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Inland Empire Utilities Agency

**2022 RATE STUDY  
RECYCLED & RECHARGE  
WATER RATES**

FINAL | APRIL 2022



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## Abbreviations

AF	Acre-Feet
AFY	Acre-Feet per Year
Carollo	Carollo Engineers, Inc.
CBWCD	Chino Basin Water Conservation District
CIP	Capital Improvement Plan
FY	Fiscal Year
GG	General Administrative Fund
IEUA or Agency	Inland Empire Utilities Agency
MGD	Million Gallons per Day
MWD	Metropolitan Water District of Southern California
O&M	Operations and Maintenance
RC	Wastewater Regional Capital Fund
RW	Recharge Water Fund
RWPS	Recycled Water Program Strategy
SBCFCD	San Bernardino County Flood Control District
Watermaster	Chino Basin Watermaster
WC	Recycled Water Fund
WW	Water Resources

## Section 1

# INTRODUCTION

IEUA is a public agency serving the Inland Empire region of Southern California as a regional wastewater agency, as well as a wholesale supplier of imported and recycled water. The Agency contracted with Carollo Engineers, Inc. (Carollo) to conduct a Recycled and Recharge Water Rate Study in 2021. This report details the purpose and cost basis for updating the Agency's Recycled Water Direct Use and Groundwater Recharge Rates. The analysis discussed in this report provides the support for an update to those rates to be implemented in Fiscal Year (FY) 2022/23 effective July 1, 2022. The proposed FY 2022/23 rates will be updated to reflect the projected revenue requirements for FY 2022/23 through FY 2026/27, and present two alternatives: 1) Maintaining current rate structure comprised of a variable recycled water rate per acre-foot<sup>1</sup> (AF) for direct use, and a recharge water surcharge rate per AF, and 2) proposing a combination of the current variable component for direct use and recharge along with a fixed charge component to recover a portion of revenue requirements.

In 2000, IEUA and its member agencies identified recycled water use as a critical component in drought-proofing the region and maintaining its economic growth. With imported water rates increasing and long-term imported supply reliability in decline, the region committed to aggressively and proactively developing local water supplies to offset these impacts. Currently IEUA supplies recycled water to the member agencies for direct use by retail customers and provides groundwater recharge to the benefit of the member agencies via several recharge facilities. In FY 2020/21, IEUA delivered approximately 18,480 AF for direct use along with 16,250 AF for groundwater recharge.

IEUA has been delivering recycled water since the 1970's and began to build out the system to its current configuration starting in 2000. IEUA, in partnership with its member agencies and Chino Basin Watermaster (Watermaster), invested over \$600 million in water recycling, conservation, recharge improvements, the MWD groundwater storage and recovery projects, the Chino Desalter, and other water management programs. With approximately \$350 million of that total dedicated to recycled water infrastructure. The programs collectively reduce the region's need for imported water, especially during drought or conditions when imported water supplies may not be available. In addition to the region switching large potable water users to recycled water, IEUA and Watermaster obtained a landmark permit in 2005 for groundwater recharge using IEUA's high-quality recycled water. The use of recycled water provides a high-quality alternative water source to the Agency, its seven contracting agencies (Cities of Chino, Chino Hills, Fontana (through Fontana Water Company), Montclair (through Monte Vista Water District), Ontario, Upland, and Cucamonga Valley Water District), commercial customers, and recharge basins for groundwater storage which helps to improve the resiliency of the region's water supply. Due to the increasing need for reliable water supplies and for additional supplies to meet the needs of future growth, IEUA will continue to invest in localized water supplies.

The proposed FY 2022/23 recycled and recharge water rates reflect the capacity needed to serve each customer, and support IEUA's recycled and recharge programs. The Recycled Water fund accounts for

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<sup>1</sup> An acre-foot of water is equal to 325,900 gallons of water, the equivalent of filling one acre one foot deep with water.

revenues and expenses related to operations and maintenance for distributing recycled water from the Agency's four recycling plants to direct users, CIP costs, debt service costs, and a portion of the groundwater recharge activities not covered by the reimbursement agreement with Watermaster. The Recharge Water fund accounts for revenues and expenses associated with groundwater recharge operations and maintenance. The recharge program is a joint effort between the Watermaster, the Chino Basin Water Conservation District (CBWCD), the San Bernardino County Flood Control District (SBCFCD), and IEUA.

This study is focused specifically on the Recycled Water Fund as the Recharge Fund does not directly receive revenues from recycled water rates or the recharge surcharge. Operations and capital support transfers to the recharge fund from the recycled water fund are considered and comprise a portion of the recharge surcharge revenue requirements.

## 1.1 Current Rate Structure

IEUA's current rate structure consists of a variable recycled water rate per AF, and a recharge water surcharge rate per AF, entirely commodity based. Revenues generated under the current rate design vary from year to year based on the volume of recycled water delivered, primarily due to weather conditions.

The 2015 Rate Study conducted by Carollo considered other rate alternatives to facilitate revenue stability and lessen the fiscal impact of reduced deliveries. One alternative proposed in 2015 included a fixed charge based on either an account or meter equivalent basis. Following an extensive review with member agencies, no consensus was reached on a fixed charge component and the existing commodity-based rate design was maintained with no fixed component. Similarly, a study initiated in 2019 and completed in 2020 proposed a hybrid rate structure with a variable component per AF and a fixed charge based on each agency's share of three-year rolling average deliveries. However, due to the COVID-19 pandemic and other factors, no changes to the rate structure were implemented at that time.

The recycled rates (including fixed charges in applicable alternatives) and recharge water surcharges are designed to recover the costs of the Recycled Water direct use and Recharge costs not covered by the reimbursement agreement with Watermaster. This analysis evaluated and developed rates for FY 2022/23 through FY 2026/27 based on the current commodity based structure, as well as alternatives that include the addition of a fixed component to recover debt service costs not affected by volumetric fluctuations from year to year.

As wholesale service charges to other agencies and entities, IEUA's direct use and recharge rates need to meet the requirements of Article XIII of the California Constitution as amended by Proposition 26. The rates are considered to be fees for a specific service and are therefore exempt from the approval requirements of taxes. However, the rates charged must be proportional to the specific level of service provided to each user to maintain that status. As stated in Article XIII, the rates must be: "A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the State of providing the service or product to the payor." To meet these requirements, it is important that the rates appropriately recover costs from each user, establishing a nexus between the level of service that each user receives and the fees or rates that they are charged.

### 1.1.1 Recycled Water Direct Use Service

IEUA owns and operates five water recycling treatment facilities, four of which produce recycled water. These facilities receive an average of 50 million gallons per day (MGD) of wastewater from the contracting agencies which is treated to Title 22 regulations set forth by the California Division of Drinking Water and State Water Resources Board.

IEUA currently collects rate revenue for recycled water direct use deliveries on a commodity, or volumetric basis. As of July 2021, the direct use rate is \$520 per acre-foot delivered. IEUA provides service to member agencies, as well as direct use service to irrigation and industrial customers. Rates recover operation and maintenance (O&M) expenses, capital project costs benefitting existing users and which are not allocated to support future growth, debt service costs, as well as a portion of groundwater recharge O&M costs not reimbursable by Watermaster.

**1.1.2 Recharge Water Service**

In addition to the direct use deliveries, IEUA recharges up to 50,000 AF of imported water from northern California, between 15,000 and 25,000 AF of stormwater, and between 10,000 and 16,000 AF of recycled water annually. Annual recharge varies due to weather patterns and the availability of supplemental water supplies (imported and recycled water). In partnership with Watermaster, CBWCD, SBCFCD, the Agency currently operates 19 recharge basins throughout the Chino Basin.

The current rate for recharge deliveries of recycled water to various groundwater basins is \$580 per AF as of July 2021. The recharge water rate is the combination of the \$520 per AF recycled water direct use rate with a \$60 per AF surcharge added to recover costs associated with the operation and maintenance of the recharge basins not reimbursable by Watermaster. Similar to the recycled water direct use rate, the recharge water rate is collected entirely on a commodity basis with no fixed component. Table 1 shows adopted Recycled and Recharge Water Rates through FY 2021/22.

