well owners.

The current program focuses on the removal of Volatile Organic Compounds (VOCs) and offers financial assistance for the design and equipment of the selected treatment facility. The program is designed to help groundwater pumpers remove VOCs from affected wells to enable the well to meet public drinking water standards. This increases groundwater pumping capacity and reduces dependence on limited and expensive imported water supplies. In addition, removal of VOCs from the groundwater supply helps prevent the contaminants from spreading to other areas.

Another component of the program offers no-interest loans for secondary constituents of concern that affect a specific production well. The capital costs of wellhead treatment facilities range from $800,000 to over $2,000,000. Due to financial constraints, this initial cost is generally prohibitive to most pumpers. Financial assistance through the District's SDWP makes project implementation much more feasible. The program places a greater priority on projects involving VOC contamination or other anthropogenic (man-made) constituents, classified as Priority A Projects. Any treatment projects for naturally-occurring constituents would be classified as Priority B Projects and funded on a secondary priority, on a case-by-case basis, and only if program monies are still available during the fiscal year.

New candidates for participation are on the rise. A total of seventeen (17) facilities are already completed and online and one facility has successfully completed removal of the contamination and no longer needs treatment.

As an extension of the District's Safe Drinking Water Program, the District also offers the Safe Drinking Water Disadvantage Communities (DAC) Program. The goal of this program is to assist water systems located in disadvantaged communities within the District's service area with state and federal funding application efforts to address the issues related to their drinking water wells. The focus of the program is to provide technical assistance and extensive outreach to help the systems secure funding that is set aside specifically for disadvantaged communities. Currently there are eleven (11) water systems participating in the program and receiving assistance and four systems have already received state funding and one project is currently under construction using state funding.

Projects under the SDWP involve the treatment of contaminated groundwater for subsequent beneficial use. This water quality improvement assists in meeting the District's groundwater cleanup objectives. Thus, funding for the costs of the program is drawn entirely from the Clean Water Fund.

FY 2021 Accomplishments

- Received regulatory approval for GAC treatment system for City of Lynwood Well 11 to treat VOCs.
- Complete construction on GAC treatment system for California American Water Arlington Well to treat VOCs.
- Complete construction on Maywood Mutual Water No. 2 Well 1 for Iron/ Manganese treatment.
- Pursue DAC grant funding for the current water system DAC participants
- Complete design on Iron & Manganese treatment system for Sativa Well 5.
- Awarded construction funding for GAC treatment system for City of Lomita Well 5 to treat VOCs.

FY 2022 Objectives

- Complete construction on Granular Activated Carbon (GAC) treatment system for Huntington Park Well 15 to treat VOCs.
- Complete construction on GAC treatment system for City of Lynwood Well 11 to treat VOCs.
- Pursue DAC grant funding for the current water system DAC participants
- Begin construction on Iron & Manganese treatment system for Sativa Well 5.
- Complete construction on GAC treatment system for City of Lomita Well 5 to treat VOCs.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Decrease to this program is based on planning services for the Disadvantage Community (DAC) projects. Design and construction expenses are reimbursed through grant funding and therefore not shown in the operating budget. Any expenses for the traditional SDWP program requiring a loan or grant will be considered from WRD's reserve funds.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$398,000	$360,000	$(38,000)
R&M/Materials/Equipment	-	-	-
Other Expenses	9,000	14,000	5,000
Other General & Administration	12,000	-	(12,000)
TOTAL	**$419,000**	**$374,000**	**$(45,000)**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:** Identify projects and fund up to $1M from a WRD Grant to assist candidates with primary priority contamination removal through the Safe Drinking Water Program.				Expand Extraction Capacity
	MEASURE: # of projects funded to provide assistance to candidates with primary priority contamination removal.	3 (Grant)	3 (Grant)	1 (Grant)	
2	**GOAL:** Identify projects and fund up to $1M from a WRD loan to assist candidates with secondary priority contamination removal through the Safe Drinking Water Program.				Expand Extraction Capacity
	MEASURE: # of projects funded to provide assistance to candidates with secondary priority contamination removal.	0 (Loan)	1 (Loan)	0 (Loan)	
3	**GOAL:** Identify projects and funding from local, state, and federal grant programs to assist candidates with primary or secondary priority contamination removal through the Safe Drinking Water Disadvantaged Community (DAC) Program.				Expand Extraction Capacity
	MEASURE: # of DAC projects funded to provide assistance to candidates with primary or secondary priority contamination removal.	2 (DAC)	3 (DAC)	1 (DAC)	

Dual Purpose Projects and Programs

Program 010 Geographic Information System (GIS)

Background

The District maintains an extensive database and Geographic Information System (GIS) in-house. The database includes water level and water quality data throughout the entire WRD service area with information drawn not only from the District's Regional Groundwater Monitoring Program, but also from water quality data received from the California Department of Public Health and the District's administration of the Title 22 Monitoring Program in the Central Basin. The system requires continuous update and maintenance but serves as a powerful tool for understanding basin characteristics and overall basin health.

GIS, in conjunction with the regional groundwater model, is used to provide better planning and basin management. The system is used to organize, store, and access spatial information and accompanying datasets, including well locations, water level data, water quality information, well construction data, production data, aquifer locations, and computer model files. Staff uses the system daily for project support and database management. Specific information is available to any District pumper or stakeholder upon request and can be delivered through the preparation of maps, tables, reports, or other compatible format. Additionally, the District's web-based Interactive Well Search tool is available to the public; this website provides users with access to WRD's data on wells in its service area, including water quality and water levels. The web-based application is continually updated to expand functionality for WRD staff and outside users.

District staff will continue to streamline and refine the existing data management system and website as well as satisfy both internal and external data requests. Continued use, upkeep, and maintenance of the GIS are planned for the coming year. In addition, District staff is working closely with our consultants to develop new geospatial applications and add features to existing ones. The use of the system supports both replenishment activities and groundwater quality efforts. Accordingly, the cost for this program is equally split between the Replenishment and Clean Water Funds.

FY 2021 Accomplishments

- Continued developing new features to improve the District's online Interactive Well Search Tool.
- Develop in-house applications for WRD Staff to easily access GIS layers and well/water data.
- Worked with WRD staff to design and develop Esri Story Maps for use in educational, promotional, and presentation materials.
- Continued comprehensive review of existing datasets and quality assurance measures to ensure continued data integrity.

FY 2022 Objectives

- Continue developing new features to improve the District's online Interactive Well Search Tool including a water quality specific tool and a tool designed for the External Affairs department to facilitate their work.
- Continue working with Operations staff with CMMS facility implementations.
- Continue developing maps and layers for Esri Story Maps development for use in educational, promotional, and presentation materials.
- Continue comprehensive review of existing datasets and quality assurance measures to ensure continued data integrity, including documentation and data dictionaries.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The budgeting of $100,000 for professional services in support of the GIS program is requested to aid in program development and capacity building. A minor increase in other expenses will go toward replacing older computer and printing hardware.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$ -	$100,000	$100,000
R&M/Materials/Equipment	-	-	-
Other Expenses	55,000	61,000	6,000
Other General & Administration	123,000	105,000	(18,000)
TOTAL	**$178,000**	**$266,000**	**$88,000**

Performance Measures

Performance measurement results for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District Goals
1	**GOAL:**				
	Continue developing new features to improve the District's online Interactive Well Search Tool.				Promote Organizational Excellence
	MEASURE:				
	Updates and improvements to the technology powering the tool	N/A	N/A	1	
	Updates and improvements to the tool	2	2	2	
2	**GOAL:**				
	Develop in-house applications for WRD Staff to easily access GIS layers and well/water data.				Promote Organizational Excellence
	MEASURE:				
	Development of new applications	3	3	3	
3	**GOAL:**				
	Work with WRD staff to design and Esri develop E Story Maps for use in educational, promotional, and presentation materials.				Promote Organizational Excellence
	MEASURE:				
	Development of new Story Maps	2	2	3	
	Improvement of existing Story Maps	1	3	2	
4	**GOAL:**				
	Continue comprehensive review of existing datasets and quality assurance measures to ensure continued data integrity.				Promote Organizational Excellence
	MEASURE:				
	Development of data catalog	1	N/A	N/A	
	Improvements to data catalog	N/A	5	3	

Program 011 Regional Groundwater Monitoring

Background

The Regional Groundwater Monitoring Program continues to be very successful and currently consists of a network of 335 WRD and the United States Geological Survey (USGS)-installed monitoring wells at nearly 60 locations throughout the District. Monitoring well data is supplemented with information from production wells to capture the most accurate information available. WRD staff, comprised of hydrogeologists and engineers, provides the in-house capability to collect, analyze and report groundwater data. This information is stored in the District's Geographic Information System (GIS) and provides the basis to better understand the characteristics of the Central and West Coast Basins (CBWCB).

Water quality samples from the monitoring wells are collected periodically. Automatic dataloggers record water level daily in most monitoring wells. Dataloggers are downloaded and water levels measured by WRD field staff a minimum of four times per year. The water quality data is available online at https://gis.wrd.org/ and water level data are available online at https://hydrographs.wrd.org/. On an annual basis, staff prepares a report that documents groundwater production, groundwater level, and groundwater quality conditions throughout the District. The annual reports are available online at https://www.wrd.org/reports/regional-groundwater-monitoring-report.

Most of the work during the coming year will involve continued bi-monthly, quarterly, and semiannual monitoring and reporting activities. The program will also work cooperatively with the USGS to address specific water quality issues and update the hydrogeologic conceptual model. Work associated with the Regional Groundwater Monitoring Program also supports activities relating to both replenishment and water quality projects. The program, therefore, is funded 50% each from the Replenishment and Clean Water Funds.

