



# Evaluation of the Costs and Benefits of Implementing Ocean Water Desalination as a Local Drinking Water Supply

## Chapter IV Financial Condition Assessment

### West Basin Municipal Water District

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Submitted by



in association with





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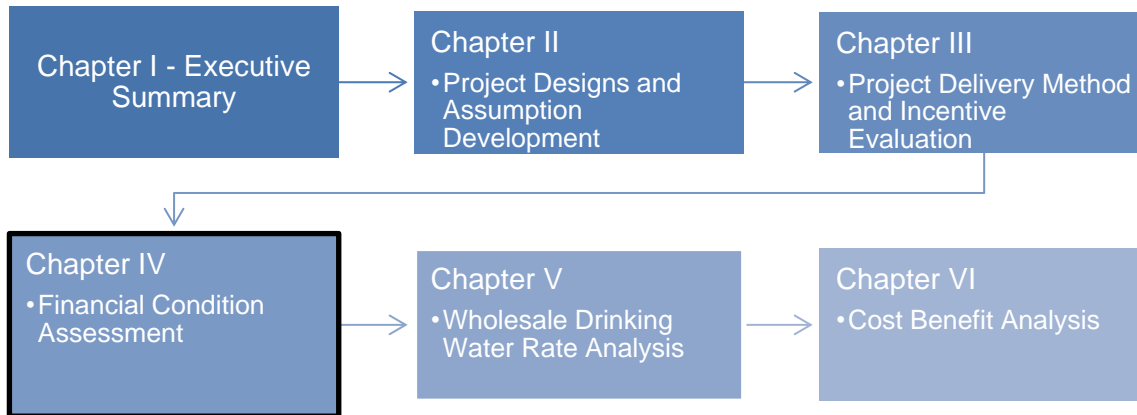
# 1. Introduction

## 1.1 Scope and Purpose

Chapter IV of the *Evaluation of the Costs and Benefits of Implementing Ocean Water Desalination as a Local Drinking Water* (the Study) includes:

- Summarizing current and projected financial obligations of the West Basin Municipal Water District (the District)
- Developing a financial condition assessment model
- Generating a 2030 Plan showing the financial assessment of the District's current revenue plan
- Generating a 2065 Plan looking at the revenue implications needed over 45 years to meet cost requirements before any Ocean Water Desalination Project (OWDP) design is considered
- Discussing the various desalination scenarios analyzed
- Generating a 2065 Plan looking at the financial implications of various desalination scenarios

The Study commenced in March 2019 and was completed in July 2021. It was undertaken in a five-stage process as covered in five Chapters of this Report (plus an Executive Summary):



**Figure IV-1 Structure of this Study: Evaluation of Cost and Benefits of Implementing Ocean Water Desalination as a Local Drinking Water Supply**

The Chapter should be considered in the context of the detailed discussion included in the supporting Chapters as well as the assumptions, constraints and limitations of this Study.

## 1.2 Approach

This Chapter addresses the District's baseline plan, specifically looking at the rate and other financial implications if the District does not construct the OWDP (the 'No-Project Alternative'), as well as the rates and financial implications associated with the two desalination designs (the Current Project Design and the Subsurface Intake Design) which were discussed in Chapters II and III.

Raftelis and GHD worked with District staff to collect all information required to calculate the financial projections. The financial planning model developed by Raftelis produced a 10-year projection (2030 Plan) and a 45-year projection (2065 Plan) of the District's current and projected financial requirements, revenues at expected levels, and projection of revenue increases necessary in each year to provide sufficient revenues for all the cost



requirements. The 2030 Plan was developed to show the financial impacts of a typical 10-year study period, whereas the 2065 Plan includes 45 years of projections to sufficiently show the impacts of the desalination scenarios for several years after OWDP costs are paid off. After the baseline plan was developed, each desalination scenario was layered into the baseline plan to determine the revenue requirements for each, as well as the rate implications of each scenario.

The following sections of this Chapter describe all the assumptions utilized in determining the financial projections, as well as the 2030 Plan results and the preliminary 2065 Plan results, the desalination scenarios, and the Desalination Financial Plan for each scenario.

### **1.3 Structure of this Report**

This Chapter includes:

- A summary of the results and findings, for easy reference by readers – Section 2
- Assumptions underpinning the development of the financial condition assessment of the District – Section 3
- Revenue, and revenue requirement projections, and financial results of the 10-year forecast to 2030 without the OWDP – Section 4
- High-level revenue requirement projections and financial results of the 45-year projection forecast to 2065 without the OWDP – Section 5
- Assumptions and results from the financial condition assessment if the District pursues the OWDP. Several different OWDP project configurations (i.e. technical design and delivery model) are analyzed – Section 6
- Summary of conclusions and recommendations – Section 7

### **1.4 Limitations, Exclusions and Assumptions**

This Chapter contains analysis, modelling and discussion of the financial implications to the District with and without the OWDP. To facilitate this analysis, assumptions are made and these are documented throughout this report (in particular Sections 3, 4 and 6.1).

The following limitations and exclusions apply:

- The financial plans shown in this Chapter were developed based on the best data available provided by District staff at time of task completion. The revenue and expense budgets, assumptions, sales volume, and other key data that were used to develop the financial plans are best estimates of the projected financial forecast. Financial condition is based on the budget assumptions in the District's fiscal year 2020-2021 budget. Therefore, elements of the financial plans may be subject to change depending on updated data, projections, or assumptions subsequent to the publication of this report.

Limitations and Exclusions pertaining to the Study overall are included in Chapter I Section 2 and apply here.

### **1.5 Reference Documents**

In addition to the Reference Documents listed in Chapter I of this Study, the following documents are foundational to the discussion in this Chapter. Other references are noted using footnotes throughout the rest of this document.

- West Basin 5-Year Plan 5year Final 2021.xlsx was provided on July 2, 2020 from the District.



- West Basin Draft 5-Year Plan 5year Draft MWD Option1Full Alloc mm.xlsx was received on May 20, 2020 from the District.



## 2. Summary of Results and Findings

Raftelis analyzed six desalination scenarios (each defined by the combination of a project design and delivery model included), with assumptions and cost information provided by the District and GHD. The resulting revenue increases for each desalination scenario were designed to meet the District’s revenue and debt coverage requirements. This results in higher rates for the scenarios with higher costs (and vice versa).

Table IV-1 summarizes the results of each desalination scenario. The blended rate with desalination represents the total cost per acre-foot (AF) that the District’s customers (i.e. its Retail Agencies) are expected to pay for water under the desalination scenario. The Metropolitan Water District of Southern California (MWD) rate represents the total cost per AF that the District’s customers are expected to pay under the baseline scenario in the stated starting year. The desalination premium shows the increase in the per AF cost between the blended rate with desalination and the MWD rate under each scenario.

**Table IV-1 Summary of Desalination Scenarios**

Desal Scenarios	Year	Blended Rate w/ Desal	MWD Rate	Desal Premium (%)	Desal Premium (\$)
DBOM Current Project Design	FYE 2028	\$1,826	\$1,501	22%	\$326
DBOM Subsurface Intake Design	FYE 2025	\$1,841	\$1,368	35%	\$473
PPP Current Project Design	FYE 2028	\$1,985	\$1,501	32%	\$484
PPP Subsurface Intake Design	FYE 2025	\$2,057	\$1,368	50%	\$689
DBOM w. SRF Current Project Design	FYE 2028	\$1,729	\$1,501	15%	\$229
DBOM w. SRF Subsurface Intake Design	FYE 2025	\$1,718	\$1,368	26%	\$350





### 3. Assumptions

The financial projections shown in this Chapter were developed with staff and included the District’s planned rate revenue increases through Fiscal Year (FY) 2030. The District provided various documents including audited statements, budgets, and a financial plan through FY2030. The assumptions described below were utilized to develop both the 2030 and 2065 Plans for the baseline plan scenario, before desalination is considered.

Raftelis reviewed all the documents provided by the District, including historical and budgeted financial information regarding the operation of the water system, historical customer usage data, a multi-year capital improvement plan (CIP), and funding sources. Raftelis also documented the current debt service obligations and associated covenants, as well as any other revenue requirements and reserves. District staff provided input on other assumptions and policies, such as trends in demand, planned developments, customer growth expectations, debt service coverage levels, capital funding sources, and escalation rates for operating costs. This section describes all of the assumptions and source data utilized in developing the financial projections for the baseline plan which encompasses both the 2030 and 2065 Plans.

#### 3.1 MWD Revenues and Costs

For the purpose of this analysis, under both the 2030 and 2065 Plans, all the pass-through revenues and costs that the District incurs regarding MWD are not included in the calculations. As pass-through revenues and expenses, their exclusion does not affect the financial projections. The exclusion of MWD-related revenues and expenses allows us to focus on the direct financial implications to the District for both the 2030 and 2065 Plans.

#### 3.2 Cost Escalation Factors

Annual cost escalation factors for the different types of operating and maintenance (O&M) expenses were developed with input from District staff, based on review of historical trends, industry experience, and detailed discussions with staff. District staff provided the O&M expenses for FY2021, which are then escalated annually using the various escalation factors shown in Table IV-2 below. Expense escalations continue through the end of the 45-year projection period.

**Table IV-2 Cost Escalation Factors**

Line	O&M Expense	Escalation Factor
1	CPI	2.5%
2	Salary	3.0%
3	Benefits	3.0%
4	Utilities	4.0%
5	Chemicals	4.0%
6	Capital	3.0%
7	Recycled Water Operations	3.0%

#### 3.3 Interest Earnings

The financial projections in this baseline plan assume interest earnings on invested funds of 2.5% for FY2021 through FY2022, and 3% annually starting in FY2023 throughout the forecast period.



### 3.4 Customer and Volume Forecasts

The District provides water on a wholesale basis to its member Retail Agencies, which in turn provide water to their retail customer bases. Decisions about customer growth and volume forecast for the projection period considered historical data for each member, local environmental and economic conditions, and discussions with District staff regarding any anticipated changes in its customer base. Based on this information, the District does not anticipate any changes to its customer base throughout the projection period.

The water sales projections utilized in the financial model reflect usage information as provided by the District through FY2030. The 2065 Plan assumes the water sale projections established for FY2030 remain constant through the rest of the projection period.

### 3.5 Existing and Future Debt

Maintaining the required levels of debt service coverage is very important for the District’s financial strength. As such, all projections ensure that the annual net revenues must be at least 1.15 times its legal debt service requirements. However, the District strives to meet its target debt coverage ratio of 1.75. Utilities often measure revenue sufficiency and set rates based upon a higher debt service coverage level to ensure compliance with these type of covenants in the event future projections of revenue and expenses do not occur as predicted (due to extended drought conditions, unanticipated capital requirements or operating cost increases, natural disasters, etc.).

