

COST ANALYSIS OF IRRIGATION SERVICES AND IRRIGATION RATE  
RECOMMENDATIONS  
SOUTH SAN JOAQUIN IRRIGATION DISTRICT

May 2023

**Prepared for:**

South San Joaquin Irrigation District  
PO Box 747  
Ripon, CA 95366-9750

**Prepared by:**

Rick Besecker, Brian Ehlers, PE and Ed Caminata, PE  
Provost & Pritchard Consulting Group  
in conjunction with South San Joaquin Irrigation District Staff  
4701 Sisk Road, Suite 102  
Modesto, CA 95356

# Table of Contents

- 1 Executive Summary..... 1
- 2 Introduction to SSJID..... 2
  - 2.1 District’s Water Master Plan Findings..... 2
  - 2.2 Report Organization and Methodology ..... 4
  - 2.3 Legal Requirements ..... 4
    - 2.3.1 Irrigation District Law ..... 5
    - 2.3.2 Proposition 218..... 5
- 3 Irrigation Services Provided by SSJID ..... 6
  - 3.1 Agricultural Water Delivery ..... 6
  - 3.2 Agricultural Irrigation Drainage ..... 6
    - 3.2.1 Non-Irrigation Related Drainage Services..... 7
    - 3.2.2 Agricultural Stormwater Drainage ..... 7
    - 3.2.3 Urban Stormwater Drainage..... 7
  - 3.3 Capital Improvements..... 7
  - 3.4 Protection of Property Rights and Water Rights ..... 9
    - 3.4.1 SSJID’s Real Property Interests..... 9
    - 3.4.2 Water Rights..... 10
  - 3.5 Key Metrics for the Cost-of-Service Analysis and Rate Design ..... 10
    - 3.5.1 District Acreage and Irrigation Method ..... 10
    - 3.5.2 District Annual Water Deliveries..... 10
- 4 Revenue Requirements..... 10
  - 4.1 Cost of Irrigation Services ..... 10
  - 4.2 Irrigation Revenues ..... 12
    - 4.2.1 Irrigation Rate Revenue ..... 12
    - 4.2.2 Raw-water Sales – Nick C. DeGroot Water Treatment Plant (WTP) ..... 12
    - 4.2.3 Water Transfers ..... 13
  - 4.3 General Purpose Revenues ..... 13
    - 4.3.1 Tri-Dam Hydropower ..... 14
    - 4.3.2 Property Tax Revenues ..... 14
- 5 Cost of Service and Rate Design..... 14
  - 5.1 Current Rates ..... 14
  - 5.2 Considerations for SSJID Board of Directors..... 15

5.3 Recommended Rates ..... 15

## Table of Tables

Table 1. 2024-2028 Proposed Irrigation Rates ..... 1  
Table 3-1. CIP—Irrigated Capital Improvement Portion..... 9  
Table 4-1. Fiscal Year 2023 Projected Irrigation Operating Expenses (1,000’s) ..... 11  
Table 5-1. Fiscal Year 2023 Projected Irrigation Operating Revenues..... 15  
Table 5-2. 2024-2028 Proposed Irrigation Rates and Projected Operating Revenues ..... 16  
Table 5-3. 2024-2028 Projected Irrigation Operations Budget ..... 18

# 1 Executive Summary

This cost analysis report is for South San Joaquin Irrigation District’s irrigation system and facilities, including a strategic \$191 million Capital Improvement Plan (CIP) investment. In 2022, South San Joaquin Irrigation District (SSJID or District) adopted its most recent Water Master Plan (WMP). The District’s Financial Projection Model (FPM) was used to develop the financial strategy for the implementation of the WMP CIP. While the District’s current financial position is strong in terms of cash reserves, the District’s current business model appears to be unsustainable in the long term. A continuation of the District’s current business model would lead to a continued decline in service for parts of the District, an eventual failure of District-owned pipeline laterals and infrastructure, and a growing gap between irrigation rate revenues and the cost of providing irrigation service, which would eventually lead to depleted District financial reserves.

The cost of Irrigation Services continues to grow due to inflationary pressures, regulatory requirements, and customer needs; however, the District’s \$24 per acre irrigation rate has been the same since 2000. To cover the District’s irrigation operating losses, the District currently uses other non-rate revenue sources such as the Tri-Dam Project revenues, property tax revenues and out-of-District water sales to cover the deficit. The District proposes an increase of irrigation rates to decrease the gap between the irrigation rate revenue and the cost of providing irrigation services, while also funding the WMP CIP. The rate increase is proposed as a “stepped” increase over the next 5 years, at which time the District will evaluate and revise its financial strategy, consistent with Proposition 218 requirements.

In accordance with Proposition 218, a Cost-of-Service Analysis and Rate Design was completed. For the 2023 water year, District staff project operating expenditures of nearly \$18 million, of which \$15.7 million are fixed costs and \$2.3 million are volumetric costs, proportional to the amount of water delivered. Using the District’s current rate structure; \$24 per acre served and \$3 per acre-foot of water delivered, projected 2023 revenue for irrigation water (including the flat rate and the volumetric rate) totals \$1.7 million; which is less than 10 percent of the Cost of Service. The remaining \$16.3 million in expenses will be covered by revenue from other non-irrigation sources.

Historically, as a matter of policy, the District has kept irrigation water rates low for affordability and to encourage the use of available surface water supplies in lieu of groundwater. The District proposes to continue this policy, but at a sustainable level, consistent with revenues identified in the WMP. The proposed Flat Rate and Volumetric Rate will increase annually over the next 5 years, matching the revenue identified in the WMP in the year 2026.

**Table 1. 2024-2028 Proposed Irrigation Rates**

Charge Category	2024	2025	2026	2027	2028
Fixed - per acre	\$ 38.00	\$ 52.00	\$ 60.00	\$ 65.00	\$ 70.00
Volumetric - Tier 1 (<= 48") - per AF	\$ 5.00	\$ 7.50	\$ 10.00	\$ 10.75	\$ 11.75
Volumetric - Tier 2 (> 48") - per AF	\$ 12.50	\$ 15.00	\$ 17.50	\$ 18.25	\$ 20.00
Minimum Charge	\$ 50.00	\$ 52.00	\$ 60.00	\$ 65.00	\$ 70.00
Blended Charge per Acre	\$ 50.17	\$ 70.13	\$ 84.17	\$ 90.98	\$ 98.40

In 2026, the District proposes a Flat Rate of \$60 per acre and a Volumetric Rate of \$10 per acre-foot for the first 48 inches. Using historical water delivery data, this equates to an average charge of \$84.17 per

acre. Using the projected costs and proposed rates for the years 2024 to 2028, irrigation services costs are estimated to exceed irrigation revenue by \$13.5 million per year, down from \$16.7 million in 2023 projections.

