



SANTA ANA WATERSHED
PROJECT AUTHORITY

Brine Line Solids Imbalance and Billing Formula Update

PA 24 Committee
Agenda Item No. 6.A
Lucas Gilbert

Manager of Permitting and Pretreatment
October 1, 2024

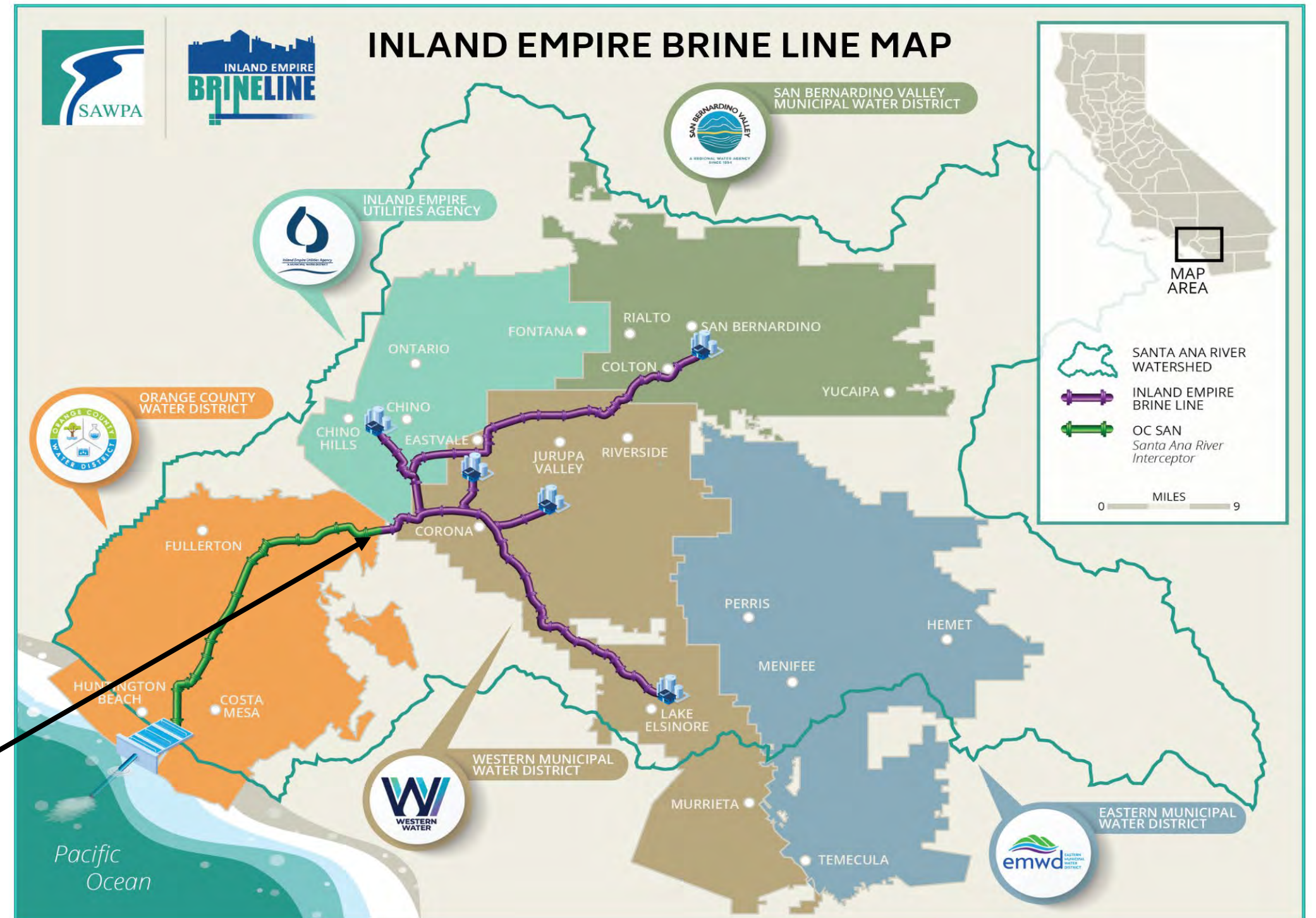
Recommendation

- Authorize the General Manager to issue a General Services Agreement and Task Order No. TRU240-27 to Trussell Technologies, Inc. to provide Professional Services to investigate the Brine Line solids imbalance and update or revise as necessary, the Brine Line Billing Formula in an amount not to exceed \$154,390.

SARI Metering Station (SMS)

SAWPA recovers costs paid to OC San, from monitoring conducted at SMS, using a billing formula to allocate the costs related to solids formation from each discharger.