In November 2009, the State Legislature amended the Water Code mandating a statewide groundwater elevation monitoring program to track seasonal and long-term trends in California's groundwater basins. In October 2011, WRD was designated the agency responsible for collecting and reporting CBWCB groundwater level data to the California Statewide Groundwater Elevation Monitoring (CASGEM) program and continues in this role. WRD also provides water level data to a National Groundwater Monitoring Program as overseen by the USGS.

FY 2021 Accomplishments

- Completed spring and fall groundwater quality sampling at WRD monitoring wells including analysis of over 100 chemical constituents and contaminants (including the completion of a two year sampling effort to evaluate the presence of per- and polyfluoroalkyl substances [PFAS]).

- Collected quarterly groundwater levels at WRD monitoring wells and compiled daily datalogger data to prepare historical water level hydrographs.

- Published the annual Regional Groundwater Monitoring Report summarizing groundwater data from monitoring wells and production wells in the CBWCB for Water Year 2019/20.

- Grant funding became available for a National Groundwater Monitoring Program through the USGS. WRD Staff secured additional funding and extended our contract for National Groundwater Monitoring Network. Initiated planning of one additional deep nested monitoring in the Montebello Forebay.

- Continued to collect and report CBWCB groundwater level data to the CASGEM program.

- Continued implementation of a telemetry system at several monitoring wells as a test program.

- Planning for two new deep nested monitoring wells with USGS.

- Performed extensive data logger testing, maintenance and repairs.

FY 2022 Objectives

- Collect spring and fall groundwater quality samples at WRD monitoring wells. Analyze samples for over 100 chemical constituents and contaminants.

- Collect quarterly groundwater levels at WRD monitoring wells and compile daily data logger data and prepare historical water level hydrographs.

- Identify emerging contaminants of concern to the water supply community and groundwater basin managers to assess the need for a basin-wide screening to determine whether long-term monitoring is warranted in the CBWCB.

- Continue to report Regional Groundwater Monitoring Program data in accordance with the State-mandated Salt and Nutrient Management Plan.

- Continue to collect and report CBWCB groundwater level data to the CASGEM program.

- Drill and install one new deep nested monitoring well with partial grant funding provided by the National Groundwater Monitoring Program.

- Drill and install two new deep nested monitoring well with USGS. The wells will help evaluate recycled water transport downgradient of the Montebello Forebay.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The change in FY 2022 budget is due to increase in labor allocation and offset by a reduction in professional services.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$694,000	$588,000	$ (106,000)
R&M/Materials/Equipment	135,000	115,000	(20,000)
Other Expenses	148,000	147,000	(1,000)
Other General & Administration	385,000	583,000	198,000
TOTAL	**$1,362,000**	**$1,433,000**	**$71,000**

Performance Measures

Performance measurement results for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:** Collect semiannual groundwater quality samples and quarterly water levels at monitoring wells installed by WRD. Place results on Interactive Well Search Tool maintained by WRD. Report results to NGWMN and CASGEM.				Maximize Innovation and Environmental Resiliency
	MEASURE: Compile results and release annual report by April 2020.	1	1	1	
2	**GOAL:** Drill and install nested monitoring wells in data gap areas with USGS.				Maximize Innovation and Environmental Resiliency
	MEASURE: Installation of wells with USGS.	0	1	1	
3	**GOAL:** Integrate Regional Groundwater Monitoring Program data into a salt and nutrient groundwater monitoring program.				Maximize Innovation and Environmental Resiliency
	MEASURE: % of completion for the integration of Regional Groundwater Monitoring Program data into a salt and nutrient groundwater monitoring program.	100%	100%	100%	

Program 025 Hydrogeology Program

Background

This recurring program accounts for hydrogeologic analysis of the Central, West Coast, and surrounding groundwater basins. These scientific efforts are necessary for specific issues, projects, programs and basin management issues that face the District. The program includes evaluation of replenishment needs and forecasting at the spreading grounds and barrier wells, computer modeling, 3D aquifer imaging, and assessing the overall health of the basins by analyzing water levels and water quality data, including salt and nutrient loading.

Staff work performed under this program includes the preparation of the annual Engineering Survey and Report, including the calculation and determination of important hydrogeologic factors such as annual overdraft, accumulated overdraft, change in storage, and replenishment needs. Extensive amounts of data are compiled and analyzed by internal State-certified hydrogeologists and registered engineers to determine these values. Maps are created showing water levels in the basins and production patterns and amounts. The updates, maintenance, and use of the Regional Groundwater Flow Model developed by the USGS and WRD are part of this program. This model is a significant analytical tool utilized by WRD to determine basin benefits and impacts of changes proposed in the management of the Central and West Coast Basins.

A focused effort to better characterize the hydrogeologic conditions in the District is also underway and will continue into the ensuing year. This long-term project involves compiling and interpreting extensive data which were generated during the drilling and logging of the WRD/USGS monitoring wells and collected from historical information for production wells and oil wells within the District, and from seismic reflection data. The ultimate goal of this project is to incorporate these data in WRD's GIS and models, and use the system to generate aquifer depths, extents, and thicknesses throughout the District to assist staff, pumpers, and stakeholders better plan for groundwater resource projects such as new well drilling, storage opportunities, or modeling. The data will also be made available on WRD's website to be used as a reference source for hydrogeologic interpretations and fulfilling project- related data requests.

Hydrogeological analysis is also needed for projects associated with groundwater quality concerns and specific cleanup projects. Work by in-house staff may include investigative surveys, data research, oversight of specific project studies, etc. Such efforts are used to relate water quality concerns with potential impact to basin resources.

Special projects arise occasionally under this program such as well profiling of production wells to define areas of poor water quality entering the well with an emphasis on gather more data related per- and polyfluoroalkyl substances (PFAS). Other special

projects include preparation of the Cost of Service Report, saline plume evaluation and modeling, analysis of optimum and minimum groundwater quantities, groundwater tracer investigations, and updates to the Salt Nutrient Management Plan (Recycled Water Policy indicates an update is required by April 8, 2024). An evaluation will also be conducted to evaluate existing groundwater models used across the county line jointly funded by WRD and the Orange County Water District (OCWD).

Pilot testing was initiated to evaluation wellhead treatment of PFAS. Two water supply wells were selected for testing in the Montebello Forebay. The pilot testing is evaluating two of the most common technologies for treating PFAS; ion exchange (IX) and granular activated carbon (GAC).

The Hydrogeology Program addresses both groundwater replenishment objectives and groundwater quality matters. This dual service warrants that the cost of the program be split evenly between the Replenishment and Clean Water Funds.

FY 2021 Accomplishments

- Preparation of the 2021 Engineering Survey and Report leading to the adoption of the 2021/2022 Replenishment Assessment.

- Preparation of the 2021 Cost of Service Report, including an in-depth analysis of the geology of the WRD Service area. This report, along with the ESR, led to the adoption of the 2021/2022 Replenishment Assessment.

- Significant progress with USGS to finalize the regional groundwater computer model. Staff continued to finalize draft reports with USGS.

- Conducted annual adjudicated basin reporting as required under the Sustainable Groundwater Management Act (SGMA).

- Well profiling was performed at three water supply wells to evaluate the vertical distribution of PFAS. The wells are located in the Montebello Forebay.

- Commenced pilot testing to evaluate wellhead treatment technologies for PFAS.

- Presented on “How do you describe what you can’t see? Visualization Techniques used by a Groundwater Management Agency in Southern Los Angeles County, California” at a conference held by the Groundwater Resources Association of California (GRAC).

- Continue to provide modeling support to water resource department for the Master Plan and Regional Brackish Water.

FY 2022 Objectives

- Completion of 2022 Engineering Survey and Report.
- Completion of 2022 Cost of Service Report
- Complete the USGS Modflow groundwater computer model, publish the final report, and convert the model to Modflow 6.
- Present technical materials and papers at groundwater conferences and various organizations related to the District.
- Complete annual adjudicated basin reporting as required under SGMA.
- Continue wellhead treatment pilot testing of PFAS.
- Assist groundwater purveyors on data needs for new production wells.
- Continue to provide modeling support to water resource department for the Master Plan and Regional Brackish Water.
- Continue county line groundwater modeling evaluation with OCWD and report results to the Board

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The change in FY 2022 budget is due to adjustment in professional consulting service to various groundwater modeling tasks, well profiling program, and pilot testing associated with PFAS.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$707,000	$231,000	$(476,000)
R&M/Materials/Equipment	15,000	15,000	-
Other Expenses	36,000	53,000	17,000
Other General & Administration	257,000	216,000	(41,000)
TOTAL	**$1,015,000**	**$515,000**	**$(500,000)**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below..

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:** Prepare ESR leading to the adoption of the RA.				Maximize Innovation and Environmental Resiliency
	MEASURE: Prepared ESR which led to the adoption of the RA.	1	1	1	
2	**GOAL:** Prepare annual Cost of Service report including an in-depth analysis of the geology of the WRD service area.				Maximize Innovation and Environmental Resiliency
	MEASURE: Prepared annual Cost of Service report which included an in-depth analysis of the WRD service area geology.	1	1	1	
3	**GOAL:** Provide modeling support for Master Plan and Regional Brackish Water.				Expand Replenishment Opportunities Expand Extraction Capacity
	MEASURE: Participate in at least six stakeholder meetings each Fiscal Year.	8	12	6	

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
4	**GOAL:**				
	Complete county line groundwater modeling evaluation with OCWD (funded jointly by WRD/OCWD).				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Provide feedback on groundwater modeling evaluation and report results to Board.	0	1	1	

Program EAC – Water Conservation

Background

Water Conservation outreach activities provide tangible and proven strategies to successfully engage constituents, pumpers, and cities to continue to conserve water throughout the service area. On the heels of the State's historic drought, the WRD conservation program has increased outreach to proactively educate the public and make water conservation a lifestyle. In FY2021 the External Affairs Department continued to conduct its virtual outreach programming throughout the service area and created new offerings to adapt to new methods of communicating with our varied audiences.