Table 1 Adopted Recycled and Recharge Water Rates

Fiscal Year (FY)	Recycled Water Direct Use Rate (\$/AF)	Recharge Water Surcharge Rate (\$/AF)	Total Recharge Water Rate (\$/AF)
FY 2017/18	\$470	\$60	\$530
FY 2018/19	\$480	\$60	\$540
FY 2019/20	\$490	\$60	\$550
FY 2020/21	\$490	\$60	\$550
FY 2021/22	\$520	\$60	\$580

**1.2 Direct Use and Recharge Demand**

**1.2.1 Historic Demand**

A key objective of IEUA’s previous planning efforts was to set rates that fully recovered program costs. The rates implemented for the Recycled Water and Recharge Water funds were based on projected demand for recycled direct use and recharge water deliveries. The volume of recycled water delivery of direct use and groundwater recharge can vary seasonally and annually based on a variety of factors (e.g. rainfall intensity, rainfall duration, and recharge basin maintenance activities).

As presented in Figure 1, actual deliveries for the since FY 2015/16 were significantly lower than projected primarily due to significant changes in recycled water sales trends following the adoption of the resolution (2016-6-17) establishing regulations for the purchase of recycled water above base entitlement and delays in groundwater recharge projects, and recycled water capacity improvement projects. The high precipitation during the winter season of FY 2018/19 also resulted in lower recycled water deliveries in that year. Since that time, demands have rebounded, though not to match the previous projections, with 18,476 AF of direct use by member agencies and 16,253 of recharge use in FY 2020/21.

Lower than expected demands since the 2015 Rate Study have led to decreased direct usage and recharge surcharge revenues. These revenue shortfalls, in part, drive the need for the rate increases proposed by this study and the exploration of alternative methodology to recover costs. The volumetric projections of this study take a more conservative approach than the previous study to mitigate the potential for revenue shortfalls.

### 1.2.2 Projected Recycled and Recharge Water Demand

The total amount of recycled water for direct use and groundwater recharge is used to determine the \$/AF rate imposed on recycled and recharge water customers. This analysis is based on recycled and recharge water demand projections set in collaboration with IEUA and the member agencies, who provided their expected recycled water sales early in the Study process. The member agencies provided their minimum, maximum, and most likely direct use demand projections for the study period. IEUA opted to take a conservative approach in setting the demand projections for the study in order to avoid future revenue shortfalls should demands closer to the member agencies maximum projections not materialize. To that end, the study assumes that total demands will remain flat for FY 2021/22 through FY 2026/27 at 34,000 AFY, with 18,000 AFY in direct use and 16,000 AFY in recharge use. This assumption falls within the minimum and maximum ranges provided by the member agencies.

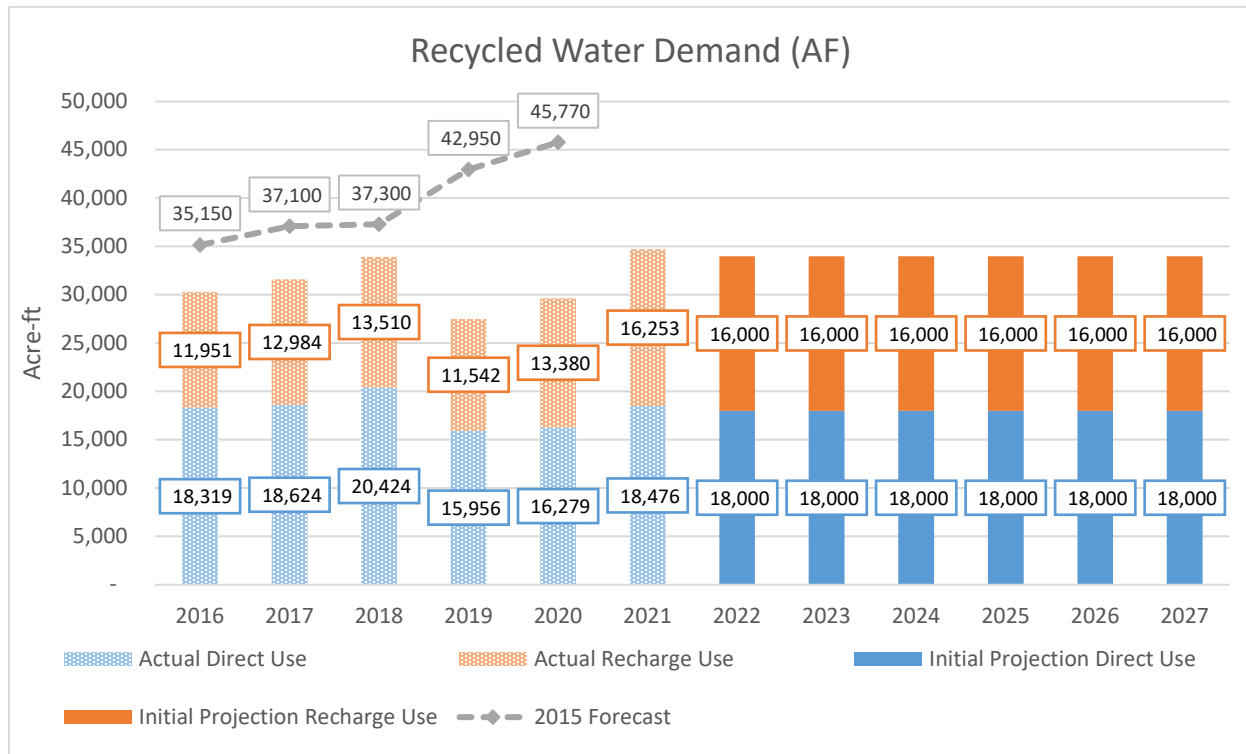


Figure 1 Recycled and Recharge Water Demands (AFY)

Future demands for each member agency are estimated based on the Agency’s overall recycled water demand projections and each user’s demands over the past three years. The member demands are used to estimate the potential impact of any changes to the rate structure on the member agencies. The estimated member agency demands and cost impacts are included for informational purposes to inform the decision making process. Future billing of the member agencies will reflect their actual demands. Historic and projected demands for each user are included for reference in Appendix A.



## Section 2

# REVENUE REQUIREMENTS ANALYSIS

The findings and results presented in this report represent the final Recycled and Recharge Water Rate analysis and serve as the basis for the proposed rates. The study analyzed projected revenue requirements over a five-year period FY 2022/23 through FY 2026/27, however based on feedback from the member agencies, IEUA is only proposing to implement three years of rate adjustments at this time (FY 2022/23 through FY 2024/25). Projected information for FY 2025/26 and FY 2026/27 is also presented throughout the study for informational purposes and will be refined prior to the beginning of the next rate cycle in FY 2025/26.

### 2.1 Recycled and Recharge Water Program Costs

Recycled Water Program and Recharge Water Program costs were projected through FY 2026/27 based on current costs and typical cost escalation factors. The projections also consider any specific increases or decreases in costs that the Agency expects over the rate study period. Appendix B provides details for O&M budget line-items. As reported in Appendix B, some program costs, such as debt service costs, tend to be fixed in nature and do not change significantly based on the quantity of recycled water delivered. Some expenses, such as utilities, can vary based on the volume delivered.

#### 2.1.1 Recycled Water Expenses

The Recycled Water fund records the revenues and expenses associated with the operations and maintenance of the facilities used to distribute recycled water supplied from Agency's four Agency water recycling plants to direct users and recharge basins. Additionally, the Recycled Water fund records all revenues and costs related to capital projects and financing of the regional recycled water distribution system.

In FY 2022/23, the projected costs for the Recycled Water fund total \$32.41 million and include: \$12.50 million O&M expenses and non-operating expenses of \$14.31 million debt service costs, \$5.55 million capital project costs, and \$0.05 million operational and capital cost support to General Administrative (GG) Funds. Appendix B provides details for O&M budget line-items.

The operating expenses included in Table 2 are those that IEUA incurs to operate the recycled water system to deliver water to member agency systems or to recharge facilities.

- **Employment:** This category includes labor and benefits costs for employees assigned to the recycled water fund. Employment costs for the recycled water system are fixed and do not vary based on the amount of recycled water delivered.
- **Utilities:** This category consists primarily of electricity costs for pumping recycled water throughout the system. A small amount of costs are also included for office utilities used by recycled water personnel. Utilities costs are variable and depend on the amount of recycled water delivered to the member agencies and the recharge facilities.
- **Materials & Supplies:** This category includes small maintenance items and office supplies. Materials and supplies costs for the recycled water system are predominantly fixed and do not vary based on the amount of recycled water delivered.
- **Other Expenses:** This category includes contract work and special projects, professional services and fees, non-reclaimable wastewater system user credits, and other minor cost items. Costs in the

other expenses category for the recycled water system are predominantly fixed and do not vary based on the amount of recycled water delivered.