SARI Metering Station



Background

- The solids formation creates an imbalance in the Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) measured at the SMS versus the dischargers input.
- To account for the imbalance, in 2016 SAWPA developed a scientifically-based revision of the previous billing formula based on known formation mechanisms of the observed solids composition.
- In July 2016, the SAWPA Commission adopted this revised Billing Formula
- SAWPA continues to implement the Billing Formula following subsequent annual reviews of the monitoring data and billing formula parameters in 2017, 2018 and 2019.

Brine Line Billing Formula

$$TSS_b = TSS_m + TSS_f * \left[\frac{dBOD_m}{dBOD_t} * (0.31) + \frac{Calcium_m}{Calcium_t} * (0.28) + \frac{Alkalinity_m}{Alkalinity_t} * (0.41) \right]$$

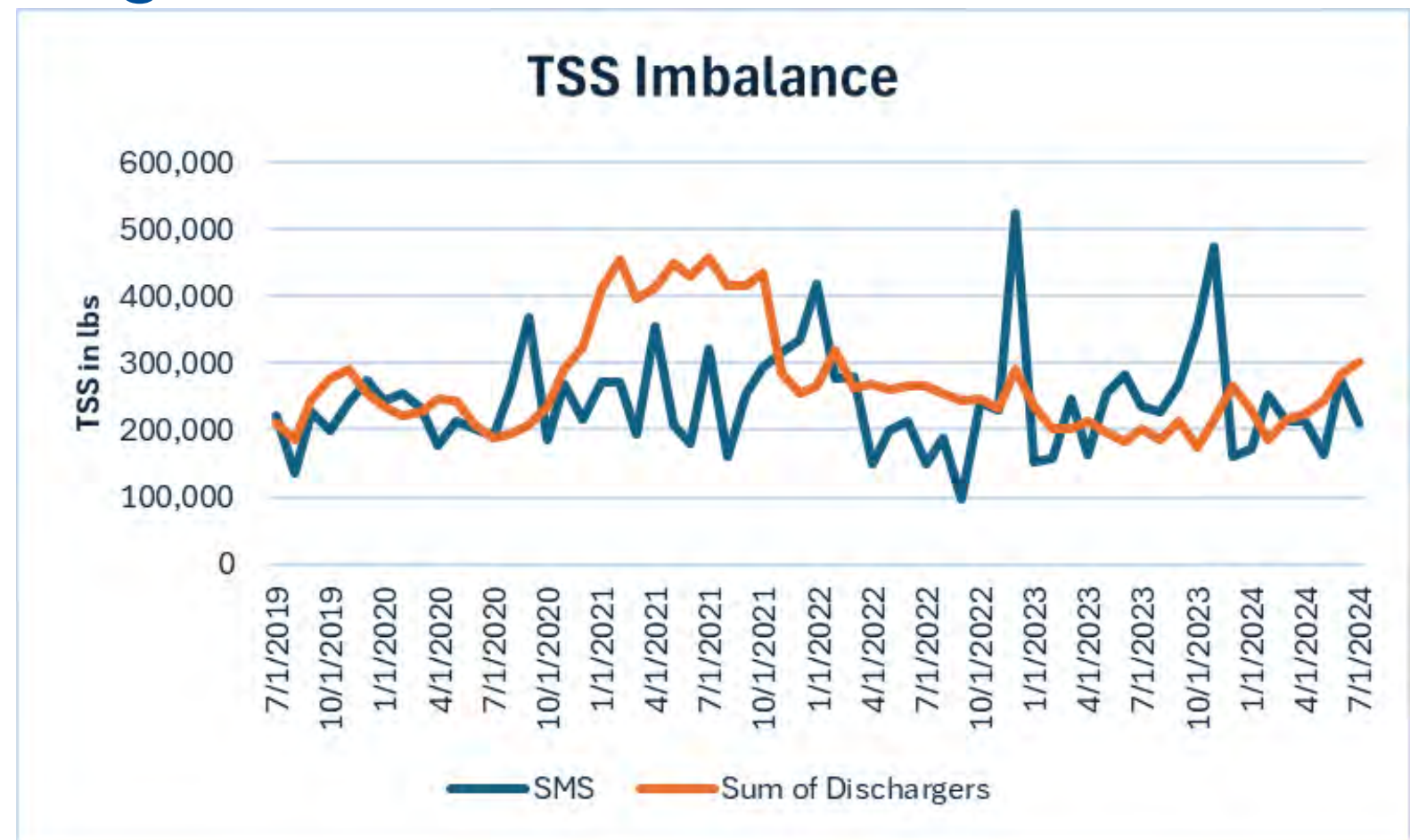
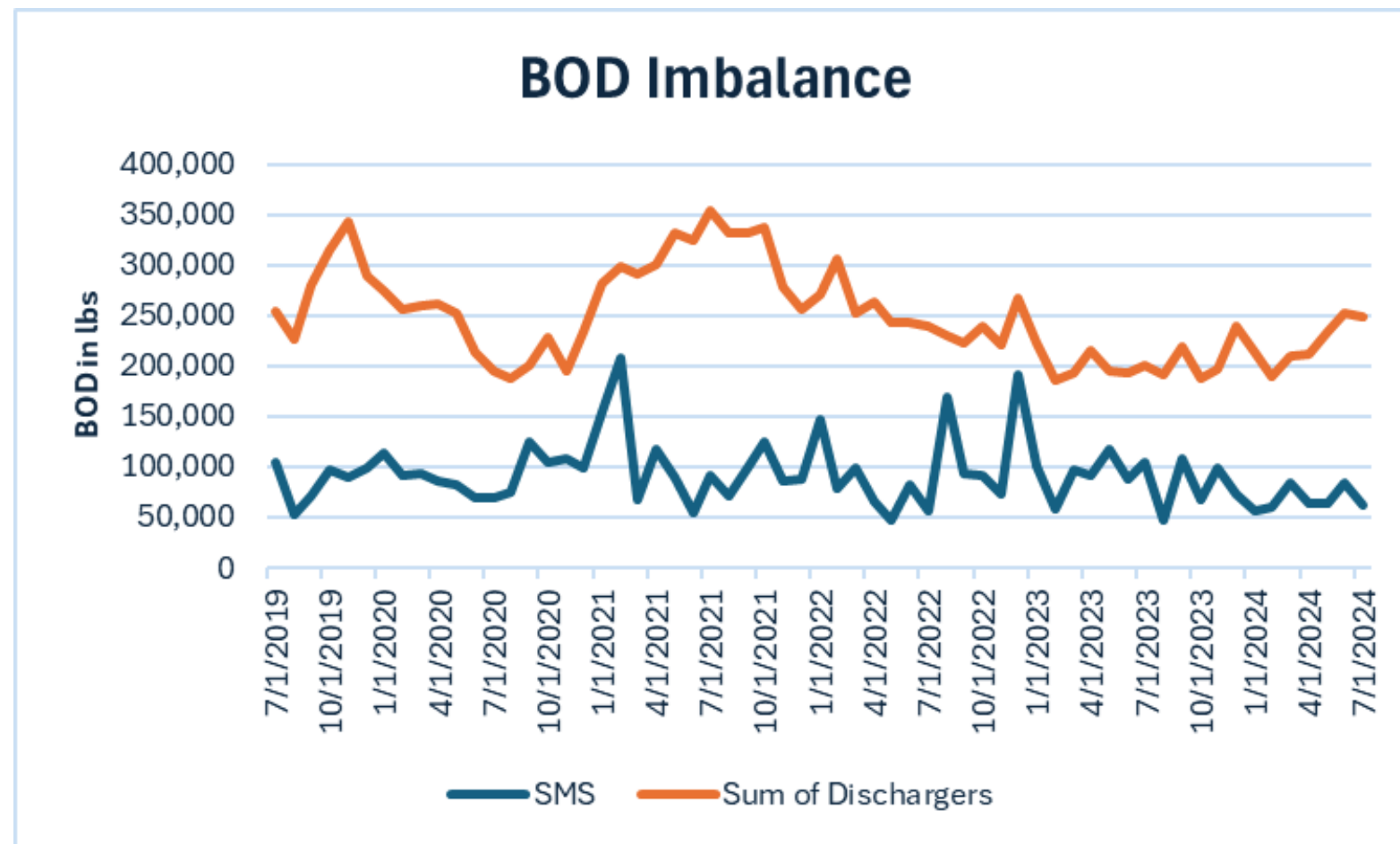
BOD Load Calcium Load Alkalinity Load

Where:

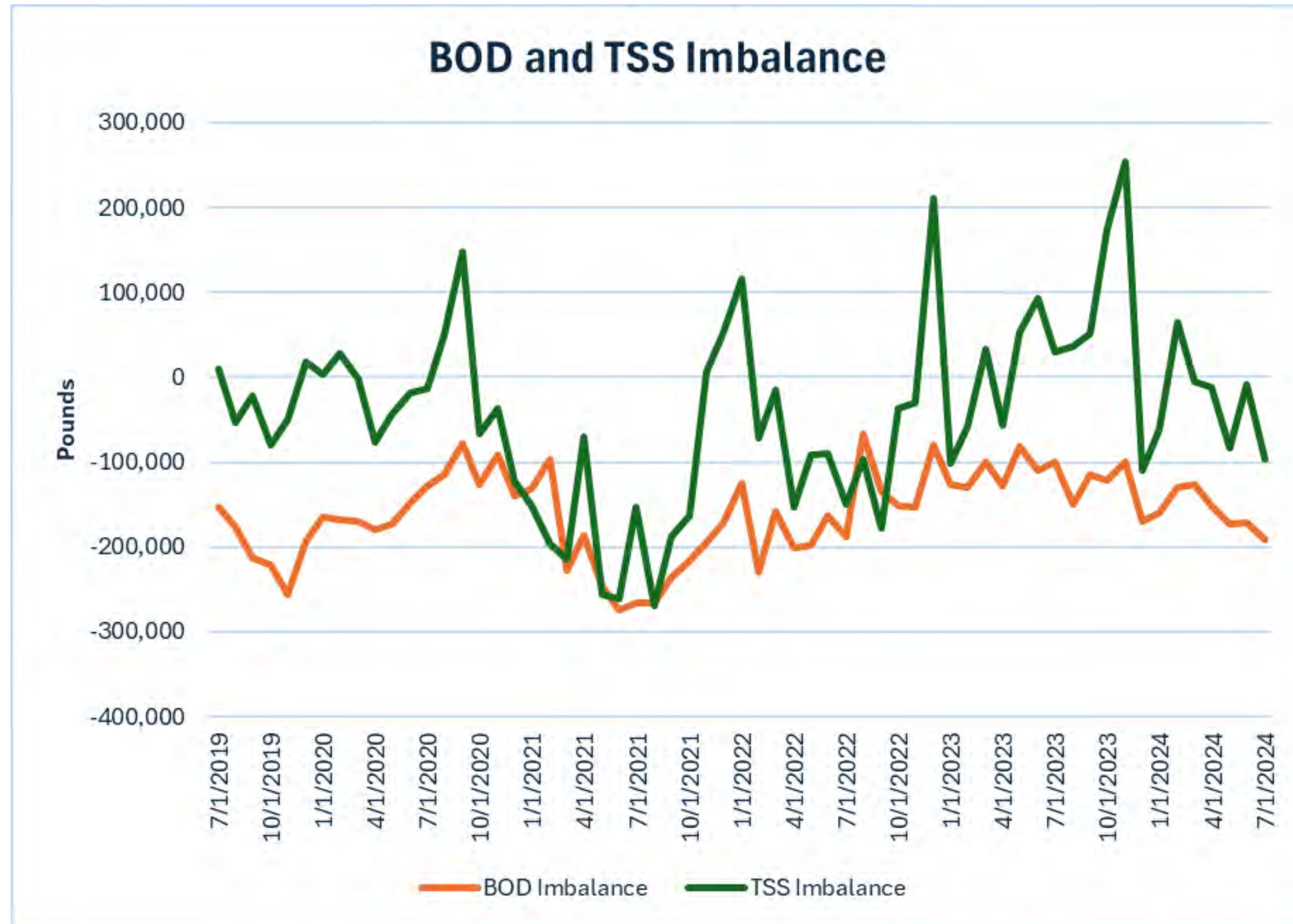
- TSS_b = Billed TSS to discharger
- TSS_m = Measured TSS for discharger
- TSS_f = Formed TSS in Brine Line (calculated)
- $dBOD_m$ = Dissolved BOD measured for discharger
- $dBOD_t$ = Total dissolved BOD measured for all dischargers
- $Calcium_m$ = Dissolved calcium measured for discharger
- $Calcium_t$ = Total dissolved calcium measured for all dischargers
- $Alkalinity_m$ = Dissolved alkalinity measured for discharger
- $Alkalinity_t$ = Total dissolved alkalinity measured for all dischargers

Background

- Since the last review of the billing formula there have been changes in the flow characteristics of the Brine Line due to new discharges and increased flow resulting in an increase to the solids imbalance since 2019 when the billing formula was last reviewed.



BOD and TSS Imbalance



Scope of Work and Schedule

- Perform a study that will (a) assess ~ 5 years of suspended solids formation in the Brine Line and (b) develop an updated scientifically-based formula, or other methodology as necessary, for allocating associated formation costs.