The District plans to issue future debt to fund planned capital expenditures. Table IV-3 shows the assumptions for future debt issuances for the projection period for long-term debt, including State Revolving Fund (SRF) loans, state loans, and lines of credit (also referred in this Chapter as Commercial Paper).

**Table IV-3 Future Debt Assumptions**

Line	Term	Long-Term Debt	SRF Loans	State Loans	Lines of Credit
1	Term (years)	30	20	25	3
2	Interest	4.5%	2.0%	1.0%	2.5%
3	Issuance Costs	1.0%	0.0%	0.0%	0.0%
4	Debt Reserve Requirements	0.0%	0.0%	0.0%	0.0%

### 3.6 Designated Funds (Reserve) Policy

Designated Funds (Reserves) are funds set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. These balances are often established within a utility’s set of policies and are kept in order to meet short-term cash flow requirements and minimize any risks associated with meeting financial obligations and operational and capital needs under adverse economic conditions.



The District's designated funds policy includes the following components, which are referred to in this Chapter as the core target balance:

- Operating Liquidity Reserve: 50% of annual O&M expenses, exclusive of the MWD pass-through
- Operating Contingency Reserve: 5% of Recycled Water Program O&M expenses
- Capital Contingency Reserve: 10% of three-year average capital expenditures
- Repair and Replacement (R&R) Reserve: 1% of depreciable assets



## 4. 2030 Financial Plan

The following subsections describe in detail the revenue and revenue requirement projections and financial results of the 10-year forecast based on the financial plan provided by District staff.

### 4.1 Revenues

The revenues used in the financial projection reflect FY2021 budgeted information as provided by District staff. Starting in FY2022, revenues are projected based on the customer and volume assumptions discussed above and any necessary rate increases for the rate revenues. The rate revenues are projected separately for the potable water and recycled water revenues. Other revenues consist of interest earnings and conservation incentives.

Potable water rate revenues are projected based on the rate plan as provided by the District and assume a 10% increase in the Reliability Service Charge annually through FY2030. The Fixed Water Service Charge revenues are based on, and equal to, the annual O&M expenses for Water Policy and Resource Development, and Public Information and Education. Recycled water rates are also expected to change annually. All revenue projections through FY2030 utilize the rates as provided by the District. Table IV-4 summarizes revenue projections through FY2030, exclusive of MWD pass-through amounts.

**Table IV-4 Revenue Projections Exclusive of MWD Pass-through (\$ millions)**

Line	Revenues	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Potable Water Revenues										
2	Reliability Charge	\$25.1	\$28.2	\$30.2	\$32.5	\$35.8	\$39.4	\$43.3	\$47.6	\$52.4	\$57.6
3	Fixed Water Service Charge	\$7.5	\$7.7	\$7.9	\$8.1	\$8.3	\$8.5	\$8.8	\$9.0	\$9.2	\$9.5
4	Other Potable Water Revenues	\$1.0	\$1.1	\$1.1	\$1.2	\$1.2	\$1.2	\$1.3	\$1.3	\$1.4	\$1.4
5	Recycled Water Revenues	\$58.7	\$62.1	\$69.2	\$76.0	\$77.8	\$79.1	\$80.3	\$82.9	\$84.9	\$87.8
6	Other Revenues	\$3.0	\$2.9	\$3.2	\$3.3	\$3.1	\$2.9	\$2.8	\$2.8	\$2.9	\$3.2
7	Total Revenues	\$95.2	\$101.9	\$111.6	\$121.0	\$126.2	\$131.2	\$136.5	\$143.7	\$150.8	\$159.6

### 4.2 Operating Expenses

The District's O&M expenditures are broken out by department. Operating expense projections are based on the individual expense categories and expense amounts within the FY2021 Budget, adjusted annually based on the assumed cost escalation factors shown in Table IV-2.



Table IV-5 summarizes the O&M expense projections through FY2030. The O&M expenses associated with desalination project costs (Line 8) are related to the various desalination scenarios for constructing the OWDP, which are equal to zero in the baseline plan.



**Table IV-5 O&M Expense Projections (\$ millions)**

Line	O&M Expenses	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Water Recycling Operations	\$41.5	\$43.2	\$45.9	\$48.4	\$49.9	\$51.4	\$52.9	\$54.5	\$56.1	\$57.8
2	C. Marvin Brewer Desalter Operations	\$1.5	\$1.5	\$1.6	\$1.6	\$1.7	\$1.7	\$1.8	\$1.8	\$1.8	\$1.9
3	Water Policy and Resource Development	\$2.4	\$2.5	\$2.6	\$2.6	\$2.7	\$2.8	\$2.8	\$2.9	\$3.0	\$3.1
4	Public Information and Education	\$5.0	\$5.2	\$5.3	\$5.5	\$5.6	\$5.8	\$5.9	\$6.1	\$6.2	\$6.4
5	Water Use Efficiency	\$2.3	\$2.4	\$2.5	\$2.5	\$2.6	\$2.7	\$2.7	\$2.8	\$2.9	\$3.0
6	Water Quality Monitoring Program	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1
7	Technical Planning	\$3.8	\$2.4	\$1.6	\$1.6	\$1.7	\$1.7	\$1.8	\$1.8	\$1.9	\$1.9
8	Desal O&M Costs	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
9	Total O&M Expenses	\$56.6	\$57.3	\$59.4	\$62.3	\$64.2	\$66.0	\$68.0	\$70.0	\$72.0	\$74.1

### 4.3 Debt Service

The District’s existing debt service consists of existing long-term debt, as well as subordinate debt. The District’s annual debt service is just under \$27 million, and the District expects to add debt under the baseline plan to fund capital project costs. Table IV-6 summarizes the current and forecasted debt service payments through FY2030. Desalination debt service (Line 4) is related to the various desalination scenarios for constructing the OWDP, which are equal to zero in the baseline plan.

**Table IV-6 Debt Service Projections (\$ millions)**

Line	Debt Service	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Current Senior Debt Service	\$23.0	\$22.9	\$23.1	\$23.1	\$23.2	\$23.0	\$23.0	\$23.0	\$23.0	\$16.7
2	Current Subordinate Debt Service	\$0.6	\$0.5	\$0.6	\$0.6	\$0.7	\$0.7	\$0.0	\$0.0	\$0.0	\$0.0
3	Proposed Debt Service	\$3.1	\$4.1	\$8.5	\$8.6	\$10.5	\$10.7	\$10.7	\$10.7	\$10.7	\$10.7
4	Desal Debt Service	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
5	Total Debt Service	\$26.8	\$27.6	\$32.2	\$32.3	\$34.4	\$34.3	\$33.7	\$33.7	\$33.7	\$27.4

### 4.4 Capital Improvement Program

District staff provided the multi-year CIP at the project level detail from FY2020 through FY2025, including funding sources for each project. For FY2026 to FY2028, the District provided combined CIP costs, which were split evenly between the three years. The same CIP costs are used for the remainder of the projection period. All CIP costs are shown in future years, escalated appropriately to account for inflation. Table IV-7 summarizes the CIP expenses through FY2030. Desalination CIP costs (Line 4) are related to permitting, consulting fees, etc. prior to the



construction of the OWDP. Desalination R&R costs (Line 7) are related to the various desalination scenarios for constructing the OWDP, which are equal to zero in the baseline plan.

**Table IV-7 Capital Improvement Projects (\$ millions)**

Line	Capital Expenditures	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	New Treatment Assets & Infrastructure	\$0.9	\$29.0	\$12.1	\$1.6	\$1.7	\$13.0	\$13.4	\$13.8	\$14.3	\$14.7
2	R&R Projects	\$22.7	\$41.6	\$49.0	\$20.0	\$9.9	\$4.3	\$4.4	\$4.5	\$4.7	\$4.8
3	Customer Development Pipelines & Laterals	\$12.8	\$3.4	\$13.3	\$5.4	\$23.1	\$19.6	\$20.2	\$20.8	\$21.4	\$22.1
4	Desal	\$1.8	\$2.8	\$2.8	\$0.9	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
5	Other	\$4.2	\$10.1	\$8.9	\$2.8	\$3.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
6	Technology Purchase	\$1.3	\$0.5	\$0.5	\$0.5	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
7	Desal R&R	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
8	Total Capital Expenditures	\$43.7	\$87.5	\$86.7	\$31.4	\$38.3	\$36.9	\$38.0	\$39.2	\$40.4	\$41.6

## 4.5 Financial Projections

Raftelis developed a financial plan based on the data, assumptions, and policies discussed. The resulting financial plan demonstrates that the District will meet its current and projected cost requirements over the next 10-year projection period based on the District’s provided revenue adjustments through FY2030. Table IV-8 shows the District’s financial plan through FY2030 under the baseline plan. The District will generate enough revenue to cover its requirements and meet the minimum required debt service coverage ratio in all projected years. Furthermore, the District will meet the policy coverage ratio of 1.75 starting in FY2024.

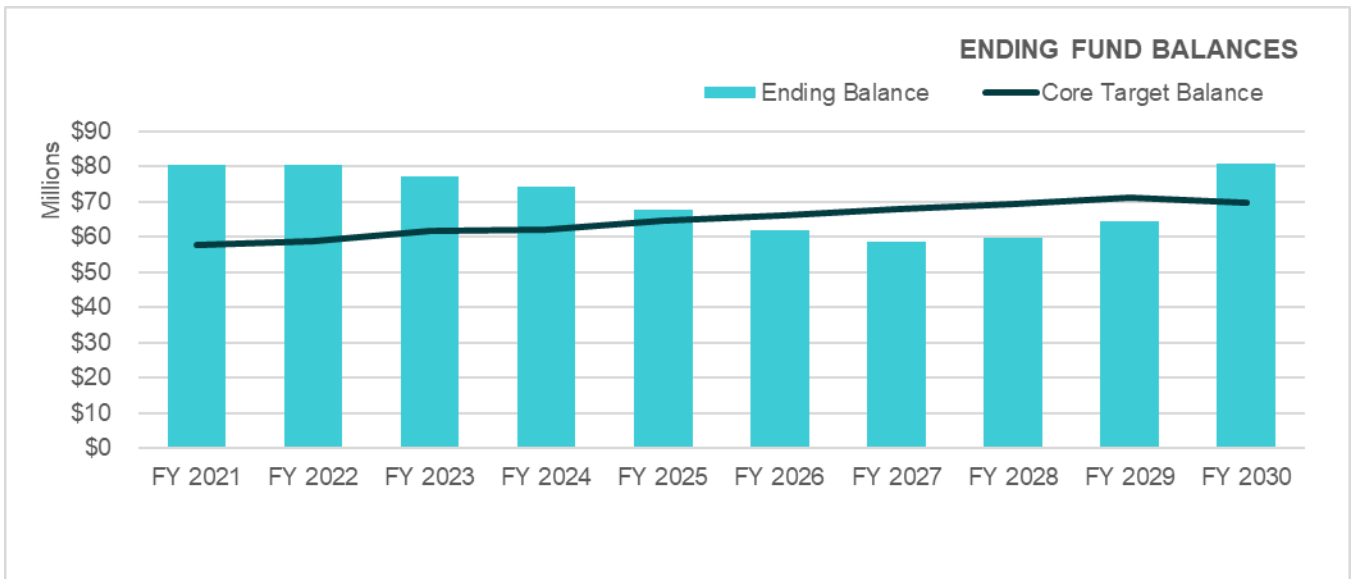
Table IV-9 shows the District’s cash flow and fund balances for the baseline plan financial projections. The District will not meet its core target balance from FY2026 to FY2029, but the projected reserve balances are expected to rebound in the final year of the study period to exceed the core target balance.