Table 2 Recycled Water Expenses (\$ millions)

Recycled Water Expenses	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Operating Expenses</b>					
Employment	\$4.87	\$5.09	\$5.30	\$5.51	\$5.74
Utilities	4.09	4.21	4.33	4.46	4.60
Materials & Supplies	0.10	0.10	0.10	0.11	0.11
Other Expenses	3.45	3.86	3.83	3.69	3.48
<b>Subtotal: Operating Expenses</b>	<b>\$12.50</b>	<b>\$13.26</b>	<b>\$13.56</b>	<b>\$13.77</b>	<b>\$13.92</b>
<b>Non-operating Expenses</b>					
Bonds and Loans (Principal and Interest)	\$9.31	\$9.30	\$9.08	\$8.07	\$8.07
Interfund Loan	5.00	6.00	5.50	0.00	0.00
Financing Costs	0.00	0.00	0.01	0.01	0.01
<b>Subtotal: Debt Service</b>	<b>\$14.31</b>	<b>\$15.30</b>	<b>\$14.58</b>	<b>\$8.08</b>	<b>\$8.08</b>
Capital	\$5.55	\$2.15	\$3.00	\$5.00	\$7.00
Support to GG (operations and capital)	0.05	0.05	0.07	0.03	0.03
<b>Recycled Water Direct Use Activity</b>	<b>\$32.41</b>	<b>\$30.75</b>	<b>\$31.22</b>	<b>\$26.88</b>	<b>\$29.03</b>

Note:

(1) Presented totals may not tie due to rounding for presentation purposes.

### 2.1.2 Recharge Water Costs

The costs supported by the recharge surcharge are the recharge related costs that are tracked within the Recharge Water fund. These costs include IEUA’s share of reimbursable costs as well as non-reimbursable costs incurred to provide recharge services. As shown in Table 3, recharge O&M costs for FY 2022/23 are projected to be \$1.74 million. Also included are transfers to the Recharge Water fund non-reimbursable recharge activity costs of \$1.11 million in operational support and \$0.34 million in capital support. In FY 2022/23, total cost for the Recharge Water operation is projected to be \$3.19 million. Appendix B provides details for O&M budget line-items.

The Recharge Water fund accounts for the revenues and expenses associated with the operations and maintenance of groundwater recharge facilities. Through the joint effort of the Watermaster, the Chino Basin Water Conservation District (CBWCD), the San Bernardino County Flood Control District (SBCFCD), the Agency operates and maintains 19 groundwater recharge basins. Costs recorded in the Recharge Water fund are partially reimbursable by Watermaster and include general basin maintenance or restoration costs, groundwater administration (e.g. labor, utilities, equipment, and tools), contracted services (e.g. weeding and vector control), and compliance reporting and environmental documentation fees for the program’s Fish & Game Permit.

The operating expenses included in Table 3 are those that IEUA incurs to operate and maintain the recycled water groundwater recharge facilities.

- Employment: This category includes labor and benefits costs for employees assigned to the recycled water fund that complete recharge related activities.
- Materials & Supplies: This category includes small maintenance items and office supplies.
- Other Expenses: This category includes contract work and special projects, professional services and fees, and other minor cost items.

Transfers to the recharge fund include:

- Operations support to cover non-reimbursable costs per the PEACE I and II agreements.
- Capital support to cover the Recharge Fund’s share of agency wide capital projects.

Table 3 Recharge Water Expenses (\$ millions)

Recharge Water	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Operational Expenses</b>					
Employment	\$1.41	\$1.42	\$1.43	\$1.44	\$1.44
Materials & Supplies	0.02	0.02	0.02	0.02	0.02
Other Expenses	0.31	0.34	0.35	0.36	0.37
<b>Subtotal Operating Expenses</b>	<b>\$1.74</b>	<b>\$1.78</b>	<b>\$1.80</b>	<b>\$1.82</b>	<b>\$1.83</b>
<b>Transfers to Recharge Fund</b>					
Operations Support	\$1.11	\$1.22	\$1.26	\$1.30	\$1.34
Capital Support	0.34	0.32	0.19	0.19	0.19
<b>Total Recharge Operating Expenses</b>	<b>\$3.19</b>	<b>\$3.32</b>	<b>\$3.25</b>	<b>\$3.31</b>	<b>\$3.37</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

## 2.2 Offsetting Revenues

In addition to revenues generated from the Recycled and Recharge Water rates, there are other offsetting revenue sources that decrease the amount of funds required to be collected through the Recycled and Recharge Water rates. The following revenues are used to offset the Recycled and Recharge Water Rate revenue requirements;

- **Interest Revenue:** Interest earnings on monies held within the Recycled Water fund.
- **Connection Fees:** One water connection fees can be spent on eligible capital projects and debt service.
- **Property Tax – Debt & Capital:** Discretionary property taxes are allocated to the Recycled Water fund and used to offset a portion of debt service costs and capital projects.
- **Capital Cost Reimbursement:** The recycled water fund receives reimbursements for capital projects that it completes on behalf of other funds.

Table 4 summarizes the total amounts of each offsetting revenue applied to the recycled water revenue requirement.

Table 4 Offsetting Revenues (\$ millions)

Offsetting Operating Revenues	Use	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Interest Earnings	Operating	\$0.54	\$0.55	\$0.57	\$0.62	\$0.67
Capital Cost Reimbursement	Capital	0.09	0.09	0.10	0.10	0.10
Connection Fees	Capital	1.33	0.58	0.86	1.27	1.67
Connection Fees	Debt Service (Interfund Loan)	5.00	6.00	5.50	0.00	0.00
Property Taxes	Capital	0.00	0.48	0.97	2.46	2.50
Property Taxes	Debt Service	2.34	1.90	1.45	0.00	0.00
RC Support, Property Tax	Debt Service	2.55	2.67	2.67	2.67	2.67
<b>Total Recycled Water Offsetting Revenues</b>		<b>\$11.85</b>	<b>\$12.28</b>	<b>\$12.12</b>	<b>\$7.11</b>	<b>\$7.61</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Revenues from IEUA’s one water connection fee are collected in the Recycled Water fund and used for eligible expenditures which include capital projects as well as a share of debt service. Additionally, connection fees are transferred to the Recharge Water (RW), Water Resources (WW), or General Administrative (GG) funds to pay for eligible projects. Table 5 shows the expected connection fee revenues for each fiscal year as well as the projected use of connection fees. In years where connection fee revenues exceed uses, excess revenues are held in the connection fee reserve to be used in later years.

Table 5 Use of Connection Fees (\$ millions)

Use of Connection Fees	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
<b>Projected Connection Fee Revenue</b>	<b>\$8.65</b>	<b>\$8.91</b>	<b>\$9.18</b>	<b>\$9.45</b>	<b>\$9.74</b>
Eligible Recycled Water Projects	\$1.33	\$0.58	\$0.86	\$1.27	\$1.67
Transfer to Recharge Water Fund for Eligible Projects	0.10	0.09	0.06	0.06	0.06
Transfer to Water Resources Fund for Eligible Projects	1.52	0.36	0.32	0.31	0.31
Transfer to General Administrative Fund for Eligible Projects	0.02	0.02	0.04	0.02	0.02
Use for Debt Service (Interfund Loan)	5.00	6.00	5.50	-	-
<b>Total Connection Fees to be Used</b>	<b>\$7.97</b>	<b>\$7.06</b>	<b>\$6.79</b>	<b>\$1.65</b>	<b>\$2.05</b>
<b>Available for Future Projects</b>	<b>\$0.68</b>	<b>\$1.85</b>	<b>\$2.39</b>	<b>\$7.80</b>	<b>\$7.69</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

### 2.3 Projected Revenue Requirements

The amount of revenue to be collected from user rates is defined by the total revenue requirements less any offsetting revenues. The sections below present the revenue required from both the Recycled Water Rate and Recharge Surcharge Rate. Additional detailed financial projection tables are included for reference in Appendix B.

Actual recycled water demands since the 2015 Rate Study were significantly below the expected demands that served as the basis for that study, resulting in lower revenues for the Recycled Water and Recharge Water funds. In order to recover from these revenue losses and to keep up with inflationary increases in costs, direct recycled water use rates need annual increases of approximately 5.5 percent for FY 2022/23 through FY 2026/27.

To appropriately recover recharge program costs (including non-reimbursable recharge costs recorded in the WC) and keep up with inflationary cost increases, the recharge surcharge will need to be significantly adjusted. Carollo proposes implementing a phase-in to full cost recovery over the rate study period, weighted more heavily in the first three years (FY 2022/23 through FY 2024/25).