The External Affairs Department expanded the number of Eco Gardener classes for the public. WRD hosted 25 Eco Gardener courses in an online format utilizing Zoom technology. These classes averaged 30 participants per class and greatly expanded our email contact database. Outreach for these classes included social media posts, direct email contact, newspaper advertisements, and placement in the WRD Newsletter. The advertising serves two main purposes. In addition to advertising the Eco-Gardener classes, these ads highlight WRD and our function in the service area.

The Water Awareness Calendar profiles 23 local student artists who use their artwork to encourage water literacy and conservation. The past year saw 66 schools participate, an increase of 74% over the previous year's 38 schools. In order to achieve this high participation rate, the contest had to be made fully digital, which was a completely different way of implementing the contest then in years' past. The outreach for the Student Art Contest included all school districts resulting in 10 that actively participated. Advertising for the contest was implemented on social media with animated videos, and groundwater lessons for Girl Scout Troops and virtual classroom presentations were delivered.

WRD continued to partner with public agencies to enhance water conservation awareness to the general public as well as non-profit organizations, chambers of commerce and educational institutions through special events and workshops. External Affairs staff also conducted outreach in areas which had been underserved by our programming in the past.

With the transition to online and virtual conferences, External Affairs staff have developed new and engaging content to share with these audiences including video and GIS technology that allows the district to share its important work. Staff have participated in three conferences budgeted in EAC. Staff conducted virtual tours and presented during virtual "booths" at these conferences which allowed the district to engage with thousands of participants.

FY 2021 Accomplishments

- Created web-based platform for 5 Eco-Gardener classes.
- Increased the mailing list for the Eco Gardener participants by 500 people.
- Increased school participation in the Student Art Contest by 74%.
- Delivered or mailed 3,000 printed calendars to winning schools, participating schools, and elected officials in the WRD service area.
- Increase the use of social and traditional media outlets to advertise Eco-Gardener classes.
- Hosted over 25 Eco-Gardener classe.

FY 2022 Objectives

- Create Eco-Kids curriculum for use at schools and libraries while also having online activities accessible to parents and teachers.
- Start hosting in-person classes when restrictions lift; build new partnerships for hosting venues and reconnect with longstanding partners.
- Involve 15 school districts and 80 schools in the student art contest.
- Develop 3 classroom presentations that support the student art contest and make them available to teachers through an online scheduling form.
- Increase the publication of water conservation social media posts to encourage behavior change at home and in the garden.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

The basis for changes is in anticipation of the return of in-person community outreach events and the allocation of staff salaries in the FY 2022 budget.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$65,000	$65,000	$ -
R&M/Materials/Equipment	-	-	-
Other Expenses	298,000	300,000	2,000
Other General & Administration	198,000	328,000	130,000
TOTAL	**$561,000**	**$693,000**	**$132,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:**				
	Outreach in water conservation messaging.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Number of Eco Gardening classes hosted.	21 scheduled	25	30	
	Number of Eco Gardening class attendees.	Avg 25/ class	Avg 30/ class	30/class	
2	**GOAL:**				
	Conservation Partnerships with stakeholders including groundwater pumpers.				Promote Organization Excellence
	MEASURE:				
	Participation in commercial, institutional, residential and educational partnerships with stakeholders through the service area.	10	15	20	
3	**GOAL:**				
	Broaden Eco-Gardener education opportunities for the public.				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Develop a series of work-books and educational materials.	5	3	3	
	Develop new classes for participants to attend	2	3	3	
	Use of social media for Eco-Gardening Education	30	40	40	

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
4	**GOAL:**				
	Increase participation at community events promoting WRD projects and programs				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Number of schools participating in Student Art Calendar contest	38	66	80	
	Number of industry conferences the district participates in (budgeted in EAC)	3	3	3	

Program EAE – Water Education & Outreach

Background

Water Education and Outreach activities aim to provide direct informative communication between WRD and a broad range of constituents including:

- Groundwater purveyors (pumpers)
- Elected officials and policy makers
- Federal and state regulators
- Members of the public
- Children and Youth (schools)
- Members of the water industry
- News reporters, bloggers, other media.

Water Education and Outreach activities engage constituents on a variety of important policy and project development areas pertaining to groundwater management and practices, as well as recycled water production and use. These activities include tours; participation in community events and forums; development of printed and digital educational materials; involvement in industry and organizational conferences; and promotion of education through annual public events, such as the WRD Groundwater Festival. These avenues of communication enable WRD to successfully advance discussions around critical policies and programs that promote public interest in, and awareness of, water. Due to the COVID-19 pandemic, several events and activities hosted or attended by EA staff have been either canceled or held in a virtual setting

The External Affairs department is tasked with the mission of leading the education and outreach programs for the District - with attention to the Water Independence Now (WIN) Program and the WIN 4 ALL Program through presentations at conferences, conventions, and regional community events. These programs encapsulate WRD's core projects that are helping the region by creating a completely locally sustainable source of water for groundwater replenishment.

Conference and convention outreach participation includes participation at conferences and workshops that average approximately 1,500 attendees. Water and education outreach at conferences and conventions alone have reached over 25,000 industry leaders and elected officials and policy makers. This year, these conferences were held in virtual settings which allowed the district to engage the audience using multimedia presentations including virtual tours and videos.

The department is also tasked with supporting the agency's legislative affairs strategies. This year the agency held virtual meetings with our entire Congressional and State Legislative delegation.

WRD continued its innovative education program in virtual settings. The External Affairs Department created new programming to keep students engaged while utilizing virtual platforms like Zoom. This included using new technology like Storymaps and video production.

FY 2021 Accomplishments

- Increased number of social media followers, engagements, and posts.
- Created public tour program for ARC.
  - English and Spanish
- Hosted Careers in Water Webinar in partnership with West Basin.
  - 130 people attended
- Continue website updates to facilitate information sharing.
  - Monthly updates
- Increased number of education presentations.
- Broadened Student Calendar Contest Outreach.
- Created collateral for new projects.
- CAELI Webinar: Environmental Literacy.
- Conducted 40 presentations at conferences and workshops.
- OCWD- Youth Environmental Summit – 3-day event.
  - There will be a total of around 1,000 kids reached
- Staff is highly involved in the following organizations.
  - EXP Industry Coaching
  - NSTA- National Science Teaching Association
  - CSTA- California Science Teachers Association
  - Water Energy Education Alliance (WEEA)
  - E=O2 – E Equals Opportunity too (Board)
  - Think Earth (Board)

  - MWD's Education Coordinator's Committee
  - PWET- Project Water Education Today
  - MWD's Water use Efficiency Committee
  - DWR's Water Education Committee
  - WEEA (Board)- Water Energy Education Alliance
- Conducted several WRD and ARC presentations for local education, industry, and government groups.
- Created take-home education activities for hands-on learning.
  - Distributed over 300 take-home activity packets

FY 2022 Objectives

- Conduct 150 Field Trips at ARC.
- Complete Education Storymap for educational resources.
- Engage more schools in the ARC field trips.
- Focus on STEM/STEAM schools for partnerships.
- Host Groundwater Festival.
- Partner with other water agencies.
- Host English and Spanish Public Tours (1 every quarter).
- Finalize ARC Exhibits Maintenance Instruction Sheet.
- Continue updates through Education Update Newsletters.
- Grow Partnership with the EPA's WaterSense Program.
- Continue to create more Careers in Water Industry videos.
- Create four take-home learning activities.
- Broaden outreach to key groups including:
  - For partnerships
  - Fieldtrips
  - Career days
  - Health fairs
  - Science Fairs

- Create a Summer Virtual Camp Sessions.
- Develop a High School CTE Program.

Basis for Changes from FY 2021 Projection to FY 2022 Budget

Changes in the budget indicate the anticipation of a return to in-person event participation and classroom engagement in the FY 2022 budget year.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$65,000	$75,000	$10,000
R&M/Materials/Equipment	5,000	5,000	-
Other Expenses	489,000	749,000	260,000
Other General & Administration	384,000	420,000	36,000
TOTAL	**$943,000**	**$1,249,000**	**$306,000**

Performance Measures

Performance measures for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
1	**GOAL:**				
	Host annual groundwater festival as on on-going groundwater awareness effort				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Number of Groundwater Festivals hosted	Postponed due to COVID-19	Postponed due to COVID-19	1	
2	**GOAL:**				
	Social Media Outreach Efforts				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Number of social media platforms	6	6	6	
	Number of followers	10,100	11,000	12,000	
	Number of social media posts	650	800	800	

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
3	**GOAL:**				
	Lead outreach on upcoming WRD projects and programs				Expand Replenishment Opportunities
	MEASURE:				
	Community Update Meetings	3	N/A	N/A	
	Grand Opening of ARC	1	N/A		
	Unveiling of ARC Learning Center	In-Progress	Postponed due to COVID-19	1	
	Release WRD Quarterly Newsletter	3	2	3	
4	**GOAL:**				
	Assist with ARC-related outreach				Expand Replenishment Opportunities
	MEASURE:				
	Updated ARC Tri-fold	2,000	3,000	1,000	
	Updated ARC Cut Sheet	2,000	3,000	1,000	
	ARC Doorhangers	1,000	1,000	0	
	Number of times ARC was marketed at public events	150	50	100	
5	**GOAL:**				
	Expand WRD Groundwater Education programs highlighting WIN and WIN4ALL				Expand Replenishment Opportunities
	MEASURE:				
	Number of presentations at conferences	25	40	50	
	Multimedia presentations created	25	20	30	
	Participate in industry conferences (budgeted in EAE)	6	6	6	

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goal
6	**GOAL:**				
	Increase participation at community events promoting WRD projects and programs				Maximize Innovation and Environmental Resiliency
	MEASURE:				
	Number of School events	50 Scheduled/ 27 Completed	70	100	
	Number of field trips of WRD facilities	34 scheduled/ 14 completed	50	100	
	Number of tours led at WRD facilities	30	40	50	
	Number of Earth Day events	Cancelled due to COVID-19	15	20	
7	**GOAL:**				
	Advocate for effective groundwater policy				Expand Replenishment Opportunities
	MEASURE:				
	Number of State Government Advocacy Meetings	30 Scheduled	20	25	
	Number of Federal Government Advocacy Meetings	25	25	30	

General Administration

Board of Directors

Background

The Board of Directors is the policy-making and governing body of the District. It represents the highest authority within the management structure of the District. Certain portions of its authority are delegated to staff in the interest of efficiency, stability, and prudent management.