Task Description	Marker Indication	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Task 1 – Summarize and Review Data Since 2019	TM, Member Agency Workshop			••						
Task 2 – Supplemental Monitoring and Solids Characterization	Monitoring Plan, Sampling Events				•					
Task 3 – Update and/or Revision of the Billing Formula	Technical Memo, Member Agency Workshop									••
Meetings and Presentations	Kickoff Meeting, Progress Meeting, Findings Presentation to PA 24	•				•				•

Recommendation

- Authorize the General Manager to issue a General Services Agreement and Task Order No. TRU240-27 to Trussell Technologies, Inc. to provide Professional Services to investigate the Brine Line solids imbalance and update or revise as necessary, the Brine Line Billing Formula in an amount not to exceed \$154,390.

Questions?

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SANTA ANA WATERSHED
PROJECT AUTHORITY

Request from YVWD to Purchase Treatment and Disposal Capacity Rights

Project Agreement 24 Committee

Item Number 6.B

David Ruhl, P.E.

Executive Manager of Engineering and Operations

October 1, 2024

Treatment and Disposal Capacity Right (Capacity)

- SAWPA has a 30 MGD Capacity Right in OC San's Treatment Facilities and ocean outfall
- SAWPA has purchased 17 MGD of Capacity and has sold this Capacity to Member Agencies
- Capacity is sold in 1 MGD increments (per the 1996 agreement between SAWPA and OC San)
- Purchase price is \$7,407,682 per MGD
 - Final purchase price obtained from OC San at the time of purchase.
- Note:
 - Per agreement, SAWPA must purchase additional 1 MGD of Capacity when monthly average flow (MGD) exceeds purchased Capacity (currently 17 MGD)



Process to Purchase Capacity

- Sub Agency request to Member Agency
- Member Agency request to SAWPA
- SAWPA notifies OC San of the need to purchase Capacity
- PA 24 Committee Approval of Capacity Purchase Agreements:
 - Between SAWPA and OC San
 - Between SAWPA and Member Agency
 - Note:
 - If Member Agency is selling Capacity, there is an agreement between the Member Agency and Sub Agency

YVWD Request to Purchase Capacity

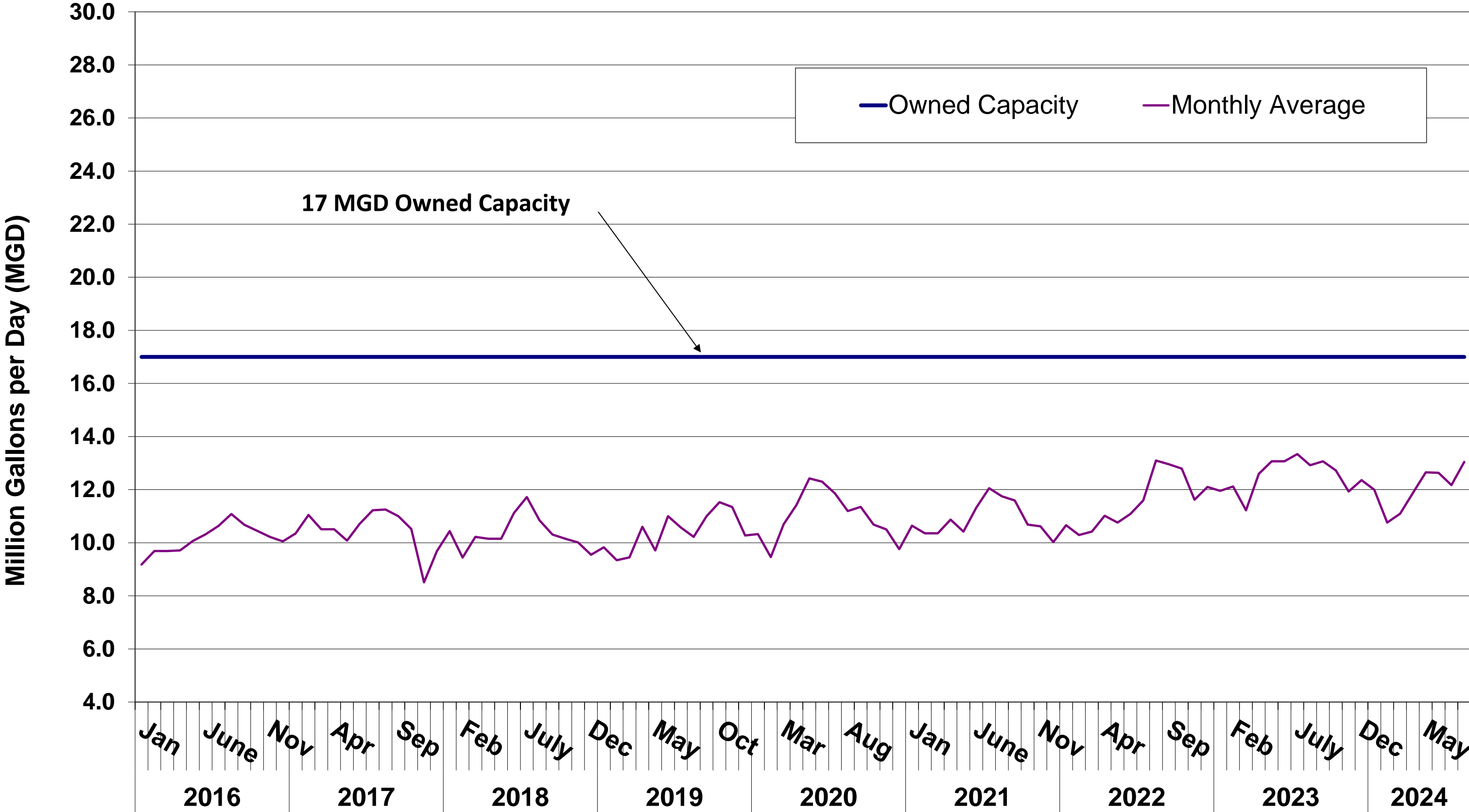
- YVWD discharges RO Concentrate from the Wochholz Regional Water Recycling Facility to the Brine Line
 - YVWD is expanding their Facility and anticipates completion in December 2026
 - YVWD has requested from SAWPA / Valley to purchase 0.5 MGD of T&D Capacity
- YVWD is interested in purchasing Capacity now based on:
 - YVWD Board has directed their staff to secure Capacity prior to the award of a construction contract
 - YVWD has secured funds from the Water Infrastructure Finance and Innovation Act (WIFIA)