#### 2.3.1 Recycled Water Revenue Requirement

Based on preliminary budget projections, IEUA’s recycled water total revenue requirement for FY 2022/23 is \$18.65 million. As illustrated in Table 6, the total recycled water revenue requirement is projected to grow to \$23.14 million by FY 2026/27, driven by forecasted increases in recycled water demand and inflationary increases in costs.

Table 6 Required Recycled Water Direct Use Rate Revenues (\$ millions)

Recycled Water Fund Required Rate Revenues	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating Expenses	\$12.50	\$13.26	\$13.56	\$13.77	\$13.92
Debt Service	14.31	15.30	14.58	8.08	8.08
Capital	5.55	2.15	3.00	5.00	7.00
Support to GG (operations and capital)	0.05	0.05	0.07	0.03	0.03
<b>Total Expenses</b>	<b>\$32.41</b>	<b>\$30.75</b>	<b>\$31.22</b>	<b>\$26.88</b>	<b>\$29.03</b>
<b>Less: Offsetting Revenues</b>	<b>(\$11.85)</b>	<b>(\$12.28)</b>	<b>(\$12.12)</b>	<b>(\$7.11)</b>	<b>(\$7.61)</b>
<b>Contribution to (Use of) Reserves</b>	<b>(\$1.91)</b>	<b>\$1.22</b>	<b>\$1.67</b>	<b>\$2.15</b>	<b>\$1.72</b>
<b>Required Revenues from Direct Usage Rates</b>	<b>\$18.65</b>	<b>\$19.69</b>	<b>\$20.77</b>	<b>\$21.92</b>	<b>\$23.14</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

The offsetting revenues include One Water connection fees to help lower the rate revenue requirements by using connection fees to pay a portion of debt service. The calculation of the water connection fee includes an allocation of the existing assets based on excess capacity and CIP projects that will benefit future users. Therefore, annual revenues from connection fees can be used to offset direct capital costs and/or debt service payment that would otherwise be borne by user rates. The use of connection fees in this manner allows the Agency to account for fluctuations driven by the development cycle. For reference, Appendix C includes a list of recycled water fund Capital Projects through the study period.

### 2.3.2 Recharge Water Revenue Requirement

Based on the study projections, IEUA’s recharge water total revenue requirement for FY 2022/23 is \$3.19 million while revenues under the current \$60 per AF surcharge rate would total just \$0.96 million. In order to reach full cost recovery while moderating rate spiking, rate revenue increases will be phased-in over the study period. During the phase-in, IEUA will rely on existing reserves to cover deficits.

Table 7 presents the required rate revenues for recharge water usage. Based on the phase-in to full cost recovery, surcharge revenues will increase significantly over the study period. The phase-in includes a 66.7-percent (\$40 per AF) increase in FY 2022/23, a 50.0-percent increase in FY 2023/24 (\$50 per AF), and a 33.3-percent increase in FY 2024/25 (\$50 per AF). After that time, increases are projected at 3.0-percent per year.

Table 7 Required Recharge Water Rate Revenues (\$ millions)

Recharge Water Required Rate Revenues	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating Expenses	\$1.74	\$1.78	\$1.80	\$1.82	\$1.83
Operations Support to Recharge Fund	\$1.11	\$1.22	\$1.26	\$1.30	\$1.34
Capital Support to Recharge Fund	0.34	0.32	0.19	0.19	0.19
<b>Total Expenses</b>	<b>\$3.19</b>	<b>\$3.32</b>	<b>\$3.25</b>	<b>\$3.31</b>	<b>\$3.37</b>
<b>Use of Reserves During Phase-In</b>	<b>(\$1.59)</b>	<b>(\$0.92)</b>	<b>(\$0.05)</b>	<b>(\$0.01)</b>	<b>\$0.02</b>
<b>Required Revenues from Recharge Surcharge Rates</b>	<b>\$1.60</b>	<b>\$2.40</b>	<b>\$3.20</b>	<b>\$3.30</b>	<b>\$3.39</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

## Section 3

# RATE DESIGN

The rate design analysis uses the results of the revenue requirement analysis along with recycled water demands (direct usage and recharge) to calculate rates. The study has reviewed several rate structure options including retaining the existing variable rate structure or the implementation of a fixed charge to recover a portion of revenue requirements.

### 3.1 Current Structure Rates – Alternative 1

The current rate design consists of a variable recycled water rate per AF, and a recharge water surcharge rate per AF. The forecasted recycled water demand and projected revenue requirements are used to determine the \$/AF recycled water rate over the FY 2022/23 through FY 2026/27 rate study period using the following calculation.

$$\text{Recycled Water Direct Use Rate } (\$/\text{AF}) = \frac{\text{Required Recycled Water Direct Use Rate Revenue}}{\text{Forecasted Recycled Water Demand}}$$

The forecasted recharge water demand and projected revenue requirements are used to determine the \$/AF recharge water surcharge over the FY 2022/23 through FY 2026/27 rate study period using the following calculation.

$$\text{Recharge Water Rate } (\$/\text{AF}) = \left( \frac{\text{Required Recharge Water Rate Revenue}}{\text{Forecasted Recharge Water Demand}} \right) + \text{Recycled Water Rate}$$

#### 3.1.1 Proposed Recycled Water Direct Use Rate: Alternative 1

Table 8 presents the calculation of the proposed recycled water direct use rates for each year of the study period under the current rate structure. The rates presented would be charged to all users of recycled water whether for direct use or recharge.

Table 8 Proposed Recycled Water Direct Use Rate (\$/AF)

	Current Rates	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Required Revenues from Rates (millions)		\$18.65	\$19.69	\$20.77	\$21.92	\$23.14
Projected Demands (AF)		34,000	34,000	34,000	34,000	34,000
<b>Recycled Water Direct Use Rate per AF</b>	<b>\$520.00</b>	<b>\$549.00</b>	<b>\$579.00</b>	<b>\$611.00</b>	<b>\$645.00</b>	<b>\$680.00</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

### 3.1.2 Proposed Recharge Surcharge Rate – All Alternatives

The Agency’s recharge water customers are charged a per AF surcharge in addition to the recycled water rate. Table 9 presents the calculation of the proposed recharge surcharge rates as well as the total rate for recharge water for each year of the study period under the current rate structure. The recharge surcharges shown in Table 9 would be applicable under Alternative 1 as well as the other rate structure alternatives discussed in subsequent sections.

Table 9 Proposed Recharge Water Surcharge Rate (\$/AF)

	Current Rates	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Required Revenues from Rates (millions)		\$1.60	\$2.40	\$3.20	\$3.30	\$3.39
Projected Demands (AF)		16,000	16,000	16,000	16,000	16,000
<b>Recharge Surcharge Rate per AF</b>	<b>\$60.00</b>	<b>\$100.00</b>	<b>\$150.00</b>	<b>\$200.00</b>	<b>\$206.00</b>	<b>\$212.00</b>
Direct Usage Rate per AF (Alt. 1)	\$520.00	\$549.00	\$579.00	\$611.00	\$645.00	\$680.00
<b>Total Recharge Rate per AF (Alt. 1)</b>	<b>\$580.00</b>	<b>\$649.00</b>	<b>\$729.00</b>	<b>\$811.00</b>	<b>\$851.00</b>	<b>\$892.00</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

### 3.2 Potential Fixed Charges – Alternatives 2 and 3

As an alternative to the current variable-only rate structure, the study explored developing rate structures that would add a fixed charge component for the for recycled water. The implementation of a fixed charge, combined with a commodity charge, would provide revenue stability for the recycled water program. In addition to the Alternative 1 (current rate structure), IEUA has considered an alternative rate structure (Alternative 2) that uses each member agency’s **three-year rolling average** direct use and recharge water demands as a basis for implementing a fixed charge as well as a third structure (Alternative 3) that would phase in the fixed charge component over a three-year period. The alternatives presented in this report include:

- Alternative 1: Retain Current Rate Structure (Section 3.1).
- Alternative 2: Fixed Charge Based on Three-year Rolling Average Demands.
- Alternative 3: Phase-in of Fixed Charge Based on Three-year Rolling Average Demands. Three year rate adoption (FY 2022/23, FY 2023/24, and FY 2024/25)

#### 3.2.1 Previously Presented Alternatives

In addition to Alternatives 1, 2, and 3 the study reviewed additional methods for assessing a fixed charge, with those options presented to the member agencies during the workshops. However, based on feedback from the member agencies, those options were ruled out and are therefore not discussed in this report.

- Alternative 4 (discontinued): Fixed Charge Based on EDUs.
- Alternative 5 (discontinued): Fixed Charge Based on EDUs (Recharge Portion) and Three-year Rolling Average (Direct Use Portion).
- Alternative 6 (discontinued): Take-or-pay Recycled Water Rates.