The Board of Directors develops the District's vision and strategic plan and sets policy to assist the General Manager and staff with implementing the vision and strategic plan. The various responsibilities of the board members include directing District activities, outreach, and cooperation with legislators, regulators, cities, pumpers, consultants, water agencies and other government agencies.

There are five members of the Board of Directors; each is elected from one of five divisions within the District service area, within which such Director resides.

The Board officers include the President, Vice President, Secretary, and Treasurer. Officers are elected by the Board at its first meeting in January of at least every odd-numbered year, but may do so more frequently if desired.

The President of the Board presides over all meetings of the Board and has all authority afforded the presiding officer, including the power to constitute Standing and Ad Hoc Committees and to assign Board members to serve on such committees.

The Vice President of the Board presides over any meeting at which the President is not present, and performs such other services as may be requested by the President.

The Secretary of the Board records and certifies the minutes of all Board meetings and is responsible for the maintenance of District records. In the absence of the Secretary, the Vice President may sign in his/her place when necessary.

The Treasurer of the Board is responsible for the financial affairs of the District, including financial reporting and investment activities. The Treasurer must also serve on the Finance / Audit Committee of the Board.

FY 2021 Accomplishments

See Board President's Report.

FY 2022 Objectives

See Board President's Report.

Basis for Changes from FY 2021 projection to FY 2022 budget

No significant changes noted.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$-	$-	$-
R&M/Materials/Equipment	-	-	-
Other Expenses	59,000	63,000	4,000
Other General & Administration	283,000	319,000	36,000
TOTAL	**$342,000**	**$382,000**	**$40,000**

Administration

Background

The Administration of the District includes the Administration/Human Resources Department, the Data and Technology Services (DTS) Department and the Finance Department. These departments are responsible for ensuring the delivery of core District administrative functions through innovative technology-driven solutions.

Core functions of the Administration/Human Resources Department include general office administration, Board support, human resources, risk management, and building maintenance. The DTS Department is responsible for information technology (IT), enterprise systems, and data management.

Core functions of the Finance Department include facilitating the planning, organization and implementation of financial policies and programs of the District. The department provides financial planning, monitors financial activities of the District, manages the development of annual budget, and prepares the Comprehensive Annual Financial Report.

FY 2021 Accomplishments

- Provided outstanding customer service to District's Board of Directors, management, staff, and the public through increased communications and responsiveness.
- Increased effectiveness and coordination of delivery of internal business services (mail delivery, document automation, retention and archival, and office management).
- Ensured appropriate information technology and architecture support to all WRD administrative office and off-site facilities.
- Ensured secure access to data systems for staff and facility operators.
- Continued implementation of the employee training resources.
- Implemented innovative human resources policies and procedures for talent management retention and continued legal compliance.
- Ensured District coordination with the Los Angeles County Registrar's office for two Board election seats in 2020 General Election.
- Prepared Fiscal Year 2022 budget and Cost of Service Report for Board adoption.

- Completed Fiscal Year 2020 financial audit and received unmodified or “clean” audit opinion.
- Received Distinguished Budget Presentation Award and Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association.

FY 2022 Objectives

- Develop and implement a program at the District focused on Diversity, Equity, and Inclusion (DEI).
- Secure a new Memorandum of Understanding (MOU) with District staff’s labor union, AFSCME 1902.
- Continue implementation of COVID-19 and infectious disease safety plans and other risk management initiatives.
- Refine our new hire onboarding and offboarding processes.
- Reinstate a District internship program for local students.
- Continue building capacity for our cybersecurity and disaster recovery related to our information systems.
- Continue building data services to increase data availability to our partners and the public.
- Work collaboratively with project managers to develop Fiscal Year 2023 budget and Replenishment Assessment for Board approval.
- Prepare Fiscal Year 2021 Comprehensive Annual Financial Report and Fiscal Year 2022 Budget document which meet the Government Finance Officers Association standards for excellence.

Basis for Changes from FY 2021 projection to FY 2022 budget

The changes are mainly due to increase in consultant costs, building maintenance and information technology expenses, and offset by reallocation of staff time to projects.

Expense Category	FY 2021 Projection	FY 2022 Budget	FY 2022 Budget compared to FY 2021 Projection
Professional Services	$873,000	$997,000	$124,000
R&M/Materials/Equipment	176,000	320,000	144,000
Other Expenses	1,336,000	1,589,000	253,000
Other General & Administration	4,322,000	3,693,000	(629,000)
TOTAL	**$6,707,000**	**$6,599,000**	**$(108,000)**

Performance Measurement

Performance measurement results for the past two fiscal years in addition to goals for FY 2022 are presented below.

		FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
1	**GOAL:** Promote a safe, healthy and supportive work environment for all employees.				Promote Organizational Excellence
	MEASURE:				
	a. Development and ongoing implementation of procedures to ensure safety of staff in compliance with local and state public health officials and implementation of COVID-19 Workforce Transition Plan.	50%	100%	100%	
	b. Continued coordination of WRD safety program.	20%	80%	100%	
2	**GOAL:** Hire, retain and develop a highly qualified, professional, diverse and responsive workforce.				Promote Organizational Excellence
	MEASURE:				
	a. Development and implementation of the District's performance management system.	50%	100%	100%	
	b. Ensure completion of training for Board and employee workforce.	N/A	100%	100%	
	c. Continued implementation of Employee Relations Program.	40%	N/A	50%	
	d. Development and continuation of formal Employee Recognition Program.	15%	30%	100%	
3	**GOAL:** Increased dissemination of information and communications with staff.				Promote Organizational Excellence
	MEASURE:				
	a. Maximize utilization of WRD Portal and increase information access to all staff.	40%	75%	100%	
	b. Continue bi-weekly morning briefing meetings.	60%	100%	100%	

	FY 2020 Actual	FY 2021 Actual	FY 2022 Budget	District's Strategic Goals
4 GOAL:				
Continued compliance with current local, state and federal laws governing the regulations of Water Districts.				Promote Organizational Excellence
MEASURE:				
a. Ensure Board actions, documents, resolutions and ordinances are appropriately recorded for future reference.	50%	100%	100%	
b. Post approved Board Minutes and Resolutions on website.	50%	100%	100%	
5 GOAL:				
Ensure appropriate information technology and architecture support to all WRD administrative office and off-site facilities.				Promote Organizational Excellence
MEASURE:				
a. Development and implementation of Online Pumper Portal.	50%	100%	100%	
b. Implementation of CMMS for the Goldsworthy Desalter and the Albert Robles Center Advanced Water Treatment Facility.	50%	100%	100%	
6 GOAL:				
Continued compliance with the California Water Code on financial reporting and budget adoption.				Promote Organizational Excellence
MEASURE:				
a. Complete audit financial statement no later than 180 days from the conclusion of the District's fiscal year on June 30th.	100%	100%	100%	
b. Adopt Replenishment Assessment and ensuing year budget no later than the second Tuesday in May.	100%	100%	100%	

Capital Improvement Program

Overview

In order to perform its mission and implement the Board of Director's strategic goals, WRD prepares a Capital Improvement Program (CIP) which includes a five-year outlook and funding outlay for all of the District's capital projects. Capital improvement projects are permanent structural changes or restorations to the District's infrastructure that enhance value, increase useful life, or allow for a new use. The Capital Improvement Program five-year outlook identifies capital projects and equipment purchases, provides a planning schedule and identifies funding sources for financing the projects.

There are five objectives of WRD's Capital Improvement Program. First is the identification of capital improvement projects needed to achieve WRD's Strategic Goals. Next is the development of project budgets for the individual capital improvement projects. Third is the preparation of a schedule associated with each project. Comparing the project budgets and schedules with the availability of human resources and other considerations, a five-year CIP schedule and budget outlay is prepared. Finally, the sources of funding for each capital improvement project are identified and an annual CIP budget is developed for each of the next 5 years.

The Capital Improvement Program (CIP) plan serves as a comprehensive planning document which identifies capital project expenditures in conjunction with anticipated revenue sources, such as grant funding. The updated CIP is a working document that will be reviewed continuously but formally updated every two years to reflect stakeholder needs, priorities and funding opportunities.

For ease of use, the CIP is organized into five general project categories. The project categories are as follows:

1. Water Independence Now (WIN)
2. Regional Water Independence Program (WIN 4 ALL)
3. Basin Management Projects
4. Groundwater Quality Protection and Remediation
5. Facilities Management, Maintenance, and Rehabilitation

Each capital improvement project was assigned to a specific category. The capital improvement program includes a listing of each project within the five categories noted above.

The table below summarizes the CIP budget between Fiscal Years 2022 and 2026 with a total of $178.7 million in capital improvement projects.

Each proposed capital improvement project was assigned to a specific category. The capital improvement program includes a listing of each project within the five categories noted above.

The table below summarizes the CIP budget between Fiscal Years 2022 and 2026 with a total of $178.7 million in capital improvement projects.