**Table IV-8 2030 Plan Financial Plan Projections (\$ millions)**

Line	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Revenues	\$95.2	\$101.9	\$111.6	\$121.0	\$126.2	\$131.2	\$136.5	\$143.7	\$150.8	\$159.6
2	Expenses	(\$56.6)	(\$57.3)	(\$59.4)	(\$62.3)	(\$64.2)	(\$66.0)	(\$68.0)	(\$70.0)	(\$72.0)	(\$74.1)
3	Net Operating Revenues	\$38.6	\$44.6	\$52.2	\$58.7	\$62.0	\$65.1	\$68.5	\$73.7	\$78.8	\$85.4
4	Debt Service	(\$26.8)	(\$27.6)	(\$32.2)	(\$32.3)	(\$34.4)	(\$34.3)	(\$33.7)	(\$33.7)	(\$33.7)	(\$27.4)
5	All In Debt Service Coverage Ratio	1.44	1.62	1.62	1.82	1.80	1.90	2.03	2.19	2.34	3.11
6	<i>District Policy Debt Coverage</i>	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
7	<i>Minimum Required Debt Coverage</i>	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15

Figure IV-2 shows the core target balance and ending balance projections for the 2030 Plan.



**Figure IV-2 2030 Plan Ending Balance Projections**





**Table IV-9 2030 Plan Fund Balance Projections (\$ millions)**

Line	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Beginning Cash Balance	\$80.5	\$80.7	\$80.6	\$77.3	\$74.1	\$67.7	\$61.8	\$58.7	\$59.7	\$64.4
<b>2</b>	<b>Cash Inflows</b>										
3	Net Operating Revenues	\$38.6	\$44.6	\$52.2	\$58.7	\$62.0	\$65.1	\$68.5	\$73.7	\$78.8	\$85.4
4	New Proceeds	\$28.4	\$59.8	\$55.0	\$1.8	\$4.3	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
5	Grant Proceeds	\$3.6	\$10.6	\$8.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
6	Total Cash Inflows	\$70.7	\$115.0	\$115.5	\$60.5	\$66.3	\$65.3	\$68.7	\$73.9	\$78.8	\$85.4
<b>7</b>	<b>Cash Outflows</b>										
8	Debt Service	(\$26.8)	(\$27.6)	(\$32.2)	(\$32.3)	(\$34.4)	(\$34.3)	(\$33.7)	(\$33.7)	(\$33.7)	(\$27.4)
9	Capital Expenditures	(\$43.7)	(\$87.5)	(\$86.7)	(\$31.4)	(\$38.3)	(\$36.9)	(\$38.0)	(\$39.2)	(\$40.4)	(\$41.6)
10	Total Cash Outflows	(\$70.5)	(\$115.1)	(\$118.8)	(\$63.7)	(\$72.7)	(\$71.3)	(\$71.7)	(\$72.9)	(\$74.1)	(\$69.0)
11	Net Cash Flow	\$0.2	(\$0.0)	(\$3.3)	(\$3.2)	(\$6.4)	(\$5.9)	(\$3.0)	\$1.0	\$4.7	\$16.4
12	Ending Cash Balance	\$80.7	\$80.6	\$77.3	\$74.1	\$67.7	\$61.8	\$58.7	\$59.7	\$64.4	\$80.8
<b>13</b>	<b>Target Balance</b>										
14	Operating Liquidity	\$41.7	\$42.4	\$45.8	\$47.3	\$49.3	\$50.2	\$50.8	\$51.8	\$52.9	\$50.8
15	Operating Contingency	\$2.1	\$2.2	\$2.3	\$2.4	\$2.5	\$2.6	\$2.6	\$2.7	\$2.8	\$2.9
16	Capital Contingency	\$7.3	\$6.9	\$5.2	\$3.6	\$3.8	\$3.8	\$4.5	\$4.6	\$4.7	\$4.8
17	R&R Reserve	\$6.7	\$7.6	\$8.5	\$8.8	\$9.2	\$9.5	\$9.9	\$10.3	\$10.7	\$11.1
18	Core Target Balance	\$57.8	\$59.0	\$61.8	\$62.1	\$64.7	\$66.1	\$67.9	\$69.5	\$71.1	\$69.7
19	Target Balance Check	Above Target	Above Target	Above Target	Above Target	Above Target	Below Target	Below Target	Below Target	Below Target	Above Target



## 5. 2065 Financial Plan

This section of the Chapter describes the high-level revenue requirement projections and financial results of the 45-year projection based on the District-provided financial plan for the first 10 years. The financial plan is projected based on the various assumptions described in Section 3.

### 5.1 Revenues

The revenues used in the financial projection reflect FY2021 budgeted information as provided by District staff. Rate revenues are projected separately for potable water and recycled water. Other revenues consist of interest earnings and conservation incentives.

In the 2065 Plan, Reliability Service Charge revenues stay constant from FY2031 to FY2040 and are projected to increase 5% annually beginning in FY2041 through the end of the projection period. The annual increases in Reliability Service Charge revenues are necessary to meet revenue requirements. Additionally, Fixed Water Service Charge revenues are based on, and equal to, the annual O&M expenses for the Water Policy and Resource Development and Public Information and Education cost categories. All other revenues are projected based on the FY2030 assumptions carried forward through the rest of the projection period.

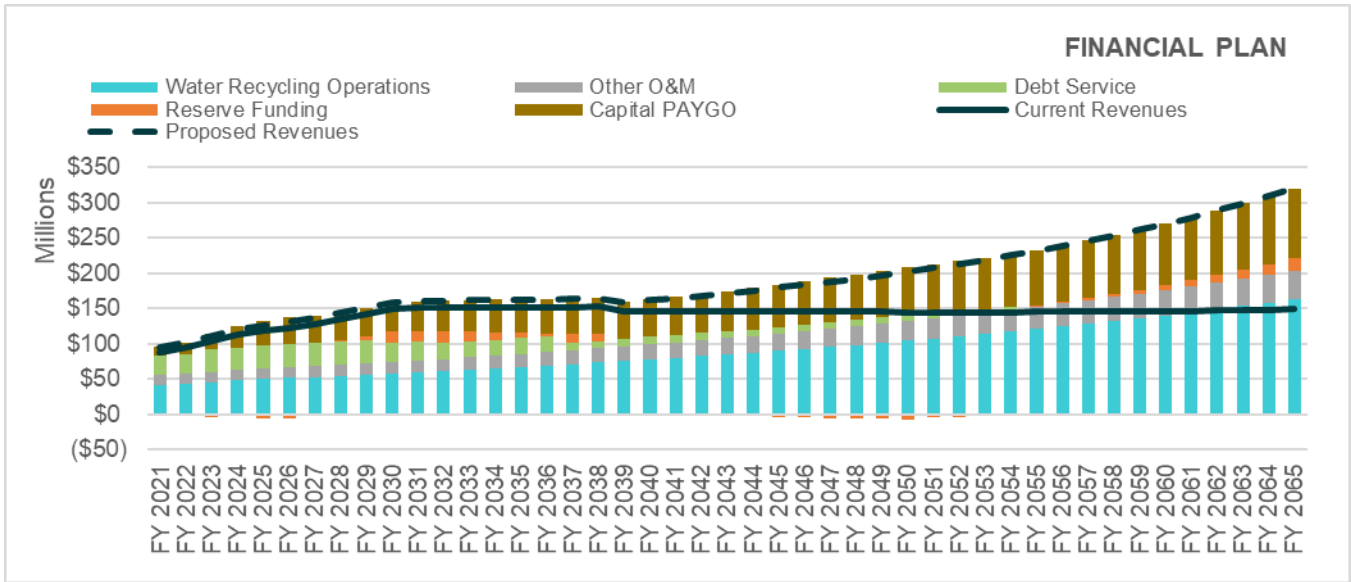
### 5.2 Operating, Debt, and Capital Expenses

The O&M expense projections in the 2065 Plan utilize the expense amounts within the FY2021 budget, adjusted annually through FY2065 based on the assumed cost escalation factors shown in Table IV-2.

The District's existing and proposed debt service as identified and outlined in the 2030 Plan section will continue throughout the 45-year projection period, with no additional debt identified at this time. As such, the debt service payments continue through FY2058 when the last of the outstanding loans is paid off, and with no additional debt service estimated beyond that year.

Capital expenses are projected based on the same assumptions as discussed in the 2030 Plan, shown in future year dollars, escalated annually to adjust for inflation.