### 3.2.2 Fixed and Variable Rate Revenue Requirements

The first step in developing a fixed charge is defining which costs should be recovered via the fixed charge component or the volumetric rate. The majority of the recycled water program operating and non-operating costs are fixed, with the exception of utility costs and a small amount of other expenses. However, the analysis and feedback from the member agencies indicated that the imposition of a fixed charge set to recover all fixed costs could result in significant cost shifting between the member agencies and could be difficult for the member agencies to integrate into their retail rates. To balance the needs of the member agencies and IEUA, this analysis focused on developing limited fixed charges set to cover the Recycled Water fund’s annual debt service costs, less any other contributions toward debt service. Table 10 shows the assignment of recycled water expenses and offsetting revenues to the fixed and variable rate components.

Table 10 Fixed and Variable Components

Revenue Requirement Component	Rate Component
<b>Expenses</b>	
Operating and Maintenance	Volumetric
Capital Projects	Volumetric
Debt Service	<b>Fixed</b>
Support to GG (operations and capital)	Volumetric
<b>Offsetting Revenues (O&amp;M and Capital)</b>	
Interest Earnings	Volumetric
Connection Fees (Capital)	Volumetric
Capital Cost Reimbursement	Volumetric
Property Taxes (Capital & Recharge Surcharge Phase-In)	Volumetric
<b>Offsetting Revenues (Debt Service)</b>	
Property Taxes	<b>Fixed</b>
Connection Fees (debt service)	<b>Fixed</b>
RC Debt Service Support	<b>Fixed</b>

The projected fixed charge revenue requirements are shown in Table 11. Fixed charge revenues would be set at \$4.42 million in FY 2022/23 and increase to \$5.41 million through FY 2026/27. Offsetting revenues from property taxes and connection fees to offset debt service would be used to smooth the amount of fixed revenue to be collected each year and avoid fluctuations in the fixed charge due to changes in annual debt service payments. Over a five-year study period, approximately 21-percent of rate revenues would be recovered through the fixed charges with the remaining 79-percent recovered through the variable charge.

Property taxes are used to offset a portion of debt payments in FY 2022/23 through FY 2024/25. The use of those offsets will need to be reevaluated after that time as debt service on the Agency’s outstanding loans decreases after FY 2024/25. The property tax revenues may potentially be reassigned to cover a share of capital program costs as proposed in Table 4.



As discussed previously, the Agency can also use a portion of One Water connection fee revenues to cover a share of debt service on the excess capacity of existing system assets, as well as future debt service for growth related projects. Moving forward, the Agency intends to take advantage of this ability and allocate a portion of connection fee revenues to cover eligible Recycled Water debt service costs. The use of connection fee revenues in this manner will help to smooth the year-over-year changes in fixed revenue collection and help the Agency account for fluctuations in the annual connection fee revenues caused by varying development.

The Agency also applies a transfer of property tax revenues from the Regional Wastewater Capital Improvement fund to cover a specific portion of the Recycled Water fund debt service costs based on specific projects that were completed. This transfer will not be modified by this study.

The recharge surcharge does not support debt service costs; therefore, no fixed charge component is necessary for the recharge surcharge rate. Under the options presented below, the proposed recharge surcharge would be equal to the surcharge presented previously in Table 9 (i.e. \$100 per AF in FY 2022/23 increasing to \$212 per AF by FY 2026/27).

Table 11 Recycled Water Fixed Charge Revenue Requirement (\$ millions)

Fixed Revenue Requirements	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Debt Service	\$14.31	\$15.30	\$14.58	\$8.08	\$8.08
<b>Offsetting Revenues</b>					
Property Taxes	(\$2.34)	(\$1.90)	(\$1.45)	\$0.00	\$0.00
Connection Fees (debt service)	(\$5.00)	(\$6.00)	(\$5.50)	\$0.00	\$0.00
RC Debt Service Support	(\$2.55)	(\$2.67)	(\$2.67)	(\$2.67)	(\$2.67)
<b>Total to Collect Through Fixed Charge</b>	<b>\$4.42</b>	<b>\$4.73</b>	<b>\$4.96</b>	<b>\$5.40</b>	<b>\$5.41</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

The revenue requirements previously presented in Table 6 represent the total amount of revenue that must be recovered through rates for the Recycled Water fund. If a fixed charge component is implemented, the total revenue requirement would be split between the fixed and variable charges.

The goal of implementing the fixed charges would be to recover the fixed rate revenue requirements shown in Table 11. The remaining rate revenue requirement, after subtracting the fixed rate component from the total, is the variable component that is used to develop a reduced variable rate per AF for direct recycled water use as shown in Table 12. Like the current rate structure, the presented direct usage rates would be assessed to all recycled water demands (direct and recharge).

Table 12 shows the calculation of the variable revenue requirement and the resulting direct use and total recharge rates. If a fixed charge is included to the maximum level in FY 2022/23, the proposed direct recycled water variable rate for FY 2022/23 would be \$418 per AF, and the recharge water variable rate (a combination of the direct recycled rate and the recharge surcharge) would be \$518 per AF. After that time, the direct use rate would begin to increase to follow increases in variable revenue requirements.

Table 12 Variable Revenue Requirements and Rates with Fixed Charge (\$ millions)

Budget Item	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating and Maintenance	\$12.50	\$13.26	\$13.56	\$13.77	\$13.92
Capital Projects	5.55	2.15	3.00	5.00	7.00
Support to GG (operations and capital)	0.05	0.05	0.07	0.03	0.03
<b>Variable Rate Revenue Requirement</b>	<b>\$18.11</b>	<b>\$15.45</b>	<b>\$16.64</b>	<b>\$18.80</b>	<b>\$20.95</b>
Less: Interest Earnings	(\$0.54)	(\$0.55)	(\$0.57)	(\$0.62)	(\$0.67)
Less: Connection Fees (Capital)	(1.33)	(0.58)	(0.86)	(1.27)	(1.67)
Less: Capital Cost Reimbursement	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)
Less: Property Taxes (Capital)	0.00	(0.48)	(0.97)	(2.46)	(2.50)
Less: Operating Cash Flow (Use of Reserves)	(1.91)	1.22	1.67	2.15	1.72
<b>Total to Collect Through Variable Rates</b>	<b>\$14.23</b>	<b>\$14.97</b>	<b>\$15.81</b>	<b>\$16.51</b>	<b>\$17.73</b>
Recycled & Recharge Water Demands (AF)	34,000	34,000	34,000	34,000	34,000
<b>Direct Recycled Water Rate (\$/AF)</b>	<b>\$418.00</b>	<b>\$440.00</b>	<b>\$465.00</b>	<b>\$486.00</b>	<b>\$521.00</b>
Recharge Surcharge (\$/AF)	\$100.00	\$150.00	\$200.00	\$206.00	\$212.00
<b>Total Recharge Rate (\$/AF)</b>	<b>\$518.00</b>	<b>\$590.00</b>	<b>\$665.00</b>	<b>\$692.00</b>	<b>\$733.00</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes. All values in millions of dollars.

### 3.2.3 Proposed Alternative 2: Three-Year Rolling Average Demands

Alternative 2 allocates fixed charge costs based on the three-year rolling average of recycled and recharge water demands. The allocated fixed revenue collection for each year would be apportioned to each recycled water user based on their proportionate share of three-year rolling average demands. This methodology recognizes that the Agency constructed and operates the system, and plans for future improvements, to provide capacity to serve expected member agency demands. Thus, the historic member agency demands are used as a measure of the system capacity, and fixed costs, required to serve each member agency's demands.

The calculation relies on total recycled water usage from each agency (recycled and recharge) since the greater recycled water system (transmission, distribution, etc.) is necessary to provide water for direct use as well as recharge. Table 13 shows the projected three-year rolling average consumption for each recycled water user. The overall fixed revenue collected each year would remain consistent with projections because the Agency would adopt the total fixed revenues to be collected, rather than a unit rate.

Table 13 Total Recycled and Recharge Water Three-Year Rolling Average Demands

User	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
City of Ontario	9,794	10,415	10,806	12,008	12,008
City of Chino	5,479	5,449	5,821	5,911	5,911
City of Chino Hills	2,768	2,962	3,143	3,149	3,149
City of Upland	2,014	2,204	2,343	2,362	2,362
City of Fontana	2,963	3,370	3,600	3,595	3,595
CVWD	6,701	7,397	7,467	5,921	5,921
City of Montclair	909	999	1,063	1,054	1,054
<b>Total Recycled &amp; Recharge Three-Year Rolling Average Demand</b>	<b>30,628</b>	<b>32,796</b>	<b>34,243</b>	<b>34,000</b>	<b>34,000</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes. All values in acre-feet (AF).