## 2 Introduction to SSJID

SSJID was formed in 1909 by a 396 to 67 vote in a publicly held election, and five members elected to the SSJID Board of Directors. Similarly formed, the Oakdale Irrigation District (OID) and SSJID purchased the Tulloch System and with it some of the oldest rights to the Stanislaus River. In 1910, OID and SSJID issued bonds to construct the diversion works, conveyance canals, and drainage facilities for the purpose of transforming the area's economy through irrigated agriculture. SSJID completed construction of Woodward Reservoir in 1916 to help protect against drought years when Stanislaus River flows were unavailable. In 1925, SSJID and OID jointly initiated construction of Old Melones Dam further increasing dry year storage capabilities. In 1948, SSJID and OID formed the Tri-Dam Project partnership and began constructing Donnell, Beardsley, and Tulloch Reservoirs. SSJID and OID share 50/50 in the hydropower and water supply benefits of the Tri-Dam Project, including but not limited to revenues from the sales of hydroelectricity.

OID and SSJID hold pre-1914 water rights totaling a maximum direct diversion rate of 1,816.6 cubic feet per second from the Stanislaus River at Goodwin Dam. These rights were adjudicated by the Superior Court of San Joaquin in 1929 and by supplemental decree thereafter. In 1972, with the impending construction of New Melones Reservoir and Dam by the U.S. Bureau of Reclamation (USBR), SSJID and OID entered into an agreement with the Federal Government to recognize their senior water rights and the need to replace the storage lost from the original Old Melones Lake and Dam. In 1988, SSJID and OID entered into the 1988 Agreement and Stipulation with the USBR further recognizing the senior water rights of SSJID and OID, which also sets the season, quantity, and timing of diversions by SSJID and OID. The 1988 Agreement and Stipulation provides SSJID and OID with the first 600,000 acre-feet of inflow to New Melones annually as a first priority, with special provisions in dry years. SSJID and OID share 50/50 in the water supply benefits defined by the 1988 Agreement and Stipulation.

SSJID is fortunate to have the benefit of a reliable water supply in the Stanislaus River. Extensive use of surface water has resulted in relatively healthy groundwater levels within SSJID as compared to the rest of the Eastern San Joaquin Subbasin, much of which relies solely on groundwater. Also, in 2005, the Nick C. DeGroot Water Treatment Plant was completed, sending treated drinking water from Woodward Reservoir to the Cities of Manteca, Lathrop and Tracy (with Escalon in the design phase of connecting). Entirely dependent on groundwater before 2005, these urban areas share in the District's reliable Stanislaus River supply as a high-quality drinking water source.

### 2.1 District's Water Master Plan Findings

In 2022, SSJID adopted the Water Master Plan (WMP) for the District's irrigation system and facilities.<sup>1</sup> The WMP is a 30-year vision for the District's finances and strategic \$191 million capital improvement plan (CIP) investment. The two main goals of the WMP CIP are to improve the level of service for SSJID's irrigation customers where known deficiencies limit deliveries, and to ensure that District conveyance infrastructure, including pipeline laterals, are repaired, rehabilitated, or replaced in accordance with its service life.

---

<sup>1</sup> [https://www.ssjid.com/wp-content/uploads/SSJID\\_WaterMasterPlan\\_2022.pdf](https://www.ssjid.com/wp-content/uploads/SSJID_WaterMasterPlan_2022.pdf)

The District's financial projection model (FPM) was used to develop the financial strategy for the implementation of the WMP CIP. While the District's current financial position is strong in terms of cash reserves, the District's current business model was determined to be unsustainable in the long term. No change in the District's current business model would lead to a continued decline in service for parts of the District, eventual failure of District-owned pipeline laterals and infrastructure, and a growing gap between irrigation rate revenues and the cost of providing irrigation service, which would eventually lead to depleted District financial reserves. The WMP financial analysis highlighted several strategic endeavors to ensure a viable financial outcome with the implementation of the WMP CIP.

The following list of strategic endeavors was formulated based on the District's work in developing the WMP:

1. The District's current irrigation service business model is unsustainable, and the District should immediately embark on an irrigation rate increase. The cost of Irrigation Services continues to grow due to inflationary pressures, regulatory requirements, and customer needs; however, the District's \$24 per acre irrigation rate has been the same since 2000.<sup>2</sup> To cover the District's irrigation operating losses, the District currently uses other non-rate revenue sources such as the Tri-Dam Project revenues, property tax revenues, and out-of-District water sales.
2. The District will need to develop a financing strategy for WMP CIP implementation over 30 years. Irrigation rate increases and reliance on District reserves will not sustain the level of financial expenditure identified in the WMP CIP. A reasonable level of bond funding must be considered, especially to accelerate the most impactful infrastructure projects. SSJID will evaluate and revise its financial strategy every 5 years and make revisions as necessary to reflect adjustments in priorities, pace of CIP implementation, or other changes in conditions. The 5-year increment also coincides with the Proposition 218 process, which allows for rate increases to be effective for a 5-year period. It should be noted that the District's irrigation operating losses are too large for the District to sustain even if the WMP CIP is not implemented. As mentioned previously, by not implementing the WMP CIP, certain irrigation customers will continue to see declining service levels and the District will have no choice but to operate parts of the system to failure.
3. The District evaluated WMP CIP alternatives that included full replacement of District pipeline laterals and concluded that full replacement pushed affordability beyond the capabilities of District customers. The District instead analyzed a WMP CIP alternative that assumes the District can deploy and perfect an innovative method of trenchless pipelining that would prolong the life of existing pipes, making the preferred WMP CIP alternative more affordable. The District has purchased the requisite equipment to pilot trenchless pipelining in the 2023 off-season and will eventually need to regularly line approximately 21,000 linear feet of pipe annually.
4. The District will continue to pursue other revenue sources. A major source of supplemental revenue has been Tri-Dam Project revenue from a power purchase agreement with Silicon Valley Power, which ends December 31, 2023. Tri-Dam and Silicon Valley Power have come to terms on a 5-year extension with the price of power being tied to market value and declining over the life

---

<sup>2</sup> District irrigation customers pay \$24 per acre for irrigation service, a volumetric rate of \$3 per acre-foot (up to 48") and \$10 per acre-foot (above 48") following State legislation in 2009. Pressurized irrigation customers in Division 9 pay an additional \$52 per acre-foot. Certain agricultural parcels signed off from the District's irrigation service pay a \$12 per acre recharge fee.

of the agreement. Increased frequency of future drought years resulting in decreased hydroelectric productivity remains the greatest risk of reduced Tri-Dam revenues.

The District continues to make water available to areas outside SSJID through water transfers. As the scarcity of California water continues to fuel a market for water transfers especially in dry years, regulatory pressures, and the ability to meet the needs of SSJID's own customers make water transfer a volatile revenue source at best.

Many of the projects identified in the WMP CIP have been recognized for their potential to be highly eligible for grant funding. The District will implement an approach to monitor grant opportunities and strategically prepare potential projects in a way that maximizes the likelihood of obtaining grant funding. Revenue sources obtained from third party funding can be utilized to increase the rate of CIP implementation and/or reintroduce valuable improvement projects that were removed from the adopted CIP list in attempt to maintain an affordable program.