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
Water Independence Now (WIN)	$ 11,353,249	$ 13,778,249	$ 3,593,249	$ 1,593,249	$ 1,593,249	$ 31,911,243
Regional Water Independence Program (WIN4ALL)	$ 3,603,004	4,675,000	2,000,000	5,000,000	3,000,000	18,278,004
Basin Management Projects	$ 4,820,794	1,453,309	505,000	-	-	6,779,103
Groundwater Quality Protection & Remediation	$ 41,434,103	39,920,725	19,871,667	1,100,000	-	102,326,495
Facilities Management, Maintenance, and Rehabilitation	$ 5,516,562	6,033,072	6,716,124	777,815	426,000	19,469,573
TOTAL	**$ 66,727,711**	**$ 65,860,354**	**$ 32,686,040**	**$ 8,471,063**	**$ 5,019,249**	**$ 178,764,417**

Sources of Funding

In general, WRD has a variety of sources of funding available for CIP projects: Paygo / Reserves, Outside Funding, or Existing Debt, or Future Debt / Grants. The table below includes a breakdown of funding sources for each project into the following columns:

- Appropriation of 2018 Bond Funds
  Funds in this column are already secured through a bond issuance in 2018.
- Outside Funding
  Funds in this column have already been secured through outsides sources, including state grants and loans or project partnership agreements.
- PayGo and Reserves
  Funding in this column will come from WRD's PayGo or various reserve funds.
- Future Debt / Grants
  Funding in this column will come from future grant pursuits or Bond issuance.

The table below summarizes the CIP funding for the five general project categories.

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
Water Independence Now (WIN)	$ 9,757,391	$ 18,020,000	$ -	$ 4,133,852	$ -	**$ 31,911,243**
Regional Water Independence Program (WIN4ALL)	$ 1,005,004	4,088,000	-	5,685,000	7,500,000	**18,278,004**
Basin Management Projects	$ 3,144,103	135,000	-	3,500,000	-	**6,779,103**
Groundwater Quality Protection & Remediation	$ 16,350,000	32,481,829	-	15,494,666	38,000,000	**102,326,495**
Facilities Management, Maintenance, and Rehabilitation	4,853,526	-	2,130,000	12,486,047	-	**19,469,573**
TOTAL	**$ 35,110,024**	**$ 54,724,829**	**$ 2,130,000**	**$ 41,299,565**	**$ 45,500,000**	**$ 178,764,417**

WRD Strategic Goals

The WRD Board of Directors has adopted four strategic goals in order accomplish the District's mission providing, protecting, and preserving safe and reliable high-quality groundwater. The strategic goals include the following:

Expand Replenishment Opportunities

WRD will identify and secure new replenishment sources and locations to ensure reliable recharge water for adjudicated pumping allocations and also to utilize available storage space for increased local water supply.

Expand Extraction Capacity

WRD will expand groundwater extraction capacity through remediation, identification of new extraction sites and through incentives for groundwater pumpers.

Maximize Innovation and Environmental Resiliency

WRD will strive for continued increased efficiency in all treatment and recharge operations and will plan adaptability into new and existing projects.

Promote Organizational Excellence

WRD will optimize internal operations, continue outreach and engagement with the public, regulators, and elected officials, and will maintain strong financial standing through accurate budgeting and obtainment of funding sources.

The non-financial impacts of each project can be characterized by their achievement of WRD's Strategic Goals. Each of the sections below includes a tabulation of the strategic goals achieved by each project.

Water Independence Now (WIN)

WRD continues to respond to the ongoing drought with the implementation of its Water Independence Now Program to completely eliminate the demand for imported water to replenish the Basins. The WIN program is a series of capital improvement projects that fully utilize stormwater and recycled water sources to replenish the groundwater, resulting in a locally sustainable groundwater supply for WRD's stakeholders. All of the projects within this category are considered nonrecurring capital expenses. The financial and non-financial impacts for each project within this category are tabulated below.

Albert C. Robles Advanced Water Treatment Facility: Sewer Connection Fee

The WRD completed construction of its Albert Robles Center for Water Recycling and Environmental Learning (ARC) and received final approval from the Los Angeles Regional Water Quality Control Board in January 2020 to discharge product water to the Montebello Forebay Spreading Grounds. ARC will offset the current use of imported water at the spreading grounds by providing up to 10,000 Acre Feet/Year (AFY) of advanced treated recycled water for groundwater recharge. Due to the high quality of the AWTF effluent, an additional 11,000 AFY of tertiary recycled water can also be used, offsetting the need for imported water at the spreading grounds.

As part of the original construction, a sewer connection fee was negotiated with the Los Angeles County Sanitation Districts for discharge of the waste stream. Three annual payments have already been made for this connection fee, and seven more remain.

Leo J. Vander Lans (LVL) Facility Projects

The LVL provides advanced treated recycled water to the Alamitos Seawater Intrusion Barrier (Barrier). Built in 2003, LVL receives tertiary-treated wastewater from the Sanitation Districts of Los Angeles County's (LACSD) Long Beach Water Reclamation Plant (LBWRP) and provides multi-barrier treatment including microfiltration (MF), reverse osmosis (RO) and advanced oxidation process (AOP) with ultraviolet light (UV). In 2014, the expansion of LVL increased its capacity from 3 million gallons per day (MGD) to 8 MGD.

LVL Source Water Supply

This project will investigate options for delivering additional source water to LVL from the LACSD's Los Coyotes Water Reclamation Plant (LCWRP). One option could be a potential connection between Long Beach Water District's recycled water distribution system which feeds LVL, and the City of Cerritos' recycled water distribution system which is connected to the LCWRP. Another option is a direct connection between the LCWRP to the influent of the Leo J Vander Lans Facility. Preliminary designs have been previously performed for both options.

Onsite Injection Well Storage/Replenishment

As LVL expands production capacity, additional demands downstream from LVL must be accommodated above and beyond the Barrier injection wells. This project would install a new injection well and monitoring wells to recharge the underlying Central Basin. This project would install one injection wells on LVL property that has a capacity of approximately 2.0 MGD.

Dominguez Gap Seawater Intrusion Barrier Projects

Dominguez Gap Seawater Barrier is supplied with local recycled water produced at the Terminal Island Advanced Water Treatment Plant (TIAWTP), which can produce up to 12 MGD of advanced-treated water. WRD's recent agreement with City of Los Angeles Department of Water and Power (LADWP) to provide advanced treated recycled water and the right to capacity ensures sufficient supply to the Dominguez Gap Seawater Barrier of 7.5 MGD, which is expandable to a maximum of 9.5 MGD. Recent Dominguez Gap Seawater Barrier demands have fluctuated between 4,000 and 9,500 AFY or approximately 4 to 9.5 MGD but the existing infrastructure limits how much recycled water can be injected.

2nd Recycled Water Connection

In partnership with LADWP, this project construct a pipeline from the TIAWTP to a second point of connection within the existing barrier wells. The second recycled water connection will allow more product water to be injected into the barrier, and reduce reliance on potable water.

Potable Backup Supply

In order to ensure a constant supply of water into the Dominguez Gap Seawater Instruction Barrier from the TIAWTP, a potable backup pipeline will be designed and constructed in order to allow normal facilities shutdowns. On occasion, barrier capacity will be supplied as a blend of potable and recycled water, thus ensuring a maximum utilization of recycled water.

Projected Total Project Funding

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
ARCAWTF: Sewer Connection Fee	$ 7,966,243	$ -	$ -	$ -	$ -	**$ 7,966,243**
Leo J Vander Lans Facility: Source Water Supply	$ 982,065	$ -	$ -	$ 492,935	$ -	**$ 1,475,000**
Leo J. Vander Lans Facility: Onsite injection Well Storage/Replenishment	$ 809,084	$ 3,000,000	$ -	$ 3,640,916	$ -	**$ 7,450,000**
Dominguez Gap Seawater Intrusion Barrier- 2nd RW Connection	$ -	$ 8,220,000	$ -	$ -	$ -	**$ 8,220,000**
Dominguez Gap Seawater Intrusion Barrier-Potable Backup Supply	$ -	$ 6,800,000	$ -	$ -	$ -	**$ 6,800,000**
TOTAL	**$ 9,757,391**	**$ 18,020,000**	**$ -**	**$ 4,133,852**	**$ -**	**$ 31,911,243**

Projected 5-Year Capital Improvement Program Budget

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
ARCAWTF: Sewer Connection Fee	$ 1,593,249	$ 1,593,249	$ 1,593,249	$ 1,593,249	$ 1,593,249	$ 7,966,243
Leo J Vander Lans Facility: Source Water Supply	$ 475,000	$ 1,000,000	$ -	$ -	$ -	$ 1,475,000
Leo J. Vander Lans Facility: Onsite injection Well Storage/Replenishment	$ 7,050,000	$ 400,000	$ -	$ -	$ -	$ 7,450,000
Dominguez Gap Seawater Intrusion Barrier- 2nd RW Connection	$ 2,235,000	$ 5,985,000	$ -	$ -	$ -	$ 8,220,000
Dominguez Gap Seawater Intrusion Barrier-Potable Backup Supply	$ -	$ 4,800,000	$ 2,000,000	$ -	$ -	$ 6,800,000
TOTAL	**$ 11,353,249**	**$ 13,778,249**	**$ 3,593,249**	**$ 1,593,249**	**$ 1,593,249**	**$ 31,911,243**

Non-financial Impacts

Program / Project	Expand Replenishment Opportunities	Expand Extraction Capacity	Maximize Innovation and Environmental Resiliency	Promote Organizational Excellence
ARCAWTF: Sewer Connection Fee	X		X	
Leo J Vander Lans Facility: Source Water Supply	X	X	X	
Leo J. Vander Lans Facility: Onsite injection Well Storage/Replenishment	X	X		
Dominguez Gap Seawater Intrusion Barrier- 2nd RW Connection	X		X	
Dominguez Gap Seawater Intrusion Barrier-Potable Backup Supply	X		X	

Regional Water Independence Program (WIN 4 ALL)

Building upon the sources of WRD's Water Independence Now Program, the District initiated WIN 4 ALL to take advantage of available groundwater storage space to further increase the region's use of sustainable groundwater supplies. WIN 4 ALL is a collection of projects that will allow the utilization of the groundwater aquifers to create a locally sustainable water supply for the Los Angeles Basin Region. The financial and non-financial impacts for each project within this category are tabulated below.