The overall fixed revenue requirements to be allocated among the other users is the fixed rate revenue requirement shown in Table 11. Each user’s share is set by multiplying the fixed revenue requirement by their share of three-year rolling average consumption. Table 14 shows an example of the fixed revenue allocation under Alternative 2 for FY 2022/23.

Table 14 Alternative 2 FY 2022/23 Fixed Revenue Allocation Example

User	Three-Year Rolling Average Demand Projected As of FY 2022/23		Allocated Fixed Revenues
	AF	%	\$ millions
City of Ontario	9,794	32%	\$1.41
City of Chino	5,479	18%	\$0.79
City of Chino Hills	2,768	9%	\$0.40
City of Upland	2,014	7%	\$0.29
City of Fontana	2,963	10%	\$0.43
CVWD	6,701	22%	\$0.97
City of Montclair	909	3%	\$0.13
<b>Total</b>	<b>30,628</b>	<b>100.0%</b>	<b>\$4.42</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Table 15 shows an example of the total revenue calculation under Alternative 2 for FY 2022/23.

Table 15 FY 2022/23 Total Revenue Calculation Example

User	Direct Use	Recharge	Variable Revenues	Fixed Revenues (Alt 2)	Total Revenues
Rate	\$418.00	\$518.00	\$ millions	\$ millions	\$ millions
	AF	AF			
City of Ontario	8,423	3,585	\$5.38	\$1.41	\$6.80
City of Chino	5,395	516	\$2.53	\$0.79	\$3.32
City of Chino Hills	1,645	1,504	\$1.47	\$0.40	\$1.87
City of Upland	775	1,587	\$1.15	\$0.29	\$1.44
City of Fontana	277	3,319	\$1.84	\$0.43	\$2.26
CVWD	1,156	4,765	\$2.95	\$0.97	\$3.92
City of Montclair	330	724	\$0.51	\$0.13	\$0.64
<b>Total</b>	<b>18,000</b>	<b>16,000</b>	<b>\$15.83</b>	<b>\$4.42</b>	<b>\$20.25</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes. All values in millions of dollars.

### 3.2.4 Proposed Alternative 3: Phase-in of Three-Year Rolling Average Demands

Alternative 3 modifies Alternative 2 to include a phase in of the fixed charges over a three-year period. Additionally, based on feedback from the member agencies, Alternative 3 would only adopt rates for the three year period FY 2022/23 through FY 2024/25. The fixed charges and rates shown in the tables below for FY 2025/26 and FY 2026/27 are included for evaluation purposes and will be refined or recalculated prior to the next rate cycle beginning in FY 2025/26. As in Alternative 2, the allocated fixed revenue collection for each year would be apportioned to each recycled water user based on their proportionate share of three-year rolling average demands.

Table 16 presents the determination of fixed revenues for each year with the phase-in. The ramp-up of fixed revenue collection is accomplished by adjusting the fixed revenue requirements from Table 11, with 25-percent of identified fixed revenue requirements to be collected through the fixed charge in FY 2022/23, 50-percent in FY 2023/24, and 100-percent thereafter.

Table 16 Recycled Water Fixed Charge Revenues with Phase-In (Alt. 3) (\$ millions)

Fixed Revenue Requirements	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Debt Service	\$14.31	\$15.30	\$14.58	\$8.08	\$8.08
<b>Offsetting Revenues</b>					
Property Taxes	(\$2.34)	(\$1.90)	(\$1.45)	\$0.00	\$0.00
Connection Fees (debt service)	(\$5.00)	(\$6.00)	(\$5.50)	\$0.00	\$0.00
RC Debt Service Support	(\$2.55)	(\$2.67)	(\$2.67)	(\$2.67)	(\$2.67)
<b>Identified Fixed Charge Revenue Requirements</b>	<b>\$4.42</b>	<b>\$4.73</b>	<b>\$4.96</b>	<b>\$5.40</b>	<b>\$5.41</b>
Phase-in Adjustment	(\$3.32)	(\$2.36)	\$0.00	\$0.00	\$0.00
<b>Total to Collect Through Fixed Charge</b>	<b>\$1.11</b>	<b>\$2.36</b>	<b>\$4.96</b>	<b>\$5.40</b>	<b>\$5.41</b>
<b>Percent of Fixed Revenue Requirements to Collect Via Fixed Charge</b>	<b>25%</b>	<b>50%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Because the overall recycled water revenue requirements are the same regardless of the rate structure alternative, the phase-in of fixed charges will result in higher variable revenue requirements and volumetric rates during the phase-in. Table 17 shows the calculation of variable revenue requirements adjusted to account for the fixed charge phase-in as well as the resulting rates per AF.

Table 17 Variable Revenue Requirements and Rates with Fixed Charge Phase-In (Alt. 3) (\$ millions)

Variable Rate Revenue Requirements	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Operating and Maintenance	\$12.51	\$13.26	\$13.56	\$13.77	\$13.93
Capital Projects	\$5.55	\$2.15	\$3.00	\$5.00	\$7.00
Support to GG (operations and capital)	\$0.05	\$0.05	\$0.07	\$0.03	\$0.03
<b>Variable Revenue Requirements</b>	<b>\$18.11</b>	<b>\$15.46</b>	<b>\$16.63</b>	<b>\$18.80</b>	<b>\$20.96</b>
<b>Offsetting Revenues</b>					
Interest Earnings	(\$0.54)	(\$0.55)	(\$0.57)	(\$0.62)	(\$0.67)
Connection Fees (Capital)	(\$1.33)	(\$0.58)	(\$0.86)	(\$1.27)	(\$1.67)
Capital Cost Reimbursement	(\$0.09)	(\$0.09)	(\$0.10)	(\$0.10)	(\$0.10)
Property Taxes (Capital)	\$0.00	(\$0.48)	(\$0.97)	(\$2.46)	(\$2.50)
Operating Cash Flow (Use of Reserves)	(\$1.91)	\$1.22	\$1.67	\$2.15	\$1.72
<b>Identified Variable Rate Revenue Requirements</b>	<b>\$14.23</b>	<b>\$14.97</b>	<b>\$15.81</b>	<b>\$16.51</b>	<b>\$17.73</b>
Phase-in Adjustment	\$3.32	\$2.36	\$0.00	\$0.00	\$0.00
<b>Total to Collect Through Variable Rates</b>	<b>\$17.55</b>	<b>\$17.33</b>	<b>\$15.81</b>	<b>\$16.51</b>	<b>\$17.73</b>
Total Recycled and Recharge Sales (AF)	34,000	34,000	34,000	34,000	34,000
<b>Recycled Water Rate (\$/AF)</b>	<b>\$516.00</b>	<b>\$510.00</b>	<b>\$465.00</b>	<b>\$486.00</b>	<b>\$521.00</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

The overall fixed revenue requirements to be allocated among the other users is the fixed rate revenue requirement shown in Table 16. Each user's share is set by multiplying the fixed revenue requirement by their share of three-year rolling average consumption. Table 18 shows an example of the fixed revenue allocation under Alternative 3 for FY 2022/23.

Table 18 Alternative 3 FY 2022/23 Fixed Revenue Allocation Example

User	Three-Year Rolling Average Demand Projected As of FY 2022/23		Allocated Fixed Revenues \$ millions
	AF	%	
City of Ontario	9,794	32.0%	\$0.35
City of Chino	5,479	17.9%	\$0.20
City of Chino Hills	2,768	9.0%	\$0.10
City of Upland	2,014	6.6%	\$0.07
City of Fontana	2,963	9.7%	\$0.11
CVWD	6,701	21.9%	\$0.24
City of Montclair	909	3.0%	\$0.03
<b>Total</b>	<b>30,628</b>	<b>100.0%</b>	<b>\$1.11</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Table 19 shows an example of the total revenue calculation under Alternative 3 for FY 2020/21.

Table 19 FY 2022/23 Total Revenue Calculation Example

User	Direct Use	Recharge	Variable Revenues	Fixed Revenues (Alt 3)	Total Revenues
Rate	\$516.00	\$616.00	\$ millions	\$ millions	\$ millions
	AF	AF			
City of Ontario	8,423	3,585	\$6.56	\$0.35	\$6.91
City of Chino	5,395	516	\$3.10	\$0.20	\$3.30
City of Chino Hills	1,645	1,504	\$1.78	\$0.10	\$1.88
City of Upland	775	1,587	\$1.38	\$0.07	\$1.45
City of Fontana	277	3,319	\$2.19	\$0.11	\$2.29
CVWD	1,156	4,765	\$3.53	\$0.24	\$3.77
City of Montclair	330	724	\$0.62	\$0.03	\$0.65
<b>Total</b>	<b>18,000</b>	<b>16,000</b>	<b>\$19.15</b>	<b>\$1.11</b>	<b>\$20.25</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

### 3.2.5 Fixed Charge Revenue Comparison

The above rate structure alternatives provide IEUA with different ways to recover fixed revenues for the recycled and recharge water funds. Under each alternative, the total revenues from each user would be equal to their allocated share of fixed costs plus their variable charges based on their usage in each year and the rates shown in Table 8 and Table 9 for the current rate structure or Table 12 or Table 17 for the fixed structure alternatives. Table 20 illustrates the projected average annual revenue to be recovered for both the direct use and groundwater recharge rates by each user under each alternative for FY 2022/23 through FY 2026/27. As shown, differences in total revenue from each user would be minimal for the analyzed alternatives based on the projected recycled water and recharge water demands. If demands change disproportionately among the users, revenues from each user would adjust to reflect those changes.

Table 20 FY 2022/23 through FY 2026/27 Average Revenue by User, Direct and Recharge (\$ millions)

User	Alt 1: Current Structure	Alt 2: Three-Year Rolling Average	Alt 3: Phase-In Three-Year Rolling Average
City of Ontario	\$8.0	\$7.9	\$7.9
City of Chino	\$3.7	\$3.7	\$3.7
City of Chino Hills	\$2.2	\$2.2	\$2.2
City of Upland	\$1.7	\$1.7	\$1.7
City of Fontana	\$2.8	\$2.8	\$2.8
CVWD	\$4.5	\$4.6	\$4.5
City of Montclair	\$0.8	\$0.8	\$0.8
<b>Total Revenue</b>	<b>\$23.6</b>	<b>\$23.6</b>	<b>\$23.6</b>

Notes:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Table 21 presents the percent of total revenue to be collected for each alternative, by each user for FY 2022/23 through FY 2026/27. As shown, the change in percent of total recycled and recharge revenue from each user would be within 0.5%.

Table 21 Five-Year Average Revenue Comparison, User Percent Share of Total Revenues

User	Alt 1: Current Structure	Alt 2: Three-Year Rolling Average	Alt 3: Phase-In Three-Year Rolling Average
City of Ontario	33.8%	33.4%	33.5%
City of Chino	15.7%	15.7%	15.7%
City of Chino Hills	9.3%	9.3%	9.3%
City of Upland	7.3%	7.3%	7.3%
City of Fontana	11.8%	11.7%	11.8%
CVWD	18.9%	19.4%	19.2%
City of Montclair	3.3%	3.3%	3.3%
<b>Total Revenue</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Note:

(1) Presented totals may vary from values above due to rounding for presentation purposes.

Figure 2 shows the projected recycled and recharge revenue from each user under Alternative 2. As shown in the lighter colored bars at the bottom of the chart, fixed revenues from each user would remain relatively consistent from year to year and variable revenues would increase.

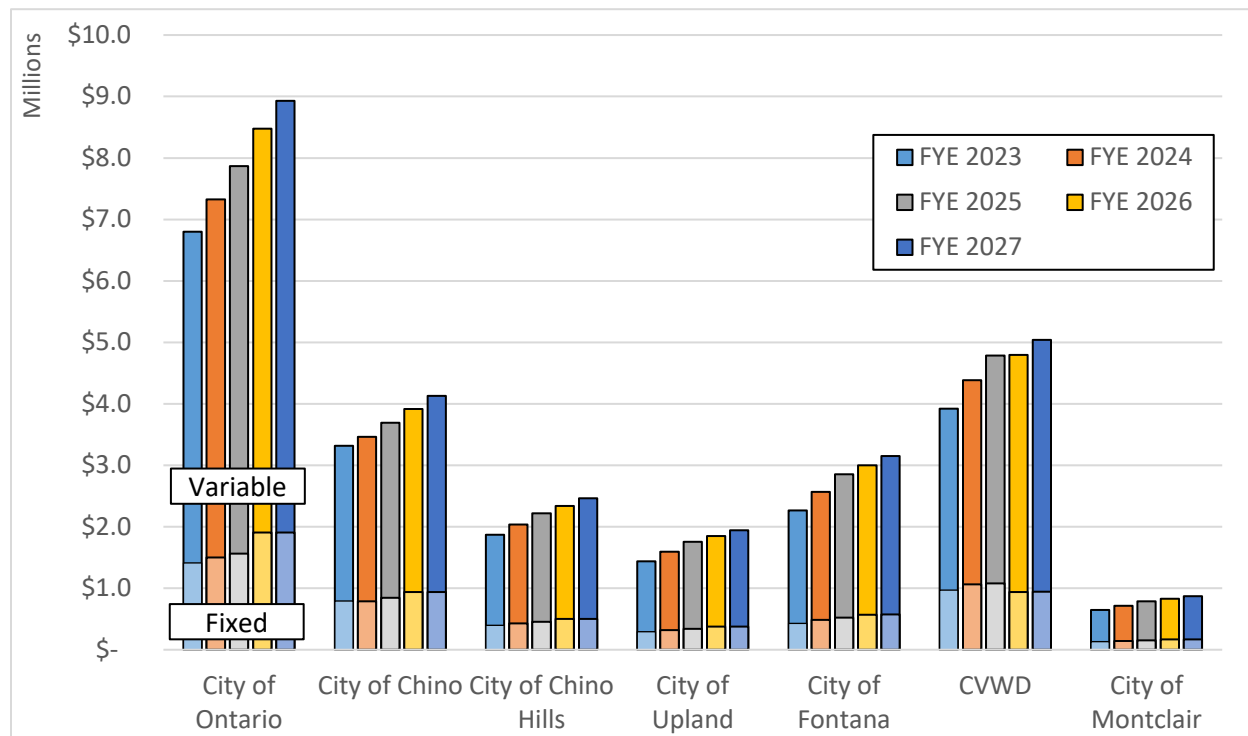


Figure 2 Alternative 2: Total Recycled and Recharge Fixed Charge Revenues, by User

Figure 3 shows the projected recycled and recharge revenue from each user under Alternative 3. As shown in the lighter colored bars at the bottom of the chart, fixed revenues collection would be phased in over the first three fiscal years (FY 2022/23 through FY 2024/25). After that time, fixed revenue collection would increase based on the identified fixed revenue requirements.

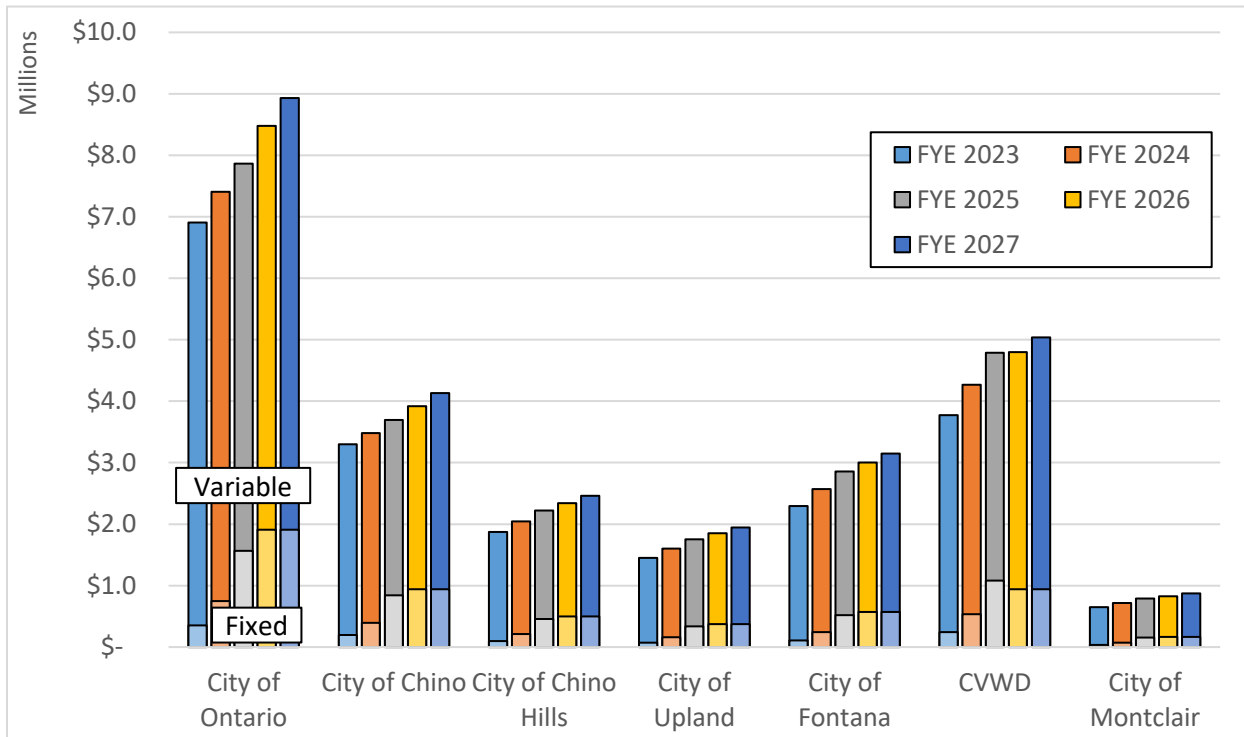


Figure 3 Alternative 3: Total Recycled and Recharge Fixed Charge Revenues, by User



## Section 4

# CONCLUSION AND RECOMMENDATIONS

Based on the Study findings, rate revenue increases are necessary for the direct use and recharge recycled water. Along with increases to the overall amount of rate revenue, IEUA should consider the implementation of a fixed charge to recover debt service less offsetting revenues for debt service as presented in Section 3. Implementing a phase-in of fixed charges as in Alternative 3 would help to mitigate cost recovery shifting between the member agencies and allow them to more easily integrate the charges into their financial planning. To meet these objectives, Carollo recommends that IEUA takes the following actions:

- Continue to perform financial planning for the recycled water fund based on conservative demand projections of 34,000 AFY to lower the risk of future revenue shortfalls.
- Implement rate revenue adjustments for the direct use rates and recycled water component of the overall recharge rate at approximately 5.5-percent per year.
- Phase-in full cost recovery for the recharge surcharge over the rate study period.
- Implement a fixed charge allocated to each member agency based on three-year rolling average total use (direct plus recharge) to recover annual debt service less offsetting revenues to better match cost recovery to how those costs are incurred, provide a stable source of funds for debt service payments, and decrease revenue volatility for the recycled water fund.
- Consider phasing in fixed charges to mitigate member agency impacts (Alternative 3).
- In recognition of feedback from the member agencies, adopt rates for the three-year period of FY 2022/23 through FY 2024/25. This timeframe, shorter than the five-year rate cycle that IEUA has used in the past, will allow IEUA and the member agencies to evaluate the efficacy of the fixed charge over a shorter period, and if necessary make refinements prior to the next rate cycle.

Table 22 shows the recommended rates and fixed charges.

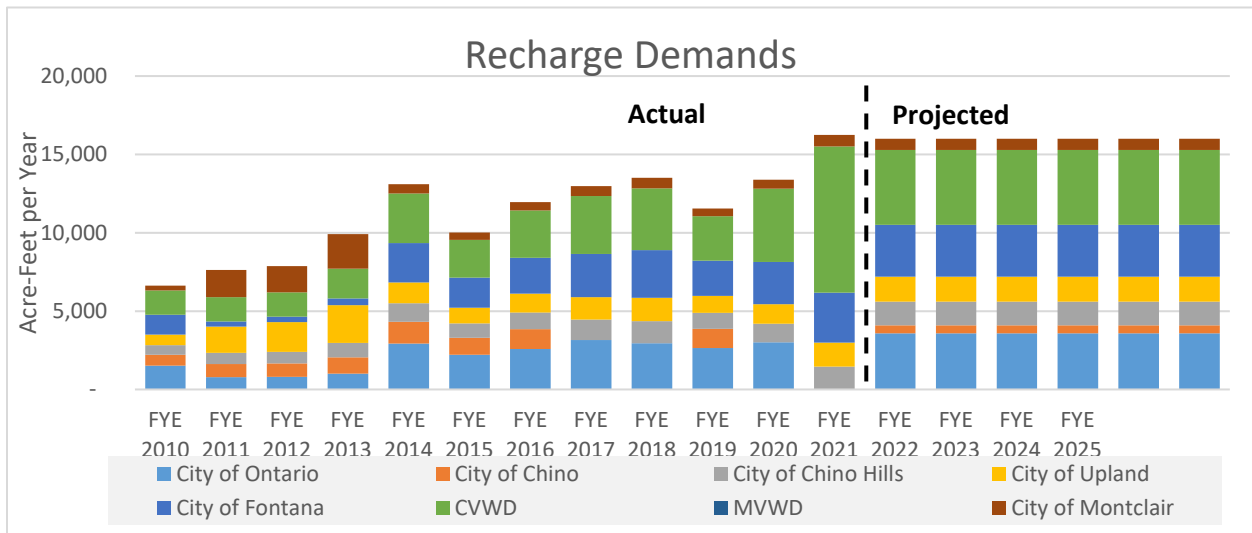
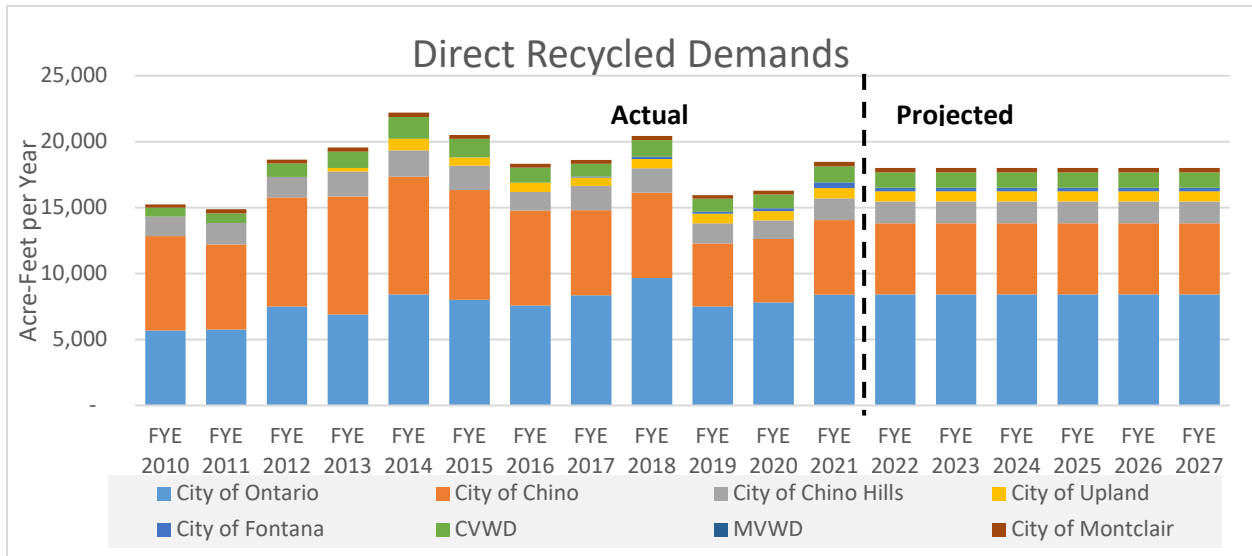
Table 22 Recommended Rates

Rate Component	Current	FY 2022/23	FY 2023/24	FY 2024/25
<b>Fixed Revenue (millions)</b>	<b>N/A</b>	<b>\$1.11</b>	<b>\$2.36</b>	<b>\$4.96</b>
<i>Fixed revenue to be allocated to each member agency based on three-year rolling average total use (direct plus recharge).</i>				
<b>Recycled Water Rate (\$/AF)</b>	<b>\$520</b>	<b>\$516</b>	<b>\$510</b>	<b>\$465</b>
Recharge Surcharge (\$/AF)	\$60	\$100	\$150	\$200
<b>Total Recharge Rate (\$/AF)</b>	<b>\$580</b>	<b>\$616</b>	<b>\$660</b>	<b>\$665</b>

## Appendix A

# HISTORIC AND PROJECTED DEMANDS

Direct Recycled Water and Recharge Water demands for each member agency are shown in the figures below. Given total direct and recharge water demands projected by IEUA, demands by user were projected based on their 3-year average share of direct or recharge demands during FY 2018/19 through FY 2020/21. Additional detail is provided in the tables on the following pages.



Appendix B  
**FINANCIAL PROJECTIONS**

Appendix C

## CAPITAL PROJECTS