## 2.2 Report Organization and Methodology

This Cost-of-Service Analysis is intended to bring transparency to the following areas and commensurate with all legal requirements under Proposition 218:

- 1) Identify the Irrigation Services provided by SSJID.
- 2) Establish the metrics by which current and proposed rates are calculated.
- 3) Present the full cost of providing Irrigation Service.
- 4) Present the sources of revenue including irrigation rate revenue, irrigation non-rate revenue, and General Purpose Revenues.<sup>3</sup>
- 5) Develop a rate design and calculation.
- 6) Recommend irrigation rates to be considered by the SSJID Board of Directors in a noticed public hearing that allows irrigation customers and the public the opportunity to be heard, and to conduct the protest process as required under Proposition 218.

The Board has tentatively scheduled a Public Hearing to receive protests on July 25, 2023.

## 2.3 Legal Requirements

The process for increasing customer rates for irrigation service must be done in accordance with California Law.

---

<sup>3</sup> "Irrigation rate revenue" or "operating revenues" are revenues derived from irrigation rates.

"Irrigation non-rate revenue" includes revenues from permit, inspection, and annexation fees, out-of-District water sales, etc. Irrigation non-rate revenues are generated by the District for the purpose of recovering costs incurred and/or generating offsetting revenue to supplement irrigation rate revenue to cover Irrigation Services costs.

"Non-operating revenues" include General Purpose Revenues, property tax allocations from the County, and Tri-Dam revenues.

### 2.3.1 Irrigation District Law

The Irrigation District Law, commencing at Water Code section 20500, provides authority for the District to collect charges for any service furnished by the District, including charges for irrigation water services and a charge for groundwater recharge, and to prescribe rules with respect to such charges.

### 2.3.2 Proposition 218

The District's charges for irrigation water are property-related charges subject to Proposition 218. In November 1996, the California voters approved Proposition 218, the "Right to Vote on Taxes Act," which added Articles XIII C and XIII D to the California Constitution. Proposition 218 imposes certain requirements relative to the imposition of assessments, fees, and charges by local agencies such as the District. Proposition 218 also established substantive requirements that apply to water, sewer, and storm drain rates and charges, including:

1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service.
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** – The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
4. **Availability of Service** – No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **Not Imposed for General Government Services** – No fee or charge may be imposed for general governmental services where the service is available to the public at large in substantially the same manner as it is to property owners.

The District must also follow the procedural requirements of Proposition 218 for all rate increases. These requirements include:

1. **Parcel Identification** – The District shall identify the parcels upon which the increased rates will be imposed ("affected parcels").
2. **Noticing Requirement** – The District shall provide written notice by mail of:
  - the proposed increased rates to the record owner of each parcel, and tenant if applicable;
  - the amount of the increased rates to be charged on each parcel;
  - the basis upon which the increased rates was calculated;
  - the reason for the increased rates; and
  - the date, time, and location of the public hearing on the increased rates.
3. **Public Hearing** – The District shall conduct a public hearing upon the proposed increased rates not less than 45 days after the mailing of the notice.
4. **Majority Protest** – At the hearing, the District shall consider all protests against the proposed increased rates. If written protests are received for a majority of the affected parcels, the District shall not impose the increased rates.

Charges for water, sewer, and storm drain collection are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted



pursuant to the procedural requirements of Proposition 218.

### 3 Irrigation Services Provided by SSJID

SSJID defines the scope of Irrigation Services to include: (i) agricultural irrigation water deliveries, (ii) agricultural irrigation drainage, (iii) implementation of the District's CIP, and (iv) protection of the District's property rights including real property interests and water rights. Further into this report, the Cost-of-Service Analysis details costs for providing Irrigation Services including all administrative, operations and maintenance costs attributed to the various SSJID departments fully or partially assigned to the irrigation system operation. SSJID's Departments include Administration and Finance, Engineering, Maintenance, SCADA/Telemetry, Irrigation Operations, and Shop.

The District provides other non-irrigation services such as incidental storm drainage and groundwater management and are further differentiated below. Costs to provide these services are tracked separately and covered by other irrigation non-rate revenues and/or general revenues.

#### 3.1 Agricultural Water Delivery

The District's surface water from the Stanislaus River and local groundwater supplies are the source of the District's agricultural water to its irrigation customers. The District owns and maintains hundreds of miles of tunnels, canals, pipelines, and similar facilities that allow for water conveyance and irrigation deliveries. Proposition 218 requires that agencies describe the services provided and the associated costs before rates can be applied as fees and charges. The District defines the service of agricultural water deliveries to be the administration, operations, maintenance, access, and repair of District facilities necessary for the conveyance and ultimate delivery of water to its customers. District facilities applicable to the definition of agricultural water delivery service include the Joint Supply Canal (JSC)<sup>4</sup>, Upper Main Supply Canal (UMSC), Woodward Reservoir, Main Supply Canal, pipeline and canal laterals, flow control and measurement devices, drainage canals, groundwater wells and communications towers.

Division 9 customers receive pressurized agricultural water delivered to the head of the Division 9 system from SSJID laterals, and therefore, benefit from the infrastructure listed above and are included in the definition of agricultural water deliveries and included in the Irrigation Services rate calculations. Division 9 customers pay an additional incremental rate for pressurized service, which was increased in 2021 in accordance with Proposition 218. The additional pressurized rate is not being increased at this time and has been excluded from this Cost-of-Service Analysis.

#### 3.2 Agricultural Irrigation Drainage

Drainage is a necessary part of the District's Irrigation Services. A field irrigated by flood irrigation will produce excess surface water also known as tailwater. The resulting tailwater is collected in the District's drainage ditches, laterals and drains. Flood irrigation of crops can cause areas of high groundwater and can be the cause of crop root zone saturation and other impacts to farm operations. The District owns and operates 28 groundwater wells in the western portion of the service area. District wells are primarily used to lower groundwater levels and the draining of crop root zones. At times, these wells also provide a source of supplemental water supplied to areas of the District with limited delivery capacity.

While the shift in on-farm irrigation water management has reduced the amount of on-farm-tailwater

---

<sup>4</sup> JSC maintenance costs are cost-shared based on usage, 72% SSJID and 28% OID.

generated and discharged into District drains, operational spills do occur. The District's distribution infrastructure was designed to provide flood irrigation service, which allows more forgiveness in flow rate delivery compared to pressurized systems. Existing flow control infrastructure does not allow for operators to manually refine system flows to match the precise demands of pressurized systems and the variations in flow rates that occur when multiple systems irrigate simultaneously. As a result, District drains will continue to require maintenance to not only handle on-farm tailwater discharges, but to also convey operational spills during the irrigation season. Agricultural Irrigation drainage is further differentiated from agricultural and urban stormwater drainage as subsequently described in this report.