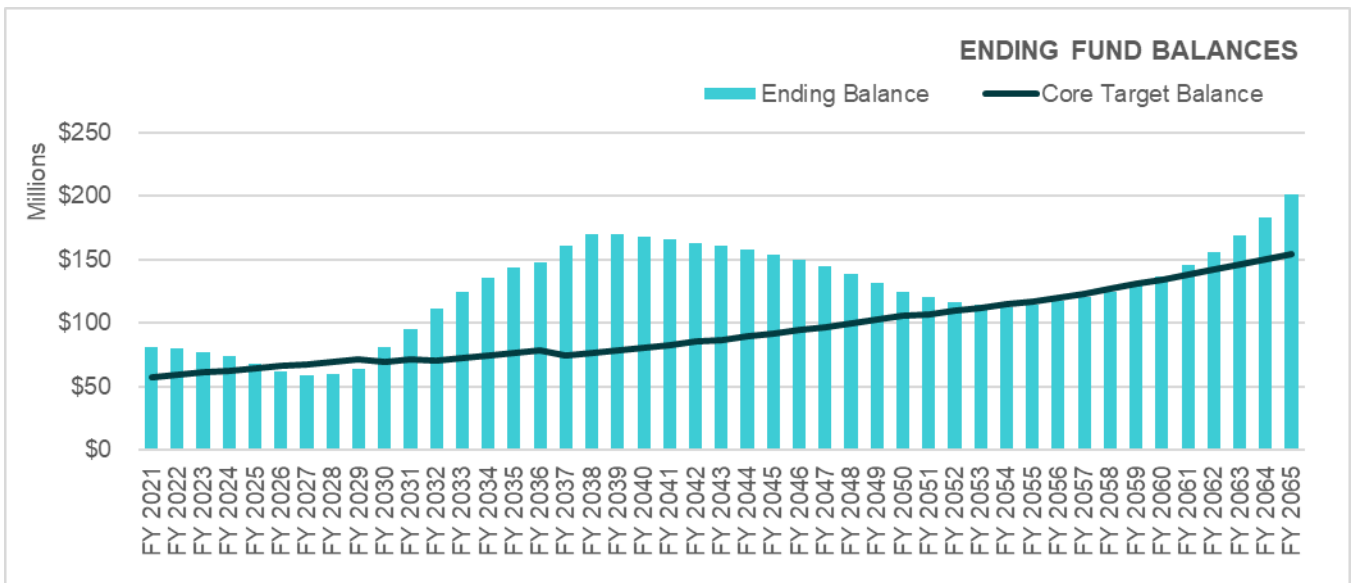
Figure IV-3 shows the combined operating, debt service, and capital expenses, as well as reserve funding over the projection period.



**Figure IV-3 2065 Plan Financial Plan Projections**

### 5.3 Financial Projections

Based on the data, assumptions, and policies discussed, the District’s provided rates through FY2030, and projected 5% annual increases in the Reliability Service Charge from FY2040 to FY2065, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements. Figure IV-4 shows the District’s fund balances through FY2065 under the baseline plan. For the majority of the study period, the District is expected to meet or exceed its core target balance. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years.



**Figure IV-4 2065 Plan Ending Balance Projections**



## 6. Desalination Scenarios

Six desalination scenarios were considered: there are two technical project designs that were considered, each with three delivery models of interest.

The two project designs considered (as discussed in Chapter II) are:

- The Current Project Design – current project design in Final Environmental Impact Report (EIR)
- Subsurface Intake Design – California Ocean Plan Amendment (OPA)-preferred technologies

Each project design was analyzed under three different delivery models (as discussed and shortlisted in Chapter III), to result in a total of six scenarios:

- Design, Build, Operate and Maintain (DBOM)
- Public-Private Partnership (PPP)
- DBOM with SRF Loan

### 6.1 Desalination Scenario Assumptions

All desalination scenarios were projected and analyzed based on several assumptions, aligned to the analysis undertaken in preceding Chapters of this Study:

- Estimated desalinated water production is 21,283 AF per year.
- In all scenarios, the OWDP is projected to be constructed over three years. Current Project Design scenarios (DBOM Current Project Design, PPP Current Project Design, and DBOM with SRF Loan Current Project Design) begin production and operations in FY2028. The Subsurface Intake Design scenarios (DBOM Subsurface Intake Design, PPP Subsurface Intake Design, and DBOM with SRF Loan Subsurface Intake Design) begin production and operations in FY2025.
- The costs for every scenario are projected for 30 years.
- The costs of desalinated water are based on the financial modelling results described in detail in Chapter III of this Study, with the addition of two cost items that were not included in that earlier analysis:
  - Debt issuance costs of 1% of the value of the proposed municipal funding – this applies to 100% of the capital value for DBOM delivery model, and 50% of the capital value for the DBOM with SRF model (the other 50% of funding is an SRF loan which does not incur the issuance cost). No adjustment was needed for the PPP model.
  - Debt reserve fund equivalent to 1 year's debt repayment. This value is capitalized into the upfront loan to be financed for the DBOM and DBOM with SRF delivery models. It does not apply to the PPP.
  - For clarity, Table IV-10 below shows the linkage between the desalinated cost of water used in this Chapter compared to the results shown earlier in Chapter III.
- Every Retail Agency within the District will pay for desalinated water and is proposed to be charged a blended rate of MWD and desalination costs per AF of water. Chapter V of the Study discusses the policy objectives and rationale for the blended rate in greater detail.



- Blended rates are calculated based on the proportion of total potable water demand that is served by water from MWD and desalinated water production, which is approximately 20% of total demand. Therefore, the blended cost of water to retail agencies is equal to 20% of the desalination costs and 80% of MWD imported water cost for that year. Note that the MWD rate projections in this Chapter differ slightly from those presented in Chapter III – this is due to a change in basis from calendar year (Chapter III) to Financial Year (Chapter IV).

**Table IV-10 Cost of Water assumptions for different scenarios**

Scenario	Cost of Water in first year of operation (\$/AF)	
	Shown in Chapter III Results	Updated cost of water assumption Includes debt issuance cost and debt reserve fund
Current Project Design DBOM	\$2,871	\$3,107
Subsurface Intake Design DBOM	\$3,425	\$3,700
Current Project Design DBOM with SRF	\$2,547	\$2,629
Subsurface Intake Design DBOM with SRF	\$2,999	\$3,094
Current Project Design PPP	\$3,891	\$3,891
Subsurface Intake Design PPP	\$4,768	\$4,768

## 6.2 DBOM Current Project Design

The first desalination scenario analyzed was DBOM Current Project Design. Table IV-11 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for DBOM Current Project Design. All debt service related to this scenario involves public financing via municipal bonds.

**Table IV-11 DBOM Current Project Design Total Costs (\$ millions)**

	DBOM Current Project Design
Start Year	FYE 2028
Debt Service	\$1,407
O&M Expense	\$900
Capital R&R	\$265
Total Costs	\$2,572

This scenario assumes that the OWDP is operational in FY2028 and that the District will start charging desalination rates in the same year. Table IV-12 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for DBOM Current Project. The desalination rate is calculated by dividing total cost by estimated desalinated production.



**Table IV-12 DBOM Current Project Design Desalination Rate Calculation**

Rate Calculation	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Total Cost (\$million)	\$ 66.1	\$ 67.0	\$ 67.9	\$ 68.9	\$ 69.9	\$ 70.9	\$ 72.0	\$ 73.1	\$ 74.2	\$ 75.4
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,107	\$ 3,149	\$ 3,193	\$ 3,237	\$ 3,284	\$ 3,332	\$ 3,382	\$ 3,433	\$ 3,486	\$ 3,541

Rate Calculation	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Total Cost (\$million)	\$ 76.6	\$ 77.8	\$ 79.1	\$ 80.5	\$ 81.9	\$ 83.3	\$ 84.8	\$ 86.4	\$ 88.0	\$ 89.7
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,599	\$ 3,658	\$ 3,719	\$ 3,782	\$ 3,848	\$ 3,916	\$ 3,986	\$ 4,059	\$ 4,135	\$ 4,213

Rate Calculation	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Total Cost (\$million)	\$ 91.4	\$ 93.2	\$ 95.0	\$ 96.9	\$ 98.9	\$ 108.2	\$ 110.3	\$ 112.5	\$ 114.8	\$ 117.2
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,294	\$ 4,378	\$ 4,464	\$ 4,554	\$ 4,647	\$ 5,084	\$ 5,184	\$ 5,287	\$ 5,395	\$ 5,506

Table IV-13 summarizes the desalination and MWD rate, as well as the blended rate for DBOM Current Project Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-13 DBOM Current Project Design Rates**

Water Rates (\$/AF)	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Desal	\$ 3,107	\$ 3,149	\$ 3,193	\$ 3,237	\$ 3,284	\$ 3,332	\$ 3,382	\$ 3,433	\$ 3,486	\$ 3,541
MWD	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829	\$ 1,893	\$ 1,959	\$ 2,028
Blended	\$ 1,826	\$ 1,872	\$ 1,918	\$ 1,971	\$ 2,027	\$ 2,084	\$ 2,144	\$ 2,205	\$ 2,269	\$ 2,335

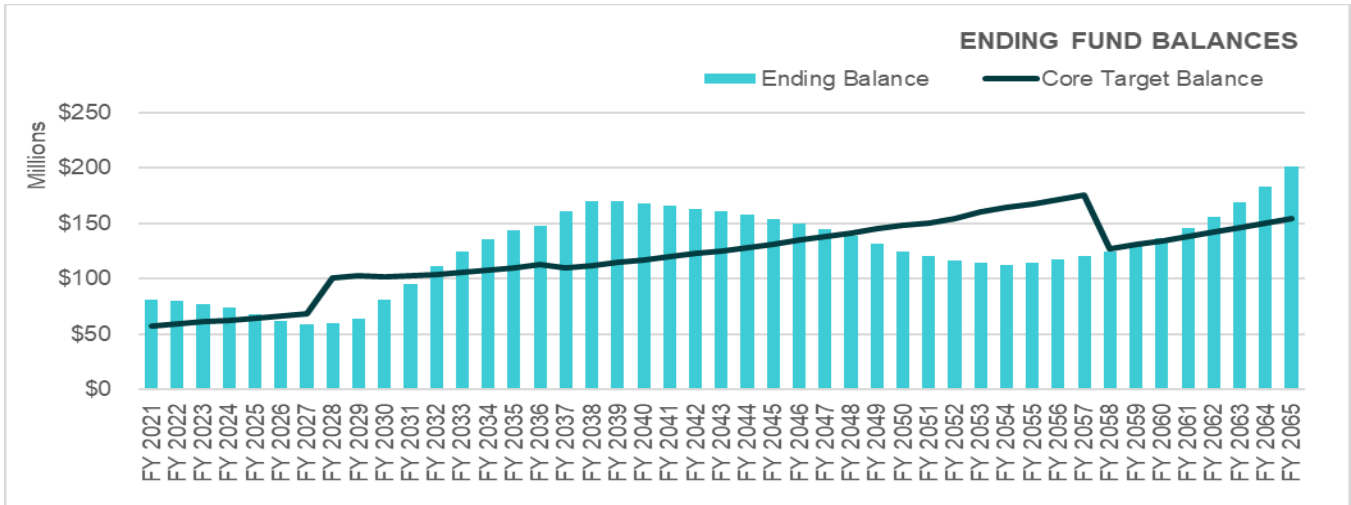
Water Rates (\$/AF)	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Desal	\$ 3,599	\$ 3,658	\$ 3,719	\$ 3,782	\$ 3,848	\$ 3,916	\$ 3,986	\$ 4,059	\$ 4,135	\$ 4,213
MWD	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580	\$ 2,670	\$ 2,764	\$ 2,860
Blended	\$ 2,403	\$ 2,473	\$ 2,546	\$ 2,622	\$ 2,700	\$ 2,781	\$ 2,865	\$ 2,952	\$ 3,041	\$ 3,134

Water Rates (\$/AF)	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Desal	\$ 4,294	\$ 4,378	\$ 4,464	\$ 4,554	\$ 4,647	\$ 5,084	\$ 5,184	\$ 5,287	\$ 5,395	\$ 5,506
MWD	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639	\$ 3,766	\$ 3,898	\$ 4,035
Blended	\$ 3,231	\$ 3,330	\$ 3,433	\$ 3,540	\$ 3,651	\$ 3,834	\$ 3,952	\$ 4,075	\$ 4,202	\$ 4,333

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-13 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.