Hyperion Replenishment Master Plan

WRD and LADWP are investigating the potential to collaborate on ways to replenish and pump both the West and Central Groundwater Basins. LADWP has access to the Hyperion Water Reclamation Plant (WRP) as a potential source of replenishment water and is looking to partner with WRD to find reasonable locations to get this water into the Basins. By utilizing the recycled water supply at the Hyperion WRP, which are currently reaching upwards of 200 million gallons per day (MGD), this could be a key component to developing a sustainable groundwater strategy. In order to develop the specific strategy LADWP and WRD must develop and evaluate a comprehensive list of potential project opportunities to meet these sustainable goals.

LVL Offsite Injection Well Storage/Replenishment

This project would install new injection wells to recharge the underlying Central Basin, for potential augmentation or storage projects with interested stakeholders. This project would install multiple wells in the adjacent El Dorado Park Golf Course.

Regional Brackish Water Reclamation Program

Within the West Coast Basin a significant plume (approx. 600,000 acre feet) of high Total Dissolved Solids (TDS) has been trapped due to seawater intrusion and the implementation of the West Coast Seawater Intrusion Barrier. WRD began the Regional Brackish Water Reclamation Program (Program) through the Groundwater Basin's Master Plan to evaluate ways to remediate the basin.

Feasibility Study

WRD has now initiated a regional planning effort to evaluate the feasibility of remediating the high TDS plume with six additional stakeholders (Stakeholder Group) who pump and wholesale potable water within the basin. A Feasibility Study has been identified as the first step to determining how to remediate this plume to allow for future groundwater use within the basin.

The Feasibility Study will evaluate potential siting and technologies for brackish water reclamation facilities within the plume with maximum remediation benefit and the most efficient life cycle cost. At the end of this Feasibility Study WRD and the Stakeholder Group anticipate proceeding forward with partnership agreements determining project specific responsibility followed by CEQA and permitting for the recommended project(s).

Pilot Study & Full-scale Design

Following completion of the feasibility study, WRD will perform a pilot study for the development of treatment plant design parameters. The full-scale plant design is anticipated to include well designs and conveyance pipelines, pretreatment needs, reverse osmosis, post treatment needs, and brine disposal.

Dominguez Gap Seawater Barrier Inland Injection Well Field

This project increases water replenishment within the West Coast Basin through the installation of a new injection well system inland from the existing Dominguez Gap Seawater Barrier. The system will be supplied with local recycled water produced at the Terminal Island Advanced Water Treatment Plant (TIAWTP), which can produce up to 12 MGD of advanced-treated water.

Regional Replenishment Resource Development

As WRD continues to develop a partnership with LADWP and investigates new ways to get replenishment water into the ground, additional analysis may be needed to further refine or vet the feasibility of certain potential projects and options. Additional work to be done for replenishment development could be, but is not limited to: groundwater modeling, additional design analysis, permit preparation, CEQA analysis, etc. These details and analysis will help WRD to identify and secure additional replenishment to develop more sustainable groundwater basins.

Total Project Funding

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
Hyperion Replenishment Master Plan	$ 213,000	$ 213,000	$ -	$ -	$ -	**$ 426,000**
Leo J. Vander Lans Facility: Offsite injection Well Storage/Replenishment	$ -	$ -	$ -	$ 560,000	$ -	**$ 560,000**
Regional Brackish Water Reclamation Program Feasibility Study	$ 292,004	$ -	$ -	$ -	$ -	**$ 292,004**
Regional Brackish Desalter Pilot Study & Full Scale Design	$ -	$ 3,875,000	$ -	$ 4,125,000	$ 7,500,000	**$ 15,500,000**
Dominguez Gap Seawater Intrusion Barrier- Inland Injection Well Field	$ 500,000	$ -	$ -	$ -	$ -	**$ 500,000**
Regional Replenishment Resource Development	$ -	$ -	$ -	$ 1,000,000	$ -	**$ 1,000,000**
TOTAL	**$ 1,005,004**	**$ 4,088,000**	**$ -**	**$ 5,685,000**	**$ 7,500,000**	**$ 18,278,004**

Projected 5-Year Capital Improvement Program Budget

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
Hyperion Replenishment Master Plan	$ 426,000	$ -	$ -	$ -	$ -	$ 426,000
Leo J. Vander Lans Facility: Offsite injection Well Storage/Replenishment	$ -	$ 560,000	$ -	$ -	$ -	$ 560,000
Regional Brackish Water Reclamation Program Feasibility Study	$ 292,004	$ -	$ -	$ -	$ -	$ 292,004
Regional Brackish Desalter Pilot Study & Full Scale Design	$ 2,750,000	$ 2,750,000	$ 2,000,000	$ 5,000,000	$ 3,000,000	$ 15,500,000
Dominguez Gap Seawater Intrusion Barrier- Inland Injection Well Field	$ 135,000	$ 365,000	$ -	$ -	$ -	$ 500,000
Regional Replenishment Resource Development	$ -	$ 1,000,000	$ -	$ -	$ -	$ 1,000,000
TOTAL	**$ 3,603,004**	**$ 4,675,000**	**$ 2,000,000**	**$ 5,000,000**	**$ 3,000,000**	**$ 18,278,004**

Non-financial Impacts

Program / Project	Expand Replenishment Opportunities	Expand Extraction Capacity	Maximize Innovation and Environmental Resiliency	Promote Organizational Excellence
Hyperion Replenishment Master Plan	X	X	X	
Leo J. Vander Lans Facility: Offsite injection Well Storage/Replenishment	X	X	X	
Regional Brackish Water Reclamation Program Feasibility Study		X		X
Regional Brackish Desalter Pilot Study & Full Scale Design		X		X
Dominguez Gap Seawater Intrusion Barrier- Inland Injection Well Field	X	X	X	
Regional Replenishment Resource Development	X		X	X

Basin Management Projects

WRD has been monitoring groundwater quality and water levels in the Basins for over 50 years. Basin Management Projects are those projects that allow for the continuation of the collection of basic information used for groundwater basin management including groundwater level data and water quality data. The financial and non-financial impacts for each project within this category are tabulated below.

Regional Groundwater Monitoring Program - Wells

The Regional Groundwater Monitoring Program (RGMP) collects groundwater level and groundwater quality data used for groundwater basin management for the Central Basin and West Coast Basin, two of the most utilized urban groundwater basins in the nation. This is achieved through groundwater monitoring, modeling and planning, which provides the basis to understanding the dynamic changes in the basins. The RGMP currently consists of a network of 324 specialized monitoring wells at 58 locations throughout the District to a maximum depth of nearly 3,000 feet, and WRD staff, comprised of hydrogeologists and engineers, provide the expertise to collect, analyze and report on the groundwater data.

WRD uses the data generated by the RGMP to address current and potential water quality issues and groundwater replenishment within the basins. In addition, the RGMP provides flexible management practices to adjust groundwater resources planning as circumstances or conditions warrant. The RGMP has proved valuable as WRD works to implement its Water Independence Now program, maximizing local water sources to replenish, preserve and protect the basins and eliminating its dependence on imported water. To fill in data gap areas, four additional wells are planned over the 5 year CIP.

Regional Groundwater Monitoring Program – Telemetry/Supervisory Control and Data Acquisition (SCADA) System

The Regional Groundwater Monitoring Program (RGWMP) deploys automated data loggers in each of its 324 monitoring wells to collect, record, and store water levels in the wells every 6 hours so that the District can have accurate information on long-term and short-term water level trends. Water quality data are also collected in many of the data loggers.

Obtaining the information is currently laborious, involving field staff to visit each well quarterly, connect the data loggers to hand held devices to download the information, bring the hand held devices back to the office to connect to desktop computers to view and check the information, and then uploaded to the District's sequel server databases. This is a time consuming task which only provides the data to managers once per quarter although the data are collected 4 times daily. The process also jeopardizes data integrity with all the various handlings by staff and devices. This work will be optimized by connecting the data loggers to a telemetry system so that the recorded data are automatically transmitted to the District daily (versus quarterly) and in one step directly to the sequel servers for rapid access by managers and staff. A feasibility study will be performed to evaluate the most appropriate system for the District, followed by purchase, deployment, and implementation of the system.

Recycled Water Compliance Monitoring Wells at the MFSG

The Montebello Forebay Spreading Grounds (MFSG) are a County of Los Angeles owned and operated facility in the City of Pico Rivera which the WRD has used since 1959 as a major groundwater recharge facility. Beginning in 1962, the WRD initiated groundwater recharge using treated wastewater, today known as tertiary treated water or simply recycled water. Recycled water has proven to be a reliable, safe, and cost effective groundwater recharge source. However, because it originated as waste water prior to extensive treatment to make it usable again, regulatory agencies including the State Water Resources Control Board – Division of Drinking Water (DDW) and the Los Angeles Regional Water Quality Control Board (RWQCB) require strict permit requirements to ensure its safety. Part of these requirements include monitoring of the groundwater by collecting samples from wells.

Due to upcoming new permit requirements, it is anticipated that additional monitoring wells will be needed to comply with modern regulations. Also, 2 of the 6 monitoring wells that WRD currently utilizes have proven to be too shallow in the sense that due to continuing drought conditions, the water table has dropped below the bottom of the wells and they are now dry and cannot be sampled as required. Therefore deeper replacement wells will be necessary. The planning, design, and construction of the new monitoring wells are included in this CIP.