### 3.2.1 Non-Irrigation Related Drainage Services

Non-irrigation related drainage services are considered other services provided by the District, and therefore, by law, irrigation rate revenue cannot be used to cover the cost of this particular sub-set of drainage services. The District tracks costs for non-irrigation related drainage services separately and the District uses General Purpose Revenues and irrigation non-rate revenues to cover these costs.

### 3.2.2 Agricultural Stormwater Drainage

The District's irrigation system is primarily designed to deliver irrigation water and provide irrigation related drainage. During certain rain events, the District's irrigation system is also capable of incidentally conveying stormwater away from the area to the Stanislaus River or to the Sacramento-San Joaquin Delta. This service is generally not available to all irrigation customers. Prior to connection to the District's irrigation facilities for storm drainage, an applicant must submit a permit application, and approval granted by the District. Approval by the District is conditional based on an analysis of connection feasibility, method of connection, ability of District facilities to accept storm drainage, and capacity limits. The District considers storm drainage service incidental to irrigation service and any District costs to permit and inspect the connection is covered by irrigation non-rate revenue. In extraordinary rain events such as the major flooding events of 2023, the District incurred costs caused by stormwater runoff which were tracked and covered by the District's other non-irrigation rate revenues.

### 3.2.3 Urban Stormwater Drainage

The Cities of Escalon, Ripon and Manteca have entered into agreements with the District for the discharge of urban stormwater runoff through the District's irrigation system. These agreements set forth conditions for connecting and discharging to District facilities and often include the improvement or replacement of District infrastructure at the cost of the city or developer. Additionally, the District receives an annual payment from those cities, which is used to cover costs for the maintenance and repair of infrastructure resulting from urban stormwater discharges. Irrigation rate revenues are not used to cover the incremental costs incidental to providing urban stormwater drainage.

## 3.3 Capital Improvements

In 2022, SSJID adopted the Water Master Plan (WMP) for the District's irrigation system and facilities. The WMP is a 30-year vision for the District's finances and strategic \$191 Million capital improvement plan (CIP) investment. The two main goals of the WMP CIP are to improve the level of service for SSJID's irrigation customers where known deficiencies limit deliveries, and to ensure that District conveyance infrastructure, including pipeline laterals, are repaired, rehabilitated, or replaced in accordance with its service life.

The WMP CIP is a 30-year vision for District infrastructure.<sup>5</sup> For purposes of Proposition 218 and consistent with the District's financial planning practices, the District annually evaluates its capital needs and adopts a 5-year Capital Improvement Plan (CIP) as part of the annual budget prior to January. It is important to note that the 5-year CIP is intended as a budgetary and planning tool and is again re-evaluated and updated mid-year in anticipation of the District's annual maintenance season following the end of irrigation season sometime in October.

The Irrigation capital portion of the 5-year CIP is presented below, which includes the Canyon Tunnel Project<sup>6</sup> with an estimated \$62 million price tag.<sup>7</sup> In addition to supplementing irrigation rate revenues to pay for irrigation services, the District's irrigation non-rate revenue is a major source for capital expenditures. District staff highly recommends a financing strategy that includes the issuance of bonds or low interest loans to reduce the impact of a large capital project on District Reserves. Currently non-operating revenue has been spent on Canyon Tunnel Project planning and design costs.

---

<sup>5</sup> <https://www.ssjid.com/water-master-plan/>

<sup>6</sup> The Canyon Tunnel Project was identified in the WMP as a priority capital project. The project is intended to bypass the most vulnerable sections of the Joint Supply Canal into a 2-mile-long tunnel. The Canyon Tunnel would significantly reduce the risk of a rockslides or falling debris that could catastrophically disrupt the flow of Stanislaus Water to SSJID and OID. The total current (2023) estimated Canyon Tunnel cost is \$62 Million.

<sup>7</sup> The Canyon Tunnel Project cost share is 72% SSJID and 28% OID, or \$44.6 Million and \$17.4 Million each respectively.

**Table 3-1. CIP—Irrigated Capital Improvement Portion**

	2023	2024	2025	2026	2027
<b>Capital Projects</b>					
<b>Administration</b>					
Phone System	60,000	-	-	-	-
Building Security	10,000	-	-	-	-
<b>Maintenance &amp; Engineering</b>					
Pipe remediation project	1,120,996	-	-	-	-
JSC Bypass Tunnel	1,031,040	10,822,380	20,435,960	10,217,980	-
Culvert installation at Drain 4 Discharge into FCOC	165,000	-	-	-	-
Parking turnout at Lateral Y/Z - Driveway curb cut Lateral U	98,000	-	-	-	-
Lateral Bc Capacity Enhancement	100,000	1,905,000	1,905,000	-	-
XW Connection Enhancement	1,212,700	1,070,000	-	-	-
Float Valve Installation ( 2 per year location varies)	107,600	112,980	118,629	124,560	130,788
Annual cut down pour over wall project (5 per year)	42,000	44,100	46,305	48,620	51,051
Two (2) - Float Valve Lateral projects	32,000	-	-	-	-
Woodward Tower Catwalk abutment replacement	165,000	-	-	-	-
Control Box - Repair, Replace and Modification	250,000	262,500	275,625	289,407	303,876
automated gates and water level sensors on pipelines and ditches (2/yr)	145,500	152,000	158,825	165,991	173,516
Main office parking lot grind and overlay	20,000	295,194	-	-	-
Lateral pipe lining - 21,000 L.F.	1,470,840	1,514,965	1,560,414	-	2,429,425
Capacity Enhancement Project	-	124,400	2,733,600	1,990,400	-
MDC Bank Stabilization Project	-	1,935,940	1,455,152	2,725,544	1,118,317
Ditch Canal Lining and Resurfacing	-	248,422	302,019	-	-
<b>Telemetry and SCADA</b>					
Woodward Tower Automation	50,000	235,000	-	-	-
Annual Deep Well Rehabilitation	52,000	54,000	-	-	-
<b>Shop</b>					
Replace floors in Building B	15,893	-	-	-	-
<b>Capital Purchases</b>					
<b>Telemetry and SCADA</b>					
Backup Generatory for Control Room	55,625	-	-	-	-
ADA Compliant ramp for Control Room	25,680	-	-	-	-
<b>Shop</b>					
2022 One Ton SRW Gasoline Powered Spray Rig	71,811	-	-	-	-
2023 pickup 4x4 for irrigation	41,982	-	-	-	-
Two (2) 2023 Ford F-350 Crew Cab - Flat Bed	138,268	-	-	-	-
2022 SUV - Admin Vehicle	43,530	-	-	-	-
Three (3) 2023 pickup 4x4 for irrigation	125,946	-	-	-	-
2023 Pickup - Maintenance	46,109	-	-	-	-
One Tone truck with utility body for Meter Tech - Control Room	67,134	-	-	-	-
Trail King tilt trailer - Maintenance	52,203	-	-	-	-
American Eagle Lube Skid - Service Truck	11,054	-	-	-	-
Mid-size Excavator	161,860	-	-	-	-
Office pool vehicle - admin	43,530	-	-	-	-
2023 Class 5 Spray Rig	-	76,160	114,500	-	-
2023 SUV for General Manager	-	65,885	-	-	-
Three (3) 2024 pickup 4x4 for irrigation	-	129,297	-	-	-
Two (2) V-6 4x4 2024 Pickup for Maintenance	-	81,568	-	-	-
Four (4) V-6 2WD Pickup for Maintenance	-	142,491	-	-	-
2025 One tone Flatbed Diesel Truck - Maintenance	-	69,738	-	-	-
SUV for Operations Manager	-	65,885	-	-	-
Class 7 chassis	-	130,843	-	-	-
Two (2) Class 5 chassis	-	184,220	-	-	-
Class 3 chassis	-	69,615	39,660	-	-
2025 Pick up for MDC	-	-	41,963	48,809	48,809
Two (2) V-6 2WD pick for Maintenance	-	-	73,810	91,484	91,484
Excavator	-	-	264,300	-	-
Three (3) 4x4 pickup for irrigation	-	-	-	137,910	137,910
Four (4) pickup for maintenance	-	-	-	151,868	151,868
<b>Total Irrigation Capital</b>	<b>\$ 7,033,301</b>	<b>\$ 19,792,583</b>	<b>\$ 29,525,762</b>	<b>\$ 15,992,573</b>	<b>\$ 4,637,044</b>