Figure IV-5 shows the District’s projected fund balances through FY2065 under DBOM Current Project Design. For the majority of the study period, the District is expected to meet or exceed its target reserve balances. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years. The core target balance increases from FY2028 through FY2057 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2057. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-5 DBOM Current Project Design Ending Balance Projections**

### 6.3 DBOM Subsurface Intake Design

The second desalination scenario analyzed was DBOM Subsurface Intake Design. Table IV-14 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for DBOM Subsurface Intake Design. All debt service related to this scenario involves public financing via municipal bonds.

**Table IV-14 DBOM Subsurface Intake Design Total Costs (\$ millions)**

	<b>DBOM Subsurface Intake Design</b>
Start Year	FYE 2025
Debt Service	\$1,837
O&M Expense	\$819
Capital R&R	\$254
<b>Total Costs</b>	<b>\$2,910</b>

This scenario assumes that the OWDP is operational in FY2025 and that the District will start charging desalination rates in the same year.



Table IV-15 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for DBOM Subsurface Intake Design.





**Table IV-15 DBOM Subsurface Intake Design Desalination Rate Calculation**

Rate Calculation	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Total Cost (\$million)	\$ 78.7	\$ 79.6	\$ 80.4	\$ 81.3	\$ 82.2	\$ 83.2	\$ 84.2	\$ 85.2	\$ 86.2	\$ 87.3
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,700	\$ 3,739	\$ 3,779	\$ 3,821	\$ 3,864	\$ 3,908	\$ 3,954	\$ 4,002	\$ 4,051	\$ 4,103

Rate Calculation	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Total Cost (\$million)	\$ 88.4	\$ 89.6	\$ 90.8	\$ 92.1	\$ 93.4	\$ 94.7	\$ 96.1	\$ 97.5	\$ 99.0	\$ 100.5
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,156	\$ 4,210	\$ 4,267	\$ 4,326	\$ 4,387	\$ 4,449	\$ 4,515	\$ 4,582	\$ 4,652	\$ 4,724

Rate Calculation	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Total Cost (\$million)	\$ 102.1	\$ 103.8	\$ 105.5	\$ 107.3	\$ 109.1	\$ 118.2	\$ 120.2	\$ 122.2	\$ 124.3	\$ 126.5
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,799	\$ 4,877	\$ 4,957	\$ 5,040	\$ 5,126	\$ 5,555	\$ 5,648	\$ 5,743	\$ 5,842	\$ 5,945

Table IV-16 summarizes the desalination and MWD rate, as well as the blended rate for DBOM Subsurface Intake Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-16 DBOM Subsurface Intake Design Rates**

Water Rates (\$/AF)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Desal	\$ 3,700	\$ 3,739	\$ 3,779	\$ 3,821	\$ 3,864	\$ 3,908	\$ 3,954	\$ 4,002	\$ 4,051	\$ 4,103
MWD	\$ 1,368	\$ 1,423	\$ 1,457	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829
Blended	\$ 1,841	\$ 1,892	\$ 1,928	\$ 1,971	\$ 2,016	\$ 2,063	\$ 2,117	\$ 2,172	\$ 2,230	\$ 2,290

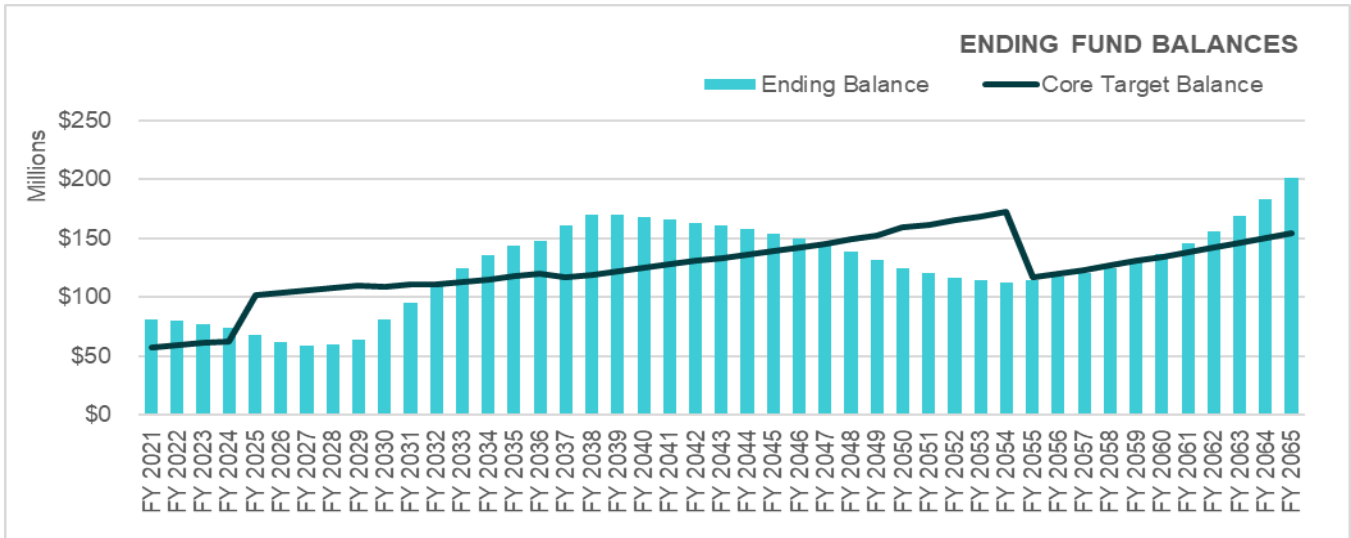
Water Rates (\$/AF)	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Desal	\$ 4,156	\$ 4,210	\$ 4,267	\$ 4,326	\$ 4,387	\$ 4,449	\$ 4,515	\$ 4,582	\$ 4,652	\$ 4,724
MWD	\$ 1,893	\$ 1,959	\$ 2,028	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580
Blended	\$ 2,352	\$ 2,415	\$ 2,482	\$ 2,550	\$ 2,621	\$ 2,694	\$ 2,770	\$ 2,849	\$ 2,930	\$ 3,014

Water Rates (\$/AF)	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Desal	\$ 4,799	\$ 4,877	\$ 4,957	\$ 5,040	\$ 5,126	\$ 5,555	\$ 5,648	\$ 5,743	\$ 5,842	\$ 5,945
MWD	\$ 2,670	\$ 2,764	\$ 2,860	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639
Blended	\$ 3,102	\$ 3,192	\$ 3,285	\$ 3,382	\$ 3,482	\$ 3,654	\$ 3,762	\$ 3,873	\$ 3,988	\$ 4,106

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-16 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.



Figure IV-6 shows the District’s projected fund balances through FY2065 under DBOM Subsurface Intake Design. For the majority of the study period, the District is expected to meet or exceed its target reserve balances. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years. The core target balance increases from FY2025 through FY2054 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2054. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-6 DBOM Subsurface Intake Design Ending Balance Projections**

### 6.4 PPP Current Project Design

The third desalination scenario analyzed was PPP Current Project Design. Table IV-17 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for PPP Current Project Design. All debt service related to this scenario involves private financing via a PPP.

**Table IV-17 PPP Current Project Design Total Costs (\$ millions)**

	PPP Current Project Design
Start Year	FYE 2028
Debt Service	\$1,924
O&M Expense	\$900
Capital R&R	\$239
<b>Total Costs</b>	<b>\$3,063</b>

This scenario assumes that the OWDP is operational in FY2028 and that the District will start charging desalination rates in the same year.



Table IV-18 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for PPP Current Project Design.



**Table IV-18 PPP Current Project Design Desalination Rate Calculation**

Rate Calculation	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Total Cost (\$million)	\$ 82.8	\$ 83.7	\$ 84.6	\$ 85.5	\$ 86.5	\$ 87.5	\$ 88.5	\$ 89.6	\$ 90.7	\$ 91.9
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,891	\$ 3,932	\$ 3,974	\$ 4,018	\$ 4,064	\$ 4,111	\$ 4,160	\$ 4,211	\$ 4,263	\$ 4,317

Rate Calculation	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Total Cost (\$million)	\$ 93.1	\$ 94.3	\$ 95.6	\$ 96.9	\$ 98.3	\$ 99.7	\$ 101.2	\$ 102.7	\$ 104.3	\$ 105.9
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,373	\$ 4,431	\$ 4,492	\$ 4,554	\$ 4,618	\$ 4,685	\$ 4,754	\$ 4,826	\$ 4,900	\$ 4,977

Rate Calculation	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Total Cost (\$million)	\$ 107.6	\$ 109.4	\$ 111.2	\$ 113.1	\$ 115.0	\$ 124.3	\$ 126.4	\$ 128.6	\$ 130.8	\$ 133.1
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 5,057	\$ 5,139	\$ 5,225	\$ 5,313	\$ 5,405	\$ 5,840	\$ 5,938	\$ 6,040	\$ 6,146	\$ 6,255

Table IV-19 summarizes the desalination and MWD rate, as well as the blended rate for PPP Current Project Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-19 PPP Current Project Design Rates**

Water Rates (\$/AF)	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Desal	\$ 3,891	\$ 3,932	\$ 3,974	\$ 4,018	\$ 4,064	\$ 4,111	\$ 4,160	\$ 4,211	\$ 4,263	\$ 4,317
MWD	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829	\$ 1,893	\$ 1,959	\$ 2,028
Blended	\$ 1,985	\$ 2,030	\$ 2,076	\$ 2,130	\$ 2,185	\$ 2,242	\$ 2,301	\$ 2,363	\$ 2,426	\$ 2,492