Total Project Funding

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
Regional Groundwater Monitoring Program - Wells (Paramount & Cerritos)	$ 2,037,294	$ -	$ -	$ -	$ -	**$ 2,037,294**
Regional Groundwater Monitoring Program - Telemetry/SCADA	$ 500,000	$ -	$ -	$ -	$ -	**$ 500,000**
Deep Nested Well for National Groundwater Monitoring Network	$ 111,000	$ 135,000	$ -	$ -	$ -	**$ 246,000**
Recycled Water Compliance Monitoring Wells at MFSG	$ 495,809	$ -	$ -	$ -	$ -	**$ 495,809**
Brewer Well Purchase & Connection to Goldsworthy Desalter	$ -	$ -	$ -	$ 3,500,000	$ -	**$ 3,500,000**
TOTAL	**$ 3,144,102**	**$ 135,000**	**$ -**	**$ 3,500,000**	**$ -**	**$ 6,779,103**

Projected 5-Year Capital Improvement Program Budget

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
Regional Groundwater Monitoring Program - Wells (Paramount & Cerritos)	$ 2,037,294	$ -	$ -	$ -	$ -	$ 2,037,294
Regional Groundwater Monitoring Program - Telemetry/SCADA	$ 500,000	$ -	$ -	$ -	$ -	$ 500,000
Deep Nested Well for National Groundwater Monitoring Network	$ 246,000	$ -	$ -	$ -	$ -	$ 246,000
Recycled Water Compliance Monitoring Wells at MFSG	$ 37,500	$ 453,309	$ 5,000	$ -	$ -	$ 495,809
Brewer Well Purchase & Connection to Goldsworthy Desalter	$ 2,000,000	$ 1,000,000	$ 500,000	$ -	$ -	$ 3,500,000
TOTAL	**$ 4,820,794**	**$ 1,453,309**	**$ 505,000**	**$ -**	**$ -**	**$ 6,779,103**

Non-financial Impacts

Program / Project	Expand Replenishment Opportunities	Expand Extraction Capacity	Maximize Innovation and Environmental Resiliency	Promote Organizational Excellence
Regional Groundwater Monitoring Program - Wells (Paramount & Cerritos)			X	X
Regional Groundwater Monitoring Program - Telemetry/SCADA			X	X
Deep Nested Well for National Groundwater Monitoring Network			X	X
Recycled Water Compliance Monitoring Wells at MFSG			X	X
Brewer Well Purchase & Connection to Goldsworthy Desalter		X	X	

Groundwater Quality Protection and Remediation

Groundwater Quality Protection and Remediation are a collection of CIP projects focused on addressing WRD's ongoing effort to address water quality issues that affect WRD projects and the pumpers' facilities. The financial and non-financial impacts for each project within this category are tabulated below.

Contaminated Site Investigations, Cleanup and Monitoring Wells

WRD's service area contains a large and diverse industrial and commercial base. Consequently, many potential groundwater contamination sources exist within District boundaries. Examples of potential contamination sources include leaking underground storage tanks, petroleum pipeline leaks at refineries and petrochemical plants, and discharges from dry cleaning facilities, auto repair shops, metal works facilities, and others. Such contamination sources already pose or may pose a threat to the drinking water aquifers. Accordingly, WRD established its Groundwater Contamination Prevention Program in an effort to minimize or eliminate threats to groundwater supplies.

Perchlorate Remediation Project

The District has been investigating a perchlorate groundwater plume with the assistance of various regulatory agencies in association with our Los Angeles Forebay Task Force. The groundwater impacts are located in a disadvantaged community within a deep regional aquifer system currently utilized by various water purveyors in the Los Angeles Forebay. The perchlorate concentrations are among the highest in California. The WRD has identified a "hot spot" that represents a substantial threat to the Central Groundwater Basin and will require treatment to reduce the threat to a local groundwater source within the Los Angeles Forebay region of the Central Groundwater Basin.

PFAS Remediation Program

The PFAS Remediation Program provides incentives to groundwater producers to pump and treat groundwater laden with Per- and Polyfluoroalkyl Substances (PFAS) rather than abandoning affected wells. The Program offers two options: grant assistance and turnkey project delivery to basin pumpers for wellhead treatment to remove PFAS constituents and improve water quality.

Safe Drinking Water Program

The Safe Drinking Water Program (SDWP) provides incentives to groundwater producers to pump and treat contaminated groundwater rather than abandoning affected wells. The Program offers two options: grant assistance and loan assistance to basin pumpers for wellhead treatment to remove contaminants and improve water quality. The grant assistance program provides treatment for removing groundwater contaminants from man-made sources (e.g. Volatile Organic Compounds). The loan assistance program provides ten-year, zero-interest loans for water treatment to remove or reduce to compliance standards groundwater contaminants from natural sources (e.g. iron, manganese, and arsenic). SDWP also has a Disadvantaged Community (DAC) component whereby WRD assist groundwater producers in obtaining external grant funding for project delivery.

Total Project Funding

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
Contaminated Site Investigations, Cleanup and Monitoring Wells	$ 1,000,000	$ -	$ -	$ -	$ -	**$ 1,000,000**
Perchlorate Remediation Project	$ -	$ 3,978,664	$ -	$ 994,666	$ -	**$ 4,973,330**
PFAS Remediation Program	$ 15,000,000	$ -	$ -	$ 8,000,000	$38,000,000	**$ 61,000,000**
Well Construction and Rehabilitation Program	$ -	$ -	$ -	$ 1,500,000	$ -	**$ 1,500,000**
Safe Drinking Water Program - Primary Contaminants (Grants)	$ 350,000	$ -	$ -	$ 2,000,000	$ -	**$ 2,350,000**
Safe Drinking Water Program - Secondary Contaminants (Loans)	$ -	$ -	$ -	$ 3,000,000	$ -	**$ 3,000,000**
Safe Drinking Water Program - Disadvantaged Community Projects	$ -	28,503,165	$ -	$ -	$ -	**$ 28,503,165**
TOTAL	**$ 16,350,000**	**$ 32,481,829**	**$ -**	**$ 15,494,666**	**$ 38,000,000**	**$ 102,326,495**

Projected 5-Year Capital Improvement Program Budget

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
Contaminated Site Investigations, Cleanup and Monitoring Wells	$ 32,500	$ 967,500	$ -	$ -	$ -	$ 1,000,000
Perchlorate Remediation Project	$ 4,633,270	$ 340,060	$ -	$ -	$ -	$ 4,973,330
PFAS Remediation Program	$ 27,958,333	$ 22,875,000	$ 10,166,667	$ -	$ -	$ 61,000,000
Well Construction and Rehabilitation Program	$ 1,500,000	$ -	$ -	$ -	$ -	$ 1,500,000
Safe Drinking Water Program - Primary Contaminants (Grants)	$ 2,350,000	$ -	$ -	$ -	$ -	$ 2,350,000
Safe Drinking Water Program - Secondary Contaminants (Loans)	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ -	$ -	$ 3,000,000
Safe Drinking Water Program - Disadvantaged Community Projects	$ 3,960,000	$ 14,738,165	$ 8,705,000	$ 1,100,000	$ -	$ 28,503,165
TOTAL	**$ 41,434,103**	**$ 39,920,725**	**$ 19,871,667**	**$ 1,100,000**	**$ -**	**$ 102,326,495**

Non-financial Impacts

Program / Project	Expand Replenishment Opportunities	Expand Extraction Capacity	Maximize Innovation and Environmental Resiliency	Promote Organizational Excellence
Contaminated Site Investigations, Cleanup and Monitoring Wells		X	X	
Perchlorate Remediation Project		X	X	
PFAS Remediation Program		X	X	
Well Construction and Rehabilitation Program		X	X	
Safe Drinking Water Program - Primary Contaminants (Grants)		X	X	
Safe Drinking Water Program - Secondary Contaminants (Loans)		X	X	
Safe Drinking Water Program - Disadvantaged Community Projects		X	X	

Facilities Management, Maintenance, and Rehabilitation

Over the years, WRD has made a significant investment in facilities related to groundwater replenishment and groundwater quality improvements. Facilities Management, Maintenance, and Rehabilitation are required to ensure that the intended lifecycle of each asset is achieved, and to extend the original life expectancy of the infrastructure. The financial and non-financial impacts for each project within this category are tabulated below.

Operations and Storage Annex Facility

The District purchased an available 2.3 acre parcel located at 3919 Paramount Blvd (Field Operations and Storage Annex Project) in the city of Lakewood for varying uses, including storage of equipment, miscellaneous supplies and fleet parking. The District has previously leased off-site space for these uses since moving into 4040 Paramount Boulevard, Lakewood, CA.

Energy Management Plan Study and Implementation

WRD has taken the initiative to develop a strategic approach to identifying and minimizing the District's Green House Gas (GHG) footprint. This effort will entail identifying all of WRD's existing electrical demands and potential optimization efforts. New projects to implement are going to be identified and then implemented starting in 2019-2020.

Headquarters Building Improvements

The District headquarters building, located at 4040 Paramount Blvd in the city of Lakewood, upkeep and maintenance needs are outlined in various phases and projects:

The Roof Replacement Project

The HVAC Improvements Project: includes HVAC units replacements and automation upgrades

Albert Robles Center AWTF Upgrades

The construction project was completed in 2019. While a majority of new system components were installed, projects are still anticipated that will extend the useful life of the equipment, reduce operations costs, or respond to changing regulatory requirements.

Leo J. Vander Lans AWTF Upgrades

The expansion project was completed in 2015. While a majority of new system components were installed, assets from the initial plant remained requiring Rehabilitation and Replacement (R&R). Examples include the microfiltration filtrate welded steel tank which requires refurbishment to extend its useful life, as well as the Dissolved Air Floatation (DAF) System Rehabilitation. The Supervisory Control and Data Acquisition (SCADA) system from the original plant has reached the end of its useful life and requires upgrade as well. As many of these assets have a high consequence of failure, conducting a condition assessment and planning asset replacement will ensure the facility remains operational and not subject to shutdown associated with asset infrastructure failure.

Robert W. Goldsworthy Desalter Upgrades

The expansion project was completed in 2018. While a majority of system components were replaced and/or upgraded, assets from the initial plant remained and will require future R&R. WRD is also investigating pretreatment options that will improve plant reliability and operations.