\*Five-year plan was adopted December 13, 2022 and is reviewed on a semi-annual basis

### 3.4 Protection of Property Rights and Water Rights

#### 3.4.1 SSJID’s Real Property Interests

An integral part to the District’s management of irrigation related infrastructure is the management of SSJID’s easement interests and properties held in fee. The District dedicates staff time to ensuring encroachments are permitted and conditions adhered to per District policies. District staff also responds to Underground Service Alert requests (“Call Before You Dig”) and to inspect permitted connections to the irrigation system. Residential and commercial development may also require significant staff time to

ensure District infrastructure is improved, relocated, replaced, abandoned, or removed to the District's satisfaction. A portion of the cost of managing the District's real property interests are recovered through irrigation non-rate revenues including permit/inspection fees, developer fees. When appropriate, non-operating revenues may be utilized to defray further costs.

### 3.4.2 Water Rights

The defense of water rights held jointly by OID and SSJID, and solely by SSJID, is a major priority for the District's Board of Directors. There are a number of State Water Resources Control Board fees required for the annual maintenance of water right permits and licenses. In addition, the administrative costs to defend and administer the District's water rights include staff time, legal costs and other expenses required for filing of annual, drought planning reports, and requests for information and data to the State Water Resources Control Board. As a cost savings measure, the District is a member agency of the San Joaquin Tributaries Authority (SJTA) and shares in the cost of active litigation to commonly defend SJTA members' water rights held by SSJID, the City and County of San Francisco, Modesto Irrigation District, Merced Irrigation District and Turlock Irrigation District. In addition, the District is in active litigation in defense of these water rights and has partnered with OID through Tri-Dam to ensure certain litigation costs are not attributed to Irrigation Services. SSJID's annual share of costs is included as a fixed cost to provide irrigation services.

## 3.5 Key Metrics for the Cost-of-Service Analysis and Rate Design

### 3.5.1 District Acreage and Irrigation Method

The District keeps track of parcels located within its service area receiving Irrigation Services. These parcels are subject to the current acreage rate (also referred to as the Flat Rate) of \$24 per acre for irrigation service. For purposes of the Cost-of-Service Analysis and rate design, the District uses the 2023 eligible acreage amount of 54,324 acres. Of note, Division 9 pressurized service customers are also included in the eligible acreage as they are subject to the current Flat Rate and the current Volumetric Rate (defined below), in addition to the Division 9 pressurized rate.

### 3.5.2 District Annual Water Deliveries

For purposes of the Cost-of-Service Analysis and rate design, the District uses the amount of irrigation water delivered in 2022 which equals 131,179 acre-feet. Customers are currently billed Volumetric Rates of \$3 per acre-foot (up to 48 inches) and \$10 per acre-foot (above 48 inches). Pressurized service customers are included in the eligible acreage as they are subject to the current Flat Rate and also pay the current Volumetric Rate in addition to the Division 9 pressurized rate.

## 4 Revenue Requirements

### 4.1 Cost of Irrigation Services

The District presently provides Irrigation Services at a loss but has remained financially solvent due to non-operating revenues, mostly from Tri-Dam distributions from the sale of hydropower. The District's projected 2023 operating expenditures associated with irrigation deliveries are summarized in Table 4-1.

Table 4-1. Fiscal Year 2023 Projected Irrigation Operating Expenses (1,000's)

<b>Irrigation Operating Expenses</b>	<b>2023 Budget</b>	<b>2023 Volumetric</b>	<b>2023 Fixed</b>
Payroll and benefits	\$11,935	\$1,908	\$10,027
Materials and supplies	1,844	0	1,844
Maintenance, repairs, and improvements	640	0	640
Utilities	518	281	237
General and administrative	3,037	95	2,942
<b>Total Irrigation Operating Expenses</b>	<b>\$17,974</b>	<b>\$2,283</b>	<b>\$15,691</b>
Acre-feet delivered		131,179	
Variable costs, \$/acre-foot		\$17.41	
Acres subject to flat rate charge			54,324
Fixed costs, \$/acre			\$288.83
Blended costs, \$/acre			\$330.78

The volumetric costs represent the portion of the budget that can be directly tied to the delivery of water to the District’s irrigation customers and will vary from year to year based on the actual amount of water delivered. These costs are partially recovered through the Volumetric Rate on a per acre-foot basis. These costs comprise nearly 13% of the overall irrigation operating budget, and include the following expenses:

- 65% of the payroll and benefits of the Division Managers (based on a 7- to-8-month irrigation season).
- The portion of the utility expenses coded to SCADA for power costs associated with groundwater pumps, flow control devices, and flow measurement.
- The portion of the general and administrative costs associated with the water rights fees paid to the State Water Resources Control Board.

After separating out the volumetric costs, the remaining fixed costs represent that portion of the budget that is not affected by the amount of water delivered. These costs are partially recovered through the Flat Rate on a per-acre basis.

Fixed costs generally consist of customer costs that the District incurs to serve customers irrespective of the amount of water they use. These include (1) the capital expenditures required to provide service to customers; (2) fixed costs associated with operations and maintenance including facility inspections and repairs; and (3) administrative and customer billing costs.

The major components of operating expenses are payroll costs, professional services, material and expenses, and regulatory fees. A variety of SSJID employees work every day to provide customers with the best possible service. Examples of the highly qualified professionals who keep our customers in service include:

- SCADA Technicians – maintain water measurement and flow control instrumentation.
- MDC Operators – monitor and control water conveyance systems from Goodwin, to Woodward, to the Main Distribution Canal, and to irrigation laterals.
- Engineers – long-term facility planning, design and construction of major capital projects, enforcement of District encroachment policies.