Water Rates (\$/AF)	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Desal	\$ 4,373	\$ 4,431	\$ 4,492	\$ 4,554	\$ 4,618	\$ 4,685	\$ 4,754	\$ 4,826	\$ 4,900	\$ 4,977
MWD	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580	\$ 2,670	\$ 2,764	\$ 2,860
Blended	\$ 2,560	\$ 2,630	\$ 2,703	\$ 2,778	\$ 2,856	\$ 2,937	\$ 3,021	\$ 3,107	\$ 3,197	\$ 3,289

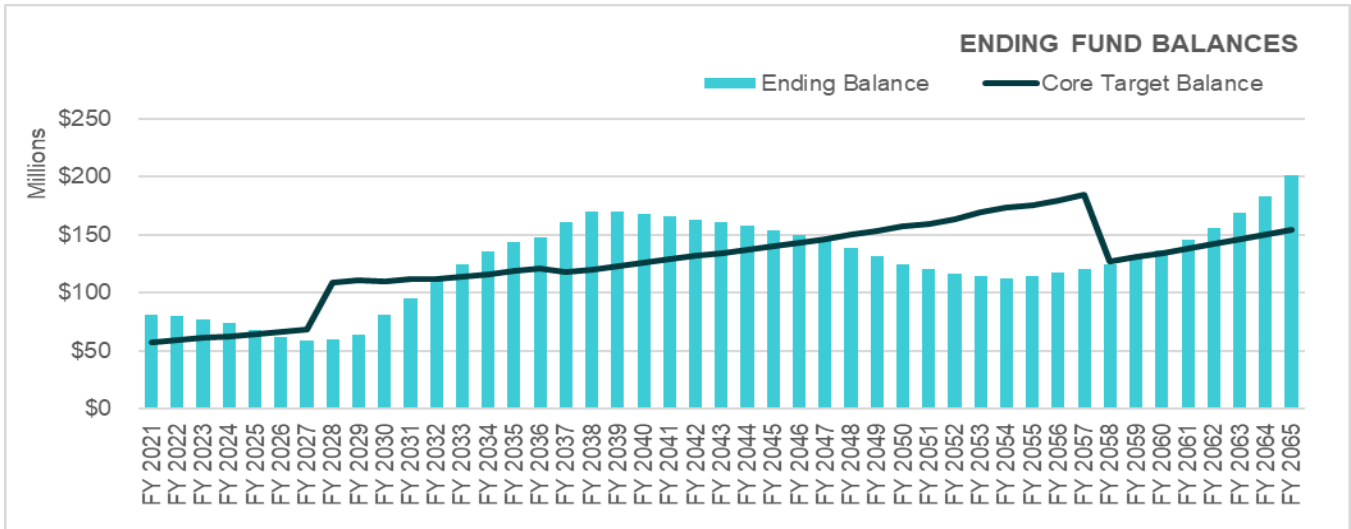
  

Water Rates (\$/AF)	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Desal	\$ 5,057	\$ 5,139	\$ 5,225	\$ 5,313	\$ 5,405	\$ 5,840	\$ 5,938	\$ 6,040	\$ 6,146	\$ 6,255
MWD	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639	\$ 3,766	\$ 3,898	\$ 4,035
Blended	\$ 3,385	\$ 3,485	\$ 3,587	\$ 3,694	\$ 3,804	\$ 3,987	\$ 4,105	\$ 4,227	\$ 4,354	\$ 4,485

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-19 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.



Figure IV-7 shows the District’s projected fund balances through FY2065 under PPP Current Project Design. For the majority of the study period, the District is expected to meet or exceed its target reserve balances. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years. The core target balance increases from FY2028 through FY2057 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2057. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-7 PPP Current Project Design Ending Balance Projections**

### 6.5 PPP Subsurface Intake Design

The fourth desalination scenario analyzed was PPP Subsurface Intake Design. Table IV-20 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for PPP Subsurface Intake Design. All debt service related to this scenario involves private financing via a PPP.

**Table IV-20 PPP Subsurface Intake Design Total Costs (\$ millions)**

	PPP Subsurface Intake Design
Start Year	FYE 2025
Debt Service	\$2,533
O&M Expense	\$819
Capital R&R	\$231
<b>Total Costs</b>	<b>\$3,584</b>

This scenario assumes that the OWDP is operational in FY2025 and that the District will start charging desalination rates in the same year.



Table IV-21 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for PPP Subsurface Intake Design.



**Table IV-21 PPP Subsurface Intake Design Desalination Rate Calculation**

Rate Calculation	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Total Cost (\$million)	\$ 101.5	\$ 102.3	\$ 103.1	\$ 104.0	\$ 104.9	\$ 105.8	\$ 106.8	\$ 107.8	\$ 108.8	\$ 109.9
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,768	\$ 4,807	\$ 4,846	\$ 4,887	\$ 4,929	\$ 4,973	\$ 5,019	\$ 5,066	\$ 5,114	\$ 5,164

Rate Calculation	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Total Cost (\$million)	\$ 111.0	\$ 112.2	\$ 113.4	\$ 114.6	\$ 115.9	\$ 117.2	\$ 118.5	\$ 120.0	\$ 121.4	\$ 122.9
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 5,216	\$ 5,270	\$ 5,326	\$ 5,384	\$ 5,444	\$ 5,506	\$ 5,570	\$ 5,636	\$ 5,705	\$ 5,776

Rate Calculation	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Total Cost (\$million)	\$ 124.5	\$ 126.1	\$ 127.8	\$ 129.6	\$ 131.4	\$ 140.5	\$ 142.4	\$ 144.4	\$ 146.5	\$ 148.6
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 5,850	\$ 5,926	\$ 6,005	\$ 6,087	\$ 6,172	\$ 6,600	\$ 6,691	\$ 6,785	\$ 6,883	\$ 6,984

Table IV-22 summarizes the desalination and MWD rate, as well as the blended rate for PPP Subsurface Intake Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-22 PPP Subsurface Intake Design Rates**

Water Rates (\$/AF)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Desal	\$ 4,768	\$ 4,807	\$ 4,846	\$ 4,887	\$ 4,929	\$ 4,973	\$ 5,019	\$ 5,066	\$ 5,114	\$ 5,164
MWD	\$ 1,368	\$ 1,423	\$ 1,457	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829
Blended	\$ 2,057	\$ 2,109	\$ 2,144	\$ 2,187	\$ 2,232	\$ 2,279	\$ 2,332	\$ 2,388	\$ 2,445	\$ 2,505

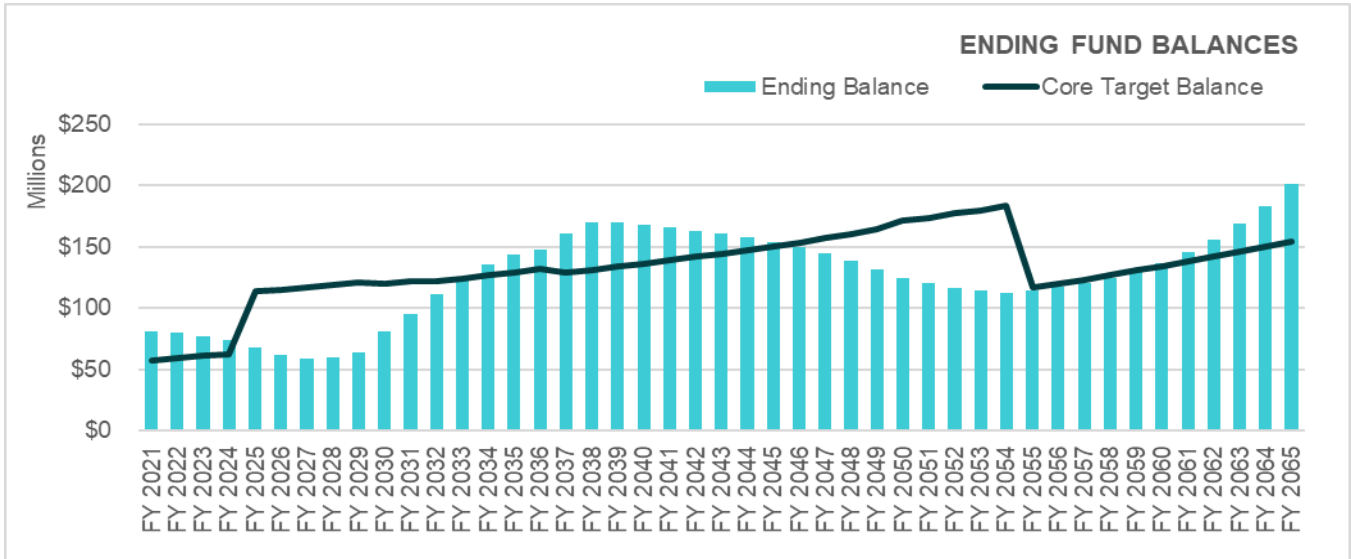
Water Rates (\$/AF)	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Desal	\$ 5,216	\$ 5,270	\$ 5,326	\$ 5,384	\$ 5,444	\$ 5,506	\$ 5,570	\$ 5,636	\$ 5,705	\$ 5,776
MWD	\$ 1,893	\$ 1,959	\$ 2,028	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580
Blended	\$ 2,567	\$ 2,630	\$ 2,696	\$ 2,765	\$ 2,835	\$ 2,908	\$ 2,984	\$ 3,063	\$ 3,144	\$ 3,228

Water Rates (\$/AF)	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Desal	\$ 5,850	\$ 5,926	\$ 6,005	\$ 6,087	\$ 6,172	\$ 6,600	\$ 6,691	\$ 6,785	\$ 6,883	\$ 6,984
MWD	\$ 2,670	\$ 2,764	\$ 2,860	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639
Blended	\$ 3,315	\$ 3,405	\$ 3,498	\$ 3,594	\$ 3,694	\$ 3,866	\$ 3,973	\$ 4,084	\$ 4,198	\$ 4,317

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-22 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.



Figure IV-8 shows the District’s projected fund balances through FY2065 under PPP Subsurface Intake Design. For the majority of the study period, the District is expected to meet or exceed its target reserve balances. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years. The core target balance increases from FY2025 through FY2054 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2054. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-8 PPP Subsurface Intake Design Ending Balance Projections**

## 6.6 DBOM with SRF Current Project Design

The fifth desalination scenario analyzed was DBOM with SRF Loans Current Project Design. Table IV-23 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for DBOM with SRF Loans Current Project Design. All debt service related to this scenario assumes that 50% of project costs are funded through SRF Loans and the remaining through municipal bonds.