Membrane and UV Lamp Replacements.

This is a recurring capital cost which includes the replacement of the District's reverse osmosis membranes, microfiltration (MF) and ultrafiltration (UF) membranes, and ultraviolet (UV) light lamps. Membranes and UV Lamps require replacement at the end of their useful life to continue achieving treatment goals and regulatory requirements.

General Engineering (Overhead, Legislative, Legal)

The General Engineering "project" is a way to capture all of the overhead/soft costs associated with completing projects within the CIP. Previously WRD has budgeted these expenses within the CIP projects themselves, but has now decided to make sure these costs for projects are being accurately accounted for within this line item. This CIP line item also accounts for specialty consultants that help WRD with grant reporting, legislative analysis and general support services that support numerous projects within the CIP.

Total Project Funding

Program / Project	Appropriation of 2018 Bond Funds	Outside Funds	Paygo Funds	Reserve Funds	Future Debt / Future Grants	Total Project Funding
Operations and Storage Annex Facility Project	$ 627,536	$ -	$ -	$ 2,172,464	$ -	**$ 2,800,000**
Energy Management Plan Study and Implementation	$ -	$ -	$ -	$ 300,000	$ -	**$ 300,000**
WRD Office Building Improvements	$ -	$ -	$ 250,000	$ 3,350,000	$ -	**$ 3,600,000**
Albert Robles Center AWTF Upgrades	$ 246,545	$ -	$ 625,000	$ -	$ -	**$ 871,545**
Leo J Vander Lans AWTF Upgrades	$ 2,545,893	$ -	$ 630,000	$ 1,834,541	$ -	**$ 5,010,434**
Goldsworthy Desalter Upgrades	$ 246,545	$ -	$ 625,000	$ 55,000	$ -	**$ 926,545**
Membrane and UV Lamp Replacements	$ -	$ -	$ -	$ 4,774,042	$ -	**$ 4,774,042**
General Engineering (Labor, overhead, legislative, legal)	$ 1,187,008	$ -	$ -	$ -	$ -	**$ 1,187,008**
TOTAL	**$ 4,853,526**	**$ -**	**$ 2,130,000**	**$ 12,486,047**	**$ -**	**$ 19,469,573**

Projected 5-Year Capital Improvement Program Budget

Program / Project	Projected FY 2022	Projected FY 2023	Projected FY 2024	Projected FY 2025	Projected FY 2026	Total 5-year CIP Budget
Operations and Storage Annex Facility Project	$ 627,536	$ 1,500,000	$ 672,464	$ -	$ -	$ 2,800,000
Energy Management Plan Study and Implementation	$ -	$ 300,000	$ -	$ -	$ -	$ 300,000
WRD Office Building Improvements	$ 50,000	$ 50,000	$ 3,400,000	$ 50,000	$ 50,000	$ 3,600,000
Albert Robles Center AWTF Upgrades	$ 371,545	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 871,545
Leo J Vander Lans AWTF Upgrades	$ 2,606,434	$ 2,026,000	$ 126,000	$ 126,000	$ 126,000	$ 5,010,434
Goldsworthy Desalter Upgrades	$ 426,545	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 926,545
Membrane and UV Lamp Replacements	$ 841,000	$ 1,313,568	$ 2,267,660	$ 351,815	$ -	$ 4,774,042
General Engineering (Labor, overhead, legislative, legal)	$ 593,504	$ 593,504	$ -	$ -	$ -	$ 1,187,008
TOTAL	**$ 5,516,562**	**$ 6,033,072**	**$ 6,716,124**	**$ 777,815**	**$ 426,000**	**$ 19,469,573**

Non-financial Impacts

Program / Project	Expand Replenishment Opportunities	Expand Extraction Capacity	Maximize Innovation and Environmental Resiliency	Promote Organizational Excellence
Operations and Storage Annex Facility Project				X
Energy Management Plan Study and Implementation			X	X
WRD Office Building Improvements				X
Albert Robles Center AWTF Upgrades			X	
Leo J Vander Lans AWTF Upgrades			X	
Goldsworthy Desalter Upgrades			X	
Membrane and UV Lamp Replacements			X	
General Engineering (Labor, overhead, legislative, legal)	X	X	X	X

Glossary of Terms

Acre-foot (af):	The volume of water necessary to cover one acre to a depth of one foot, equal to 325,900 gallons. An acre-foot is the amount of water used by two households in one year.
Aquifer:	The geologic formation of sand and gravel where groundwater is stored and can be easily pumped out by wells.
Contamination:	An impurity in air, soil or water that can cause harm to human health or the environment.
Desalination:	A process that converts seawater or brackish water to fresh water.
Discharge:	To expel water that naturally moves from an aquifer to a surface stream or lake.
Drought:	An extended period of dry weather.
Groundwater:	Water under the ground's surface. It fills up the pore spaces (voids) between grains of gravel, sand, silt, or clay, and is a common source of water for drinking and irrigation.
Groundwater flow:	The movement of groundwater beneath the earth's surface.
Imported water:	Water that the WRD purchases from the Colorado River or Northern California to put into the groundwater basins to supplement insufficient local rainfall.
Overdraft:	Groundwater extractions typically exceed the natural inflows into the groundwater basin.
Precipitation:	Stage of the water cycle when water vapor molecules become too large and heavy to remain in the atmosphere and fall to the ground in the form of rain, snow, sleet, hail, etc.
Recharge:	To refill the groundwater basin by infiltrating rain water, imported water, or recycled water down into the aquifers.

Recycled Water:	Water that has been collected after prior use, then highly treated at wastewater treatment plants so that it can be safely used again, such as for groundwater recharge.
Runoff:	Water that does not become absorbed by the earth but flows across the surface of the land into a stream or lake.
Treatment:	The process in which water is cleaned and purified.
Water Cycle:	The never-ending movement of water through the atmosphere, ground and back again; also called the hydrologic cycle.
Water Table:	The top of the saturation zone.
Well:	A hole or shaft drilled into the earth to pump water to the surface.
Wheeling:	Use of conveyance facilities by parties other than the owner.
WRD:	The Water Replenishment District of Southern California, an agency responsible for managing two of the most utilized groundwater basins in Southern California . These basins, the Central and West Coast, extend 420 square-miles through southern Los Angeles County and are among the region's most reliable natural water resources.

Acronyms

ACWA/JPIA	Association of California Water Agencies/ Joint Power Insurance Authority
AF	Acre-Feet (equivalent to 325,851 gallons)
AFY	Acre-Feet per Year
ARC	Albert Robles Center for Water Recycling and Environmental Learning
AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
BAC	Budget Advisory Committee
BDOC	Biodegradable dissolved organic carbon
BOD	Board of Directors
CalPERS	California Public Employees' Retirement System
Caltrans	California Department of Transportation
CASGEM	California Statewide Groundwater Elevation Monitoring
CBMWD	Central Basin Municipal Water District
CBWA	Central Basin Water Association
CBWCB	Central Basin and West Coast Basin
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CMFA	California Municipal Finance Authority
CMMS	Computerized Maintenance Management System
COE	Corp. of Engineers
COP	Certificates of Participation
CWSRF	California Clean Water State Revolving Fund
DAC	Disadvantaged Communities
DGB	Dominguez Gap Barrier
DTSC	California Department of Toxic Substances Control
DWR	Department of Water Resources
E-MFRES	Enhanced-Montebello Forebay Recharge Enhancement Study
EAM	Enterprise Asset Management
EAMS	Electronic Adjudication Management System
ESR	Engineering Survey and Report
ESRI	Environmental Systems Research Institute
FTE	Full -Time Equivalent
GAAS	Generally Accepted Auditing Standards
GASB	Government Accounting Standards Board
GDP	Gross Domestic Product
GIS	Geographic Information System
GLAC	Greater Los Angeles County
GRIP	Groundwater Reliability Improvement Program
GW	Groundwater
IRWMP	Integrated Regional Water Management Plan
LABOS	Los Angeles Bureau of Sanitation
LACDPW	Los Angeles County Department of Public Works (Flood Control)

LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation Districts
LADWP	City of Los Angeles Department of Water and Power
LARWQCB	Los Angeles Regional Water Quality Control Board
LBWD	City of Long Beach Water Department
LBWRP	Long Beach Water Reclamation Plant
LBWTP	Long Beach Waste Treatment Plant
LJVWTF	Leo J. Vander Lans Water Treatment Facility
LRP	Local Resources Program
LVL	Leo J. Vander Lans
MF	Microfiltration
MFRES	Montebello Forebay Recharge Enhancement Study
MFSG	Montebello Forebay Spreading Grounds
MFSGOM	Montebello Forebay Spreading Grounds Operational Model
MGD	Million Gallons per Day
MODFLOW	MODular three-dimensional finite-difference groundwater FLOW model
MSGBWM	Main San Gabriel Basin Watermaster
MWD	Metropolitan Water District of Southern California
N/A	Not Applicable
NPV	Net Present Value
O & M	Operation and Maintenance
OCWD	Orange County Water District
OPEB	Other Post-Employment Benefits
PCE	Perchloroethylene Pollution
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
RA	Replenishment Assessment
R&M	Repairs & Maintenance
RF	Replenishment Fund
RGMP	Regional Groundwater Monitoring Program
RGWMR	Regional Groundwater Monitoring Report
RWQCB	LA California Regional Water Quality Control Board – Los Angeles
SCADA	Supervisory Control and Data Acquisition
SDWP	Safe Drinking Water Program
SGMA	Sustainable Groundwater Management Act
SGRWM	San Gabriel River Watermaster
SJCWRP	San Jose Creek Water Reclamation Plant
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TITP	Terminal Island Treatment Plant
TOC	Total organic compounds
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
VOC	Volatile organic compound
WBMWD	West Basin Municipal Water District
WBWA	West Basin Water Association
WIN	Water Independence Now Program
WRD	Water Replenishment District of Southern California