- Information Technology Specialists – implement and maintain system security measures, network communications, and information technology systems.
- Accounting Technicians – answer customers’ billing and service-related questions.

Non-payroll expenses may include equipment repair and maintenance, cost of chemicals, energy to run facilities, fuel, continued employee education and training, and regulatory fees.

## 4.2 Irrigation Revenues

For the purposes of this report, the District’s revenues can be further classified as irrigation rate revenue and irrigation non-rate revenue. Irrigation non-rate revenues are generated by the District for the purpose of recovering costs incurred and/or generating offsetting revenue to supplement irrigation rate revenue to cover Irrigation Services costs.

The District maintains five separate funds: Irrigation, Water Treatment Plant (WTP), Retail Electric, Solar, and Groundwater Sustainability Act (GSA) funds. All funds are funded by both rate (non-discretionary) and non-rate (discretionary) revenues.

Discretionary revenues are those for which the District can determine the use, without restriction, by deciding how these funds will be expended and on which services. Discretionary revenues include Tri-Dam, Property Taxes and Investment Income, all of which may be allocated to support any lawful purpose of the District’s choosing. Discretionary revenues are used to support the Irrigation Fund, WTP, Retail Electric, Solar and the GSA.

Non-discretionary revenues have restrictions, and the District must spend these revenues on the services for which they are intended. Revenues collected from irrigation rate payers must only be used for Irrigation Services.

The District separates transactions by accounting entity or type of service provided. The revenues received from irrigation customers for irrigation services are accounted for in the Irrigation Fund and are also referred to as operating revenues. The Irrigation Fund also accounts for expenses related to both fixed and variable costs to provide Irrigation Services. The irrigation Fund is not used for any non-irrigation service costs. Irrigation services and the costs of those services are defined as Irrigation Services in this report.

The irrigation rate structure is based on the proportion amount of service used apportioned by acreage and volume used, which is billed directly to customers. In order to maintain an affordable rate structure, irrigation non-rate revenues are currently utilized to offset costs of services and to reduce customer rates.

### 4.2.1 Irrigation Rate Revenue

Irrigation rate revenues are generated from collecting the \$24 per Flat Rate, and \$3 per acre-foot (up to 48 inches) and \$10 per acre-foot (above 48 inches) Volumetric Rate. In 2022, the District collected a total of \$1,829,905 from this revenue source.

### 4.2.2 Raw-water Sales – Nick C. DeGroot Water Treatment Plant (WTP)

Raw water sales are irrigation non-rate revenues generated from sales of irrigation water to the WTP. The WTP, also operated by SSJID, supplies treated water to the Cities of Escalon, Manteca, Lathrop, and Tracy.

The Irrigation Fund collected a total of \$1,639,380 in raw water sales to the WTP in 2022. Because the water is generated from conserved pre-1914 water once slated for irrigation and is conveyed to the WTP using SSJID irrigation facilities, revenues from raw water sales are considered irrigation non-rate revenues used to supplement irrigation rate revenue to cover the full cost of providing Irrigation Services.

#### 4.2.3 Water Transfers

In past years, OID and SSJID have been able to market a limited amount of conserved pre-1914 water to out-of-District areas. The practice of transferring water to south of Delta recipients is becoming more and more unlikely under the current regulatory environment. While transfer revenues are volatile and highly dependent on water availability, the District has entertained a number of transfers preferring to look to recipients within the Eastern San Joaquin Subbasin or within the immediate region. As the regulatory environment continues to tighten, as SSJID's urban customers grow into their WTP allocations, and with the expected interest of growers to rely more on District surface water in-lieu of groundwater, there may be less water available for future water transfers.

The most recent SSJID transfer partners include Chicken Ranch Tribe of Mi Wuk Indians, Stockton East Water District, South Delta Water Agency, Mountain House Community Services District (groundwater only), and Banta-Carbona Irrigation District. The average annual revenue generated from water transfers in 2019 to 2022 is \$621,960. Transfer revenues are considered irrigation non-rate revenue used to supplement irrigation rate revenue to cover the full cost of providing Irrigation Services.

##### 4.2.3.1 Real Property

SSJID derives additional revenues from rents and leases of SSJID-owned property, granting of easements, quitclaims, transfer of property, and recovery of costs. These revenues are considered irrigation non-rate revenues and are used to supplement irrigation rates revenues to cover the full cost of providing irrigation services. The average annual revenue generated from rental income from 2019 to 2022 was \$159,000. Other annual agreements generated an average of \$69,000 over the same period.

##### 4.2.3.2 Permits and Fees

SSJID implements cost recovery mechanisms for the filing of permit applications, as well as annexation fees, inspection fees, processing fees. The average annual revenue generated from permit fees in 2019 to 2022 is \$6,500. The revenues collected in 2022 for annexation fees was \$340,000. These revenues are considered irrigation non-rate revenues and are used to cover the full cost of providing Irrigation Services. Non-operating revenues may be used to offset additional costs when necessary.

#### 4.3 General Purpose Revenues

General Purpose Revenues are considered unrestricted funds used at the Board's direction and within the guidelines of adopted Board policies. The Board of Directors adopted Resolution 23-15-Y setting forth a policy that allows the Board to allocate a portion of the District's General Purpose Revenues to supplement irrigation rate revenue, irrigation non-rate revenue and non-operating revenues to fully cover the cost of Irrigation Services. General revenues are classified as non-operating revenues for the purposes of this report.



### 4.3.1 Tri-Dam Hydropower

The Tri-Dam Project is a joint venture between SSJID and OID, where the Districts share in the proceeds from the sales of hydroelectricity less Tri-Dam expenses. The Tri-Dam Board of Directors, which consists of combined members of the respective OID and SSJID Board of Directors, approve hydro power revenue disbursements to SSJID and OID in accordance with adopted Tri-Dam Project policies. Tri-Dam Project revenues has and continues to be the largest source of general purpose (non-operating) revenue for SSJID.

The Tri-Dam Project entered into a power purchase agreement with Silicon Valley Power which ends December 31, 2023. The current power purchase agreement is structured in a manner which can greatly vary power generation revenue during critically dry years and wet years. In 2020 under wetter conditions, Tri-Dam Project revenues totaled \$15,790,500 and in 2021, facing significant drought conditions, Tri-Dam Project Revenues totaled \$6,731,000.

Tri-Dam and Silicon Valley Power have come to terms on a 5-year extension with the price of power being tied to market value and declining over the life of the agreement. With the current market and the structure of the power purchase agreement terms, SSJID expects to see an initial increase in revenue potential from the Tri-Dam Project depending on wet or dry conditions. Increased frequency of future drought years remains the greatest risk of reduced Tri-Dam revenues.

### 4.3.2 Property Tax Revenues

SSJID receives a portion of the ad valorem property taxes collected and dispersed by San Joaquin County. Ad valorem property tax is collected from all properties within SSJID's territory including urban parcels. In 2022, the District received \$7,277,353 in property tax allocation from the County. The acceleration of urban growth and the corresponding rise in property values has increased SSJID's share of property taxes in recent years. The District vigilantly monitors the local housing market for any signs of downturn that could slow the rate of property tax revenue growth or lead to a marked decrease as seen during the Great Recession.