Discussions with OC San

- SAWPA contacted OC San on their ability to sell Capacity
- OC San Response:
 - OC San is not willing to sell Capacity until SAWPA exceeds its purchased Capacity (per 1996 Agreement)
- Current information:
 - SAWPA owns 17 MGD of Capacity and currently discharges 12.2 MGD to OC San
 - Brine Line is expected to exceed the 17 MGD Capacity in next 5-10 years (per draft Brine Line Master Plan)

Brine Flow to OC San SARI Metering Station

Historical Monthly Flow



Agency	Discharger	Allocated Capacity (MGD)	3 Month Ave Flow (MGD)	Unused Allocated Capacity (MGD)
CDA	Chino Desalter 1 and 2	3.670	3.603	0.067
EMWD	Menifee and Perris I and II Desalter	4.048	3.340	0.708
IEUA	Green River Golf Club	0.007	0.004	0.003
	California Institute for Women	0.400	0.186	0.214
	In N Out	0.086	0.071	0.015
	California Institute for Men	0.197	0.033	0.161
	Mission Linen	0.712	0.146	0.566
	OLS	0.129	0.013	0.116
	Repet	0.043	0.029	0.014
	Eastside Water Treatment Plant	0.065	0.017	0.048
	Lease Pool Contribution Balance	0.029	0.000	0.029
SBVMWD	Mountainview Power Plant	0.432	0.410	0.022
	Agua Mansa Power Plant	0.062	0.002	0.060
	YVWD – Wochholz Wastewater TP	0.595	0.415	0.180
	Rialto Bioenergy Solutions	0.250	0.029	0.221
	City of Beaumont	0.580	0.541	0.039
WMWD	Anita B. Smith Treatment Facility	0.030	0.006	0.024
	Aramark Uniform Services	0.330	0.175	0.155
	Arlington Desalter	1.400	0.759	0.642
	JCSD	1.155	1.140	0.015
	Temescal Desalter	2.150	1.380	0.770
	Wellington Foods	0.030	0.014	0.016
	Dart Container	0.060	0.032	0.028
	Fruturom	0.005	0.005	0.000
	Stringfellow	0.259	0.114	0.145
	Inactive Dischargers	0.128	0.000	0.128
	Lease Pool Contribution Balance	0.151	0.000	0.151
4 MA's	Collection Stations	0.000	0.120	(0.120)
	Total	17.000	12.585	4.415

Brine Line Treatment and Disposal Capacity (Capacity)

- 17.0 MGD allocated Capacity
- 12.6 MGD brine flow to OC San (3 Month Average)
- 4.4 MGD of unused allocated Capacity

Capacity Purchase Option

- Proposed Approach:
 - SAWPA can sell Capacity to YVWD because there is 17 MGD of Capacity in the Brine Line
 - SAWPA would purchase additional Capacity (with the YVWD funding) from OC San when required
 - SAWPA would hold YVWD payment in Capacity Purchase Reserve until SAWPA is required to purchase capacity
 - Develop terms of capacity agreement:
 - YVWD pay current OC San cost for Capacity to SAWPA (or inflation adjusted cost)
 - SAWPA provides Capacity to YVWD through agreements upon receipt of payment
 - YVWD pays difference in price when SAWPA is required to purchase Capacity (or reimbursed if the cost is less)
- Note:
 - Member Agencies and dischargers that own Capacity would not be impacted and would maintain their right to discharge up to their allotted Capacity

Next Steps

- Continue to work with San Bernardino Valley and YVWD on an Agreement and the timing to purchase Capacity
- Present an Agreement to PA 24 Committee at future meeting

Recommendation

- Receive and file

Questions?



SANTA ANA WATERSHED
PROJECT AUTHORITY

Financial Report for the Inland Empire Brine Line Enterprise/CIP for the 4th Quarter Ending June 30, 2024

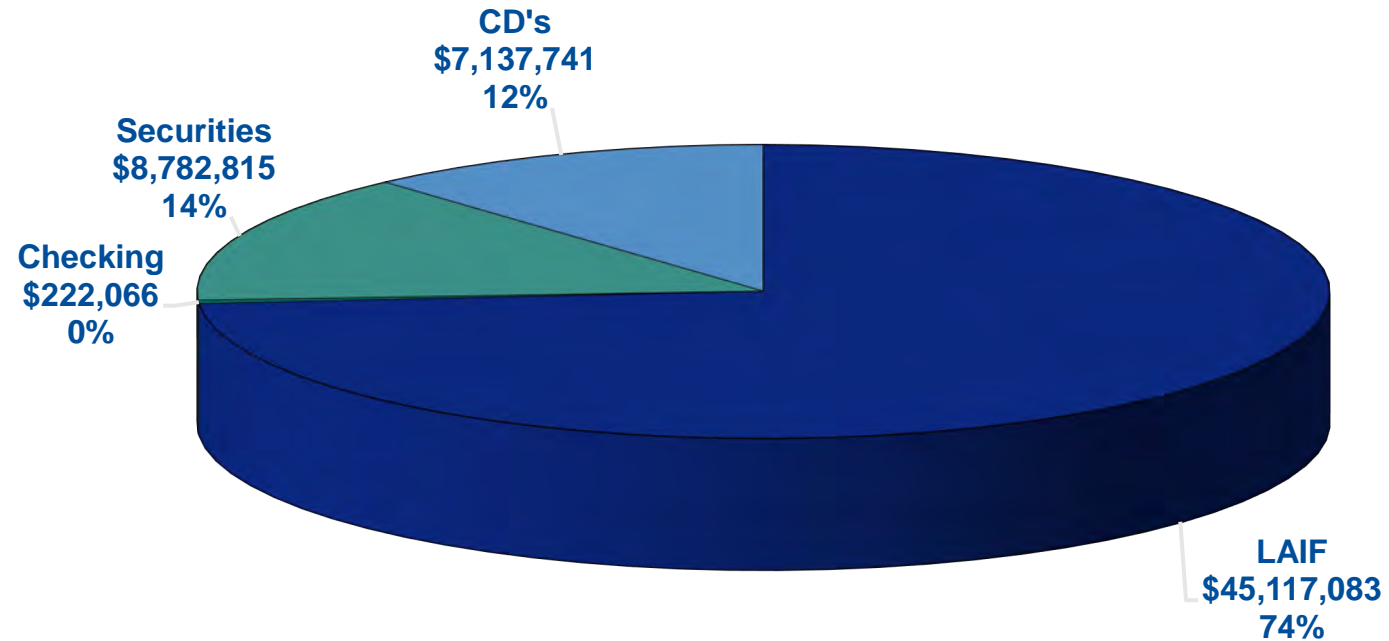


Agenda

- Cash & Investments
- Reserve Account Balances
- Transfer, Uses, and Contributions from/to Reserves
- Enterprise Revenues
- Enterprise Expenses
- Enterprise Performance
- Capital Improvement Program

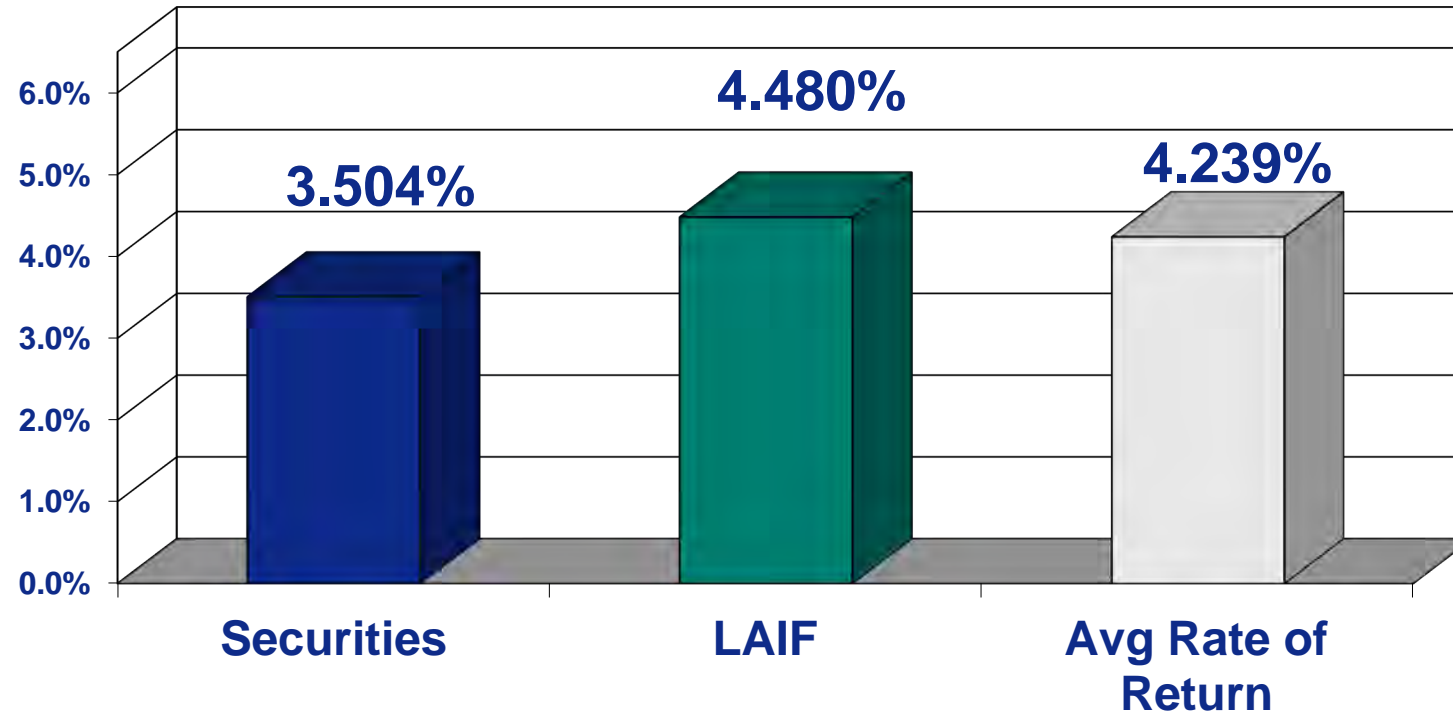
Cash & Investments

\$61,259,705



Cash & Investments

Interest Rate Analysis



Reserve Account Balance

Reserve Account	Balance
Debt Retirement	\$2,979,538
Pipeline Replacement & Capital Investment	34,149,034
OC San Pipeline Rehabilitation	2,849,924
Pipeline Capacity Management	12,671,389
OC San Future Treatment & Disposal Capacity	1,940,031
Brine Line Operating	2,240,462
Operating Cash	4,429,327
Total Reserves	\$61,259,705

Reserve Account Balance

Reserve	Balance @ 09/30/2023	Balance @ 12/31/2023	Balance @ 03/31/2024	Balance @ 06/30/2024
Debt Retirement	\$2,899,430	\$2,922,922	\$2,951,490	\$2,979,538
Pipeline Replacement & Capital Investment	34,592,116	34,710,784	33,985,636	34,149,034
OC San Pipeline Rehabilitation	2,773,949	2,795,769	2,823,097	2,849,924
Pipeline Capacity Mgmt	12,330,705	12,430,612	12,552,108	12,671,389
OC San Future Treatment & Disposal Capacity	1,887,871	1,903,167	1,921,768	1,940,031
Brine Line Operating	2,179,659	2,197,891	2,219,372	2,240,462
Operating Cash	2,581,116	3,392,879	3,902,910	4,429,327
Total	\$59,244,846	\$60,354,024	\$60,356,381	\$61,259,705

Transfers, Uses, and Contributions to/from Reserves

Pipeline Replacement & Capital Investment

- Contribution of \$1,900,000
- RBF Loan Payoff of \$1,443,906
- SBVMWD Cost Share Agua Mansa - \$214,649
- Transfer of \$141,358 from excess Operating Reserve
- Use of Reserves Fund 320 - \$304,685
- Use of Reserves Fund 327 - \$279,225
- Use of Reserves Fund 328 (Agua Mansa Lateral) - \$2,524,932

OC San Pipeline Rehabilitation