**Table IV-23 DBOM with SRF Current Project Design Total Costs (\$ millions)**

	DBOM with SRF Current Project Design
Start Year	FYE 2028
Debt Service	\$1,112
O&M Expense	\$900
Capital R&R	\$250
<b>Total Costs</b>	<b>\$2,261</b>

This scenario assumes that the OWDP is operational in FY2028 and that the District will start charging desalination rates in the same year. Table IV-24 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for DBOM With SRF Loans Current Project Design.





**Table IV-24 DBOM with SRF Current Project Design Desalination Rate Calculation**

Rate Calculation	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Total Cost (\$million)	\$ 56.0	\$ 56.8	\$ 57.7	\$ 58.7	\$ 59.7	\$ 60.7	\$ 61.7	\$ 62.8	\$ 63.9	\$ 65.1
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 2,629	\$ 2,671	\$ 2,713	\$ 2,758	\$ 2,804	\$ 2,851	\$ 2,900	\$ 2,951	\$ 3,004	\$ 3,059

Rate Calculation	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Total Cost (\$million)	\$ 66.3	\$ 67.5	\$ 68.8	\$ 70.2	\$ 71.6	\$ 73.0	\$ 74.5	\$ 76.0	\$ 77.6	\$ 79.2
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,115	\$ 3,174	\$ 3,234	\$ 3,297	\$ 3,362	\$ 3,429	\$ 3,499	\$ 3,571	\$ 3,646	\$ 3,723

Rate Calculation	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Total Cost (\$million)	\$ 80.9	\$ 82.7	\$ 84.5	\$ 86.4	\$ 88.4	\$ 97.7	\$ 99.8	\$ 102.0	\$ 104.2	\$ 106.6
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,803	\$ 3,886	\$ 3,972	\$ 4,061	\$ 4,154	\$ 4,589	\$ 4,688	\$ 4,791	\$ 4,897	\$ 5,007

Table IV-25 summarizes the desalination and MWD rate, as well as the blended rate for DBOM With SRF Loans Current Project Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-25 DBOM with SRF Current Project Design Rates**

Water Rates (\$/AF)	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037
Desal	\$ 2,629	\$ 2,671	\$ 2,713	\$ 2,758	\$ 2,804	\$ 2,851	\$ 2,900	\$ 2,951	\$ 3,004	\$ 3,059
MWD	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829	\$ 1,893	\$ 1,959	\$ 2,028
Blended	\$ 1,729	\$ 1,774	\$ 1,821	\$ 1,874	\$ 1,929	\$ 1,987	\$ 2,046	\$ 2,107	\$ 2,171	\$ 2,237

Water Rates (\$/AF)	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046	FY 2047
Desal	\$ 3,115	\$ 3,174	\$ 3,234	\$ 3,297	\$ 3,362	\$ 3,429	\$ 3,499	\$ 3,571	\$ 3,646	\$ 3,723
MWD	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580	\$ 2,670	\$ 2,764	\$ 2,860
Blended	\$ 2,305	\$ 2,375	\$ 2,448	\$ 2,523	\$ 2,602	\$ 2,682	\$ 2,766	\$ 2,853	\$ 2,942	\$ 3,035

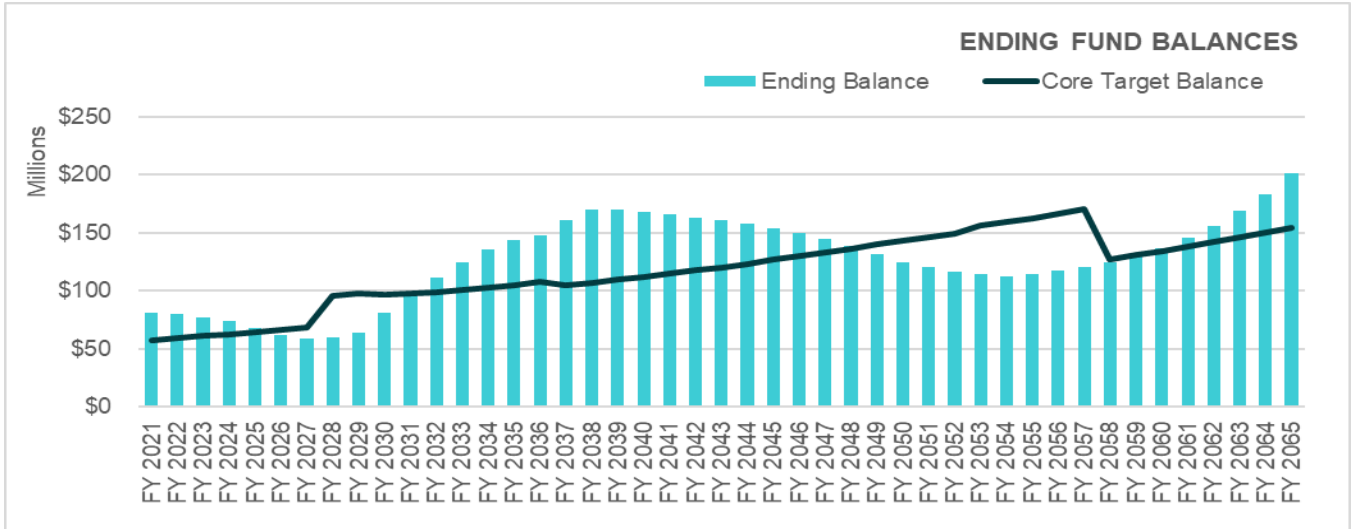
Water Rates (\$/AF)	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054	FY 2055	FY 2056	FY 2057
Desal	\$ 3,803	\$ 3,886	\$ 3,972	\$ 4,061	\$ 4,154	\$ 4,589	\$ 4,688	\$ 4,791	\$ 4,897	\$ 5,007
MWD	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639	\$ 3,766	\$ 3,898	\$ 4,035
Blended	\$ 3,131	\$ 3,231	\$ 3,334	\$ 3,440	\$ 3,550	\$ 3,734	\$ 3,852	\$ 3,974	\$ 4,101	\$ 4,232

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-25 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.

Figure IV-9 shows the District’s projected fund balances through FY2065 under DBOM With SRF Loans Current Project Design. The District will generate enough revenues to cover its cost requirements and meet the minimum



required debt service coverage ratio in all projected years. The core target balance increases from FY2028 through FY2057 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2057. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-9 DBOM with SRF Current Project Design Ending Balance Projections**

### 6.7 DBOM with SRF Subsurface Intake Design

The sixth and final desalination scenario analyzed was DBOM with SRF Loans Subsurface Intake Design. Table IV-26 below summarizes the start year and total debt service, O&M expenses, and capital R&R costs over the 30-year period for DBOM with SRF Loans Subsurface Intake Design. All debt service related to this scenario assumes that 50% of project costs are funded through SRF Loans and the remaining through municipal bonds.

**Table IV-26 DBOM with SRF Subsurface Intake Design Total Costs (\$ millions)**

DBOM with SRF Subsurface Intake Design	
Start Year	FYE 2025
Debt Service	\$1,458
O&M Expense	\$819
Capital R&R	\$240
<b>Total Costs</b>	<b>\$2,518</b>

This scenario assumes that the OWDP is operational in FY2025 and that the District will start charging desalination rates in the same year. Table IV-27 summarizes the total annual costs related to desalination, projected desalinated water production, and the calculated desalination rate for DBOM With SRF Loans Subsurface Intake Design.

**Table IV-27 DBOM with SRF Subsurface Intake Design Desalination Rate Calculation**

Rate Calculation	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Total Cost (\$million)	\$ 65.9	\$ 66.7	\$ 67.5	\$ 68.4	\$ 69.3	\$ 70.2	\$ 71.2	\$ 72.2	\$ 73.3	\$ 74.3
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,094	\$ 3,133	\$ 3,173	\$ 3,214	\$ 3,256	\$ 3,300	\$ 3,346	\$ 3,393	\$ 3,442	\$ 3,493



Rate Calculation	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Total Cost (\$million)	\$ 75.5	\$ 76.6	\$ 77.8	\$ 79.0	\$ 80.3	\$ 81.7	\$ 83.0	\$ 84.4	\$ 85.9	\$ 87.4
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 3,545	\$ 3,600	\$ 3,656	\$ 3,714	\$ 3,774	\$ 3,837	\$ 3,901	\$ 3,968	\$ 4,037	\$ 4,109

Rate Calculation	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Total Cost (\$million)	\$ 89.0	\$ 90.7	\$ 92.4	\$ 94.1	\$ 95.9	\$ 105.0	\$ 107.0	\$ 109.0	\$ 111.1	\$ 113.3
Desal Production (AF)	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283	21,283
Desal Rate (\$/AF)	\$ 4,183	\$ 4,260	\$ 4,339	\$ 4,422	\$ 4,507	\$ 4,935	\$ 5,027	\$ 5,122	\$ 5,220	\$ 5,322

Table IV-28 summarizes the Desalination and MWD rate, as well as the blended rate for DBOM With SRF Loans Subsurface Intake Design. MWD rates are expected to increase approximately 3.5% per year.