## 5 Cost of Service and Rate Design

### 5.1 Current Rates

The District implements a pricing structure based in part on the volume of water delivered. This pricing structure includes a volumetric charge per acre-foot of water delivered (i.e., the Volumetric Rate) in addition to a \$24.00 per acre (\$50.00 minimum) Flat Rate charge. The per-acre rate does not vary depending on the size of the parcel irrigated.

SSJID's current rate structure has two tiers of volumetric pricing for irrigation customers (i.e., growers) that receive non-pressurized water service. Growers that receive less than 48 inches of water per year are charged the 'Tier 1' rate, with a Volumetric Rate of \$3.00 per acre-foot. Growers that receive more than 48 inches of water per year are also charged the 'Tier 2' rate, with a Volumetric Rate of \$10.00 per acre-foot for water deliveries in excess of 48 inches per year.

Parcels that receive pressurized water from the District's Division 9 Irrigation Enhancement Project are subject to the minimum Flat Rate and the Volumetric Rate, plus a pressurization service charge of \$50.00 per acre-foot. This pressurization service charge was approved by the Board of Directors on January 12, 2021, in accordance with Proposition 218, and consists of \$38.00 per acre-foot for energy costs and \$12.00

per acre-foot for capital assets. Through 2025, the pressurization charge may be increased by the SSJID Board up to the annual consumer price index.

For properties greater than 10 acres that do not take SSJID-delivered irrigation water but irrigate with groundwater and have a current Irrigation Service Abandonment Agreement with SSJID, the District charges a groundwater recharge fee of \$12.00 per acre, with a minimum charge of \$25.00.

Table 5-1 shows the projected revenues from irrigation rates using the 131,179 acre-feet of water delivered in 2022 serving 54,324 eligible acres.

Table 5-1. Fiscal Year 2023 Projected Irrigation Operating Revenues

	Rate/Acre	Parcels	Acres	Base Rate	Volumetric	Total	Avg/Acre
Flat Rate	24		53,548	\$ 1,285,153	\$ 387,916	\$ 1,673,069	
Flat Rate <\$50	50	616	776	30,800	5,621	36,421	
			54,324	\$ 1,315,953	\$ 393,537	\$ 1,709,490	\$ 31.47

## 5.2 Considerations for SSJID Board of Directors

The District’s territory overlies the Eastern San Joaquin Groundwater Subbasin (Subbasin), which has been designed by the California Department of Water Resources as being “critically overdrafted.” Historically, and as a matter of policy, the District has kept irrigation water rates low for affordability and to encourage the use of available surface water supplies in lieu of groundwater. This pricing structure is an important part of SSJID’s overall strategy to conjunctively manage surface water and groundwater supplies over the long term.

Based on findings from the Financial Projection Model, the District determined that the current business model is not viable. The acreage based Flat Rate has not been increased since 2000, which has led to an annual operating loss that continues to grow. SSJID has been afforded the ability to operate at a loss and yet remain financially solvent because of its non-operating revenues and, to some extent, water transfers. Over 50% of the District’s annual non-operating revenues come from distributions from the Tri-Dam Project. Other sources include allocations of local property tax revenues and investment earnings on reserves.

The District’s reliance on non-operating revenues and water transfers presents a risk as these sources are subject to volatilities outside of the District’s control. Revenues from the Tri-Dam Project are subject to contract terms and contract negotiations, hydroelectricity purchaser(s), the energy market and hydrology. Water transfers are reliant upon water scarcity, regulatory pressures, the needs of other agencies, hydrology and coordination with other agencies, including state and federal governments. Local property tax revenues fluctuate with property valuation and the housing market, whereas investment earnings are greatly influenced by the bond market.

## 5.3 Recommended Rates

The District is proposing to raise both the Flat and Volumetric Irrigation Rates to generate the revenue levels identified in the WMP and is proposing to accomplish this over a three-year period to moderate the fiscal impacts to irrigation customers. For purposes of understanding the Flat Rate and Volumetric Rate in terms of a total cost per acre, the following tables refer to a blended charge which is an estimated cost of delivering 2.41 acre-feet of water to one acre of farmland.

As shown in Table 5-2. 2024-2028 Proposed Irrigation Rates and Projected Operating Revenues

The proposed rates will increase the 2023 blended charges by \$18.70 per acre and will result in a blended charge in 2024 of \$50.17 per acre. Incremental rate increases in 2025 and 2026 will result in a blended charge in 2026 of \$84.17, which aligns with the District’s recommended WMP. Proposed rate increases in 2027 and 2028 result in a blended charge of \$98.40 per acre, which remains well below the actual \$330.78 per acre blended cost of service (Table 4-1).

Table 5-2. 2024-2028 Proposed Irrigation Rates and Projected Operating Revenues

Charge Category	2024	2025	2026	2027	2028
Fixed - per acre	\$ 38.00	\$ 52.00	\$ 60.00	\$ 65.00	\$ 70.00
Volumetric - Tier 1 (<= 48") - per AF	\$ 5.00	\$ 7.50	\$ 10.00	\$ 10.75	\$ 11.75
Volumetric - Tier 2 (> 48") - per AF	\$ 12.50	\$ 15.00	\$ 17.50	\$ 18.25	\$ 20.00
Minimum Charge	\$ 50.00	\$ 52.00	\$ 60.00	\$ 65.00	\$ 70.00
Acres (Flat Rate)	53,935	54,026	54,026	54,026	54,026
Acres (subject to minimum)	389	298	298	298	298
Parcels (subject to minimum)	397	317	317	317	317
Flat Rate Charge	\$ 2,069,380	\$ 2,825,836	\$ 3,260,580	\$ 3,532,295	\$ 3,804,010
Acre-feet delivered	131,179	131,179	131,179	131,179	131,179
Acre-feet per acre	\$ 2.41	\$ 2.41	\$ 2.41	\$ 2.41	\$ 2.41
Volumetric Charge	\$ 655,895	\$ 983,843	\$ 1,311,790	\$ 1,410,174	\$ 1,541,353
Total Charge	\$ 2,725,275	\$ 3,809,679	\$ 4,572,370	\$ 4,942,469	\$ 5,345,363
Blended Charge per Acre	\$ 50.17	\$ 70.13	\$ 84.17	\$ 90.98	\$ 98.40

In developing the rate revenue requirements, the analysis relies upon the costs budgeted in calendar year 2023. The analysis follows the basic cost-of-service approach. The essential principle of this method is that irrigation rates and charges should be recovered in proportion to the cost of serving those customers. Importantly, the analysis continues to rely on the use of substantial non-operating revenues to meet the District’s total revenue requirements and thereby defray the net requirements from irrigation rate revenue.

The District’s irrigation rate structure includes both fixed and variable costs; fixed costs correspond to the flat charge (i.e., Fixed Rate) that is static regardless of water usage. The fixed rate per acre-foot is calculated by dividing the allocated fixed operating expense of \$15,690,601 by the applicable acreage of 54,324, yielding a proposed rate of \$288.83. This is the fixed cost per acre-foot needed to fully offset expenses for all irrigation services expenses with no other supplement from irrigation non-rate revenue or non-operating revenue. The funding target excludes capital improvement expenditures which are primarily funded using non-operating revenues.

The Volumetric Rate is fully derived from the variable costs of delivering surface water which consists primarily of Division Manager staffing and vehicle usage during the irrigation season and groundwater pumping. Studies from the University of California Cooperative Extension (UCCE), University of California Agriculture and Natural Resources (UC ANR), the Almond Board of California, and other industry sources

show that 48 inches of water or more is necessary to grow healthy, productive almond trees in the region.<sup>8</sup> Based on 2022 data, almonds are the predominant commercial crop grown within SSJID's territory, totaling 34,112 acres and representing over 60% of the total irrigated acreage served by SSJID.

On this basis, SSJID's Board of Directors estimates that 48 inches of flood irrigation water supplied by SSJID overlying more sandy soil textures is a sufficient allotment for the cultivation of an almond crop. To provide affordable and sufficient irrigation water to support local growers and simultaneously encouraging more efficient on-farm water management practices and avoidance of water waste beyond the necessary 48 inches, SSJID sets its higher-priced Tier 2 Volumetric Rate as water delivered in excess of 48 inches.

The SSJID Board of Directors adopted Resolution 23-15-Y to affirm that the practice of using irrigation non-rate revenues and non-operating revenues would continue for the benefit of the agricultural and business communities within the District. This Cost-of-Service Analysis concludes that modest rate increases are necessary to reduce financial losses from providing Irrigation Services while maintaining sufficient District reserves, and to fund capital projects in the WMP CIP. If the District is unable or unwilling to raise irrigation rates, supplemental funding for irrigation rates will continue to be relied upon resulting in depletion of District reserves putting the timely implementation of the WMP CIP further out of reach.

The District's Irrigation Operations expenditures and projected revenues using the recommended rates is summarized in Table 5-3. The 3-year irrigation rate ramping period attempts to balance revenue needs with customer affordability. Non-operating revenue projections are also summarized in the table.

The proposed irrigation rate increases were refined to smooth and mitigate the initial rate increase over the first 3 years. In years 4 and 5, the irrigation rates are calculated by applying an 8% annual increase to the proposed 2026 rate. There is a need to ensure that the proposed increases in revenue are accompanied by adequate revenues for covering costs and maintaining appropriate levels of services and reserves. As a result, an 8% increase in costs was recommended based on inflationary increases and a recovery factor. The proposed volumetric rates cannot exceed the cost of providing service and would be adjusted accordingly to not exceed the variable cost of service on a per acre-foot basis.

---

<sup>8</sup> [https://cestanislaus.ucanr.edu/newsletters/The\\_Scoop\\_on\\_Fruits\\_and\\_Nuts93071.pdf](https://cestanislaus.ucanr.edu/newsletters/The_Scoop_on_Fruits_and_Nuts93071.pdf)  
[https://ucmanagedrought.ucdavis.edu/Agriculture/Crop\\_Irrigation\\_Strategies/Almonds/](https://ucmanagedrought.ucdavis.edu/Agriculture/Crop_Irrigation_Strategies/Almonds/)  
[http://cekern.ucanr.edu/newsletters/September\\_200735427.doc](http://cekern.ucanr.edu/newsletters/September_200735427.doc)  
<https://www.almonds.com/almond-industry/industry-news/new-research-water-footprint-smaller-california-almonds-global>  
<https://www.almonds.com/sites/default/files/2020-02/Almond-Irrigation-Improvement-Continuum.pdf>  
<https://anrcatalog.ucanr.edu/pdf/8515.pdf>  
<https://irrigationtoday.org/features/almond-industry-success-tied-to-efficient-irrigation/>

Table 5-3. 2024-2028 Projected Irrigation Operations Budget

<b>Irrigation Operating Expenses</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Payroll and benefits	12,293	12,662	13,042	13,433	13,836
Materials and supplies	1,900	1,957	2,016	2,076	2,138
Maintenance, repairs, and improvements	659	679	699	720	742
Utilities	533	549	566	583	600
General and administrative	3,128	3,222	3,318	3,418	3,520
<b>Total Irrigation Rate Expenses</b>	<b>18,513</b>	<b>19,068</b>	<b>19,641</b>	<b>20,230</b>	<b>20,837</b>
<b>Irrigation Rate Revenues</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Flat Rate	2,069	2,826	3,261	3,532	3,804
Volumetric	656	984	1,312	1,410	1,541
<b>Total Irrigation Rate Revenues</b>	<b>2,725</b>	<b>3,810</b>	<b>4,572</b>	<b>4,942</b>	<b>5,345</b>
<b>Irrigation Non-Rate Revenues</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Water Sales and Transfers	1,739	1,739	1,739	1,739	1,739
Permits and Fees	138	139	141	142	144
Real Property	130	132	133	135	137
<b>Total Irrigation Non-Rate Revenues</b>	<b>2,007</b>	<b>2,010</b>	<b>2,013</b>	<b>2,016</b>	<b>2,020</b>
<b>Difference</b>	<b>(13,781)</b>	<b>(13,248)</b>	<b>(13,055)</b>	<b>(13,271)</b>	<b>(13,472)</b>
<b>Non-Operating Revenues</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
Proposition 13 subvention property taxes	7,522	7,673	7,826	8,142	8,305
Interest income	1,000	1,000	1,000	1,000	1,000
Tri-Dam Power Authority distributions	1,000	1,000	1,000	1,000	1,000
Tri-Dam Project distributions	9,500	9,500	9,500	9,500	9,500
<b>Total Non-Operating Revenues</b>	<b>19,022</b>	<b>19,173</b>	<b>19,326</b>	<b>19,642</b>	<b>19,805</b>

The District relies on the use of substantial non-operating revenues not only for the purpose of recovering costs incurred for Irrigation Services and to reduce customer rates, but to offset other fund shortfalls. The above implied surplus may be used to defray costs incurred in additional funds including the WTP, Retail Electric, Solar, and the GSA funds. The Cost of Services Analysis focuses primarily on the Irrigation Fund and does not take into account the revenues and expenditures of the other District Funds.<sup>9</sup>

G:\South San Joaquin ID-1055\105523001-Prop 218\200 Technical\202 General\FR 20230531 SSJID Cost of Service Study.docx

<sup>9</sup> SSJID's current financial position is strong with over \$80 million in cash reserves, however more than 50% are designated by the District's reserve policy for purposes other than capital improvement of irrigation infrastructure and are therefore not available. [https://www.ssjid.com/wp-content/uploads/SSJID\\_WaterMasterPlan\\_2022.pdf](https://www.ssjid.com/wp-content/uploads/SSJID_WaterMasterPlan_2022.pdf)