**Table IV-28 DBOM with SRF Subsurface Intake Design Rates**

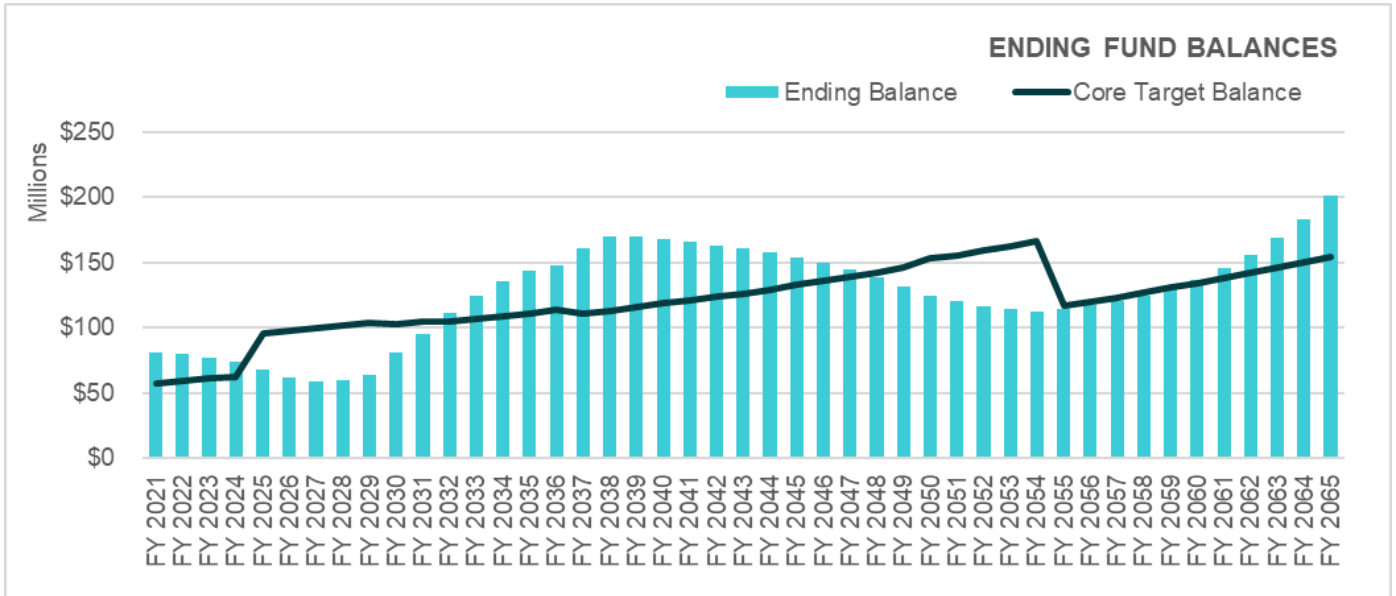
Water Rates (\$/AF)	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034
Desal	\$ 3,094	\$ 3,133	\$ 3,173	\$ 3,214	\$ 3,256	\$ 3,300	\$ 3,346	\$ 3,393	\$ 3,442	\$ 3,493
MWD	\$ 1,368	\$ 1,423	\$ 1,457	\$ 1,501	\$ 1,547	\$ 1,594	\$ 1,650	\$ 1,707	\$ 1,767	\$ 1,829
Blended	\$ 1,718	\$ 1,770	\$ 1,805	\$ 1,848	\$ 1,893	\$ 1,940	\$ 1,993	\$ 2,049	\$ 2,107	\$ 2,166

Water Rates (\$/AF)	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044
Desal	\$ 3,545	\$ 3,600	\$ 3,656	\$ 3,714	\$ 3,774	\$ 3,837	\$ 3,901	\$ 3,968	\$ 4,037	\$ 4,109
MWD	\$ 1,893	\$ 1,959	\$ 2,028	\$ 2,099	\$ 2,172	\$ 2,248	\$ 2,327	\$ 2,408	\$ 2,493	\$ 2,580
Blended	\$ 2,228	\$ 2,292	\$ 2,358	\$ 2,426	\$ 2,497	\$ 2,570	\$ 2,646	\$ 2,724	\$ 2,806	\$ 2,890

Water Rates (\$/AF)	FY 2045	FY 2046	FY 2047	FY 2048	FY 2049	FY 2050	FY 2051	FY 2052	FY 2053	FY 2054
Desal	\$ 4,183	\$ 4,260	\$ 4,339	\$ 4,422	\$ 4,507	\$ 4,935	\$ 5,027	\$ 5,122	\$ 5,220	\$ 5,322
MWD	\$ 2,670	\$ 2,764	\$ 2,860	\$ 2,960	\$ 3,064	\$ 3,171	\$ 3,282	\$ 3,397	\$ 3,516	\$ 3,639
Blended	\$ 2,977	\$ 3,067	\$ 3,160	\$ 3,257	\$ 3,356	\$ 3,529	\$ 3,636	\$ 3,747	\$ 3,861	\$ 3,980

Based on the District’s provided rates through FY2030, the revenue adjustments for the 2065 Plan, and the blended rates shown in Table IV-28 above, Raftelis developed a financial plan which demonstrates that the District will continue to meet its projected cost requirements under this scenario.

Figure IV-10 shows the District’s projected fund balances through FY2065 under DBOM With SRF Loans Subsurface Intake Design. The District will generate enough revenues to cover its cost requirements and meet the minimum required debt service coverage ratio in all projected years. The core target balance increases from FY2025 through FY2054 due to the higher annual O&M expenses and debt service resulting from desalination. Based on discussions with District staff, Raftelis did not develop rates to meet the higher core target balance during this period since they are expected to decrease after the desalination cost period ends in FY2054. Raftelis developed rates to maintain the projected fund balances in the 2065 Plan.



**Figure IV-10 DBOM with SRF Subsurface Intake Design Ending Balance Projections**



## **7. Conclusions and Recommendations**

### **7.1 2030 Plan**

Raftelis developed a detailed financial plan for the District to ensure revenue sufficiency based on the revenue adjustments provided in the 10-year plan through FY2030. The preceding sections detail the results of the analysis for each component. Raftelis recommends that the District proceed with its current financial plan through FY2030 under the baseline scenario. The 2030 Plan allows the District to continue to meet its financial obligations and places the District in a good financial position to discuss desalination scenarios in the next steps of the project.

### **7.2 2065 Plan**

Additionally, Raftelis developed a financial plan which includes the District's revenues, operating expenses, debt service, capital requirements, and other financial obligations through FY2065. These projections are based on assumptions discussed with District staff and are only intended to serve as a guideline for future projections and not to indicate actual results. Based on the assumptions discussed in this Chapter and the assumed 5% increase in the Reliability Service Charge annually from FY2040 to FY2065, the 2065 Plan allows the District to meet its financial obligations and puts the District in a good financial position to discuss desalination scenarios in the next steps of the project.

### **7.3 Desalination Analysis Summary**

There were six desalination scenarios that Raftelis analyzed based on assumptions and cost information provided by District staff and GHD. The costs and assumptions for each scenario were incorporated into the financial model, and together with the District's other revenues and revenue requirements, generated a financial projection through FY2065 for all desalination scenarios. The resulting revenue increases for each desalination scenario were designed to meet the District's revenue and debt coverage requirements, regardless of the OWDP costs specific to each scenario. This results in higher rates for the scenarios with higher costs (and vice versa).

Table IV-29 below summarizes these scenarios. The blended rate with desalination represents the total cost per AF that the District's customers (i.e. its Retail Agencies) are expected to pay for water under the desalination scenario. The MWD rate represents the total cost per AF that the District's customers are expected to pay under the baseline scenario in the stated starting year. The desalination premium shows the increase in the per AF cost between the blended rate with desalination and the MWD rate under each scenario.



**Table IV-29 Summary of Desalination Scenarios**

Desal Scenarios	Year	Blended Rate w/ Desal (\$/AF)	MWD Rate	Desal Premium (%)	Desal Premium (\$/AF)
DBOM, Current Project Design	FYE 2028	\$1,826	\$1,501	22%	\$326
DBOM, Subsurface Intake Design	FYE 2025	\$1,841	\$1,368	35%	\$473
PPP, Current Project Design	FYE 2028	\$1,985	\$1,501	32%	\$484
PPP, Subsurface Intake Design	FYE 2025	\$2,057	\$1,368	50%	\$689
DBOM w. SRF, Current Project Design	FYE 2028	\$1,729	\$1,501	15%	\$229
DBOM w. SRF, Subsurface Intake Design	FYE 2025	\$1,718	\$1,368	26%	\$350



## 8. Glossary

Abbreviation	Meaning	Abbreviation	Meaning
@Risk	@Risk modelling software developed by Palisade Corporation	OWDP	Ocean Water Desalination Project
AF	Acre foot	OPEX	Operations Expenditure
AFY	Acre Feet per Year	PAB	Private Activity Bonds
CAP	Continuous Application Program	PCC	Public Contract Code
CAPEX	Capital Expenditure	PFAS	Poly-fluoroalkyl Substances
CARB	California Air Resources Board	PFHxA	Perfluorhexanoic Acid
CBA	Cost Benefit Analysis	PFOA	Perfluorooctanoic Acid
CDP	Carlsbad Desalination Plant	PFOS	Perfluorooctane Sulfonate
CEQA	California Environmental Quality Act	POU	Point-of-use
CRA	Colorado River Aqueduct	PPCPs	Pharmaceuticals and personal care products
CRCWSC	Cooperative Research Center for Water Sensitive Cities	PPP	Public-Private Partnership (also P3)
CWSRF	Clean Water State Revolving Fund	PPT	Parts per Trillion
DBB	Design-Bid-Build	R&R	Rehab and Replacement
DBFOM	Design-Build-Finance-Operate-Maintain	RDA	Redevelopment Agencies
DBOM	Design-Build-Operate-Maintain	RO	Reverse Osmosis
DDW	Division of Drinking Water	ROW	Right-of-way
(the) District	West Basin Municipal Water District	RPS	Renewables Portfolio Standard
DWSRF	Drinking Water State Revolving Fund	SCAQMD	South Coast Air Quality Management District
EIFD	Enhanced Infrastructure Financing Districts	SCE	Southern California Edison
EIR	Environmental Impact Report	SDCWA	San Diego County Water Authority
EPA	Environmental Protection Agency	SPV	Special Purpose Vehicle
ESGS	El Segundo Generating Site	SRF	(Drinking Water) State Revolving Fund
FTE	Full-time Equivalents	SWP	State Water Project
GHG	Greenhouse Gas	TDS	Total Dissolved Solids
GO	General Obligation (Bonds)	TMs	Task Memorandums
HAB	Harmful Algal Blooms	UWMP	Urban Water Management Plan
INFFEWS	Investment Framework for Economics of Water Sensitive Cities	VfM	Value-for-Money
IO	Input-Output	WBMWD	West Basin Municipal Water District
IRR	Internal Rate of Return	WIFIA	Water Infrastructure Finance Innovation Act
kWh	Kilowatt Hour	WIIN Act	Water Infrastructure Improvements for the Nation Act
LRP	Local Resources Program (a rebate program by MWD)	WPA	Water Purchase Agreement
MCL	Maximum Contaminant Level	WSAP	Water Supply Allocation Plan
MGD (or mgd)	Million Gallons per Day	WTP	Willingness-to-pay
MG/L	Milligrams per liter		
MMRP	Mitigation Monitoring and Reporting Program		
MT/yr	Metric Tonnes per Year		
MWD	Metropolitan Water District of Southern California		
NAD Bank	North American Development Bank		
NDMA	Nitrosodimethylamine		
NPC	Net Present Cost		
NPV	Net Present Value		
NOA	Notice of Availability		
NOP	Notice of Preparation		
O&M	Operations and Maintenance		

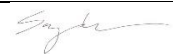



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		Name	Signature	Name	Signature	Date
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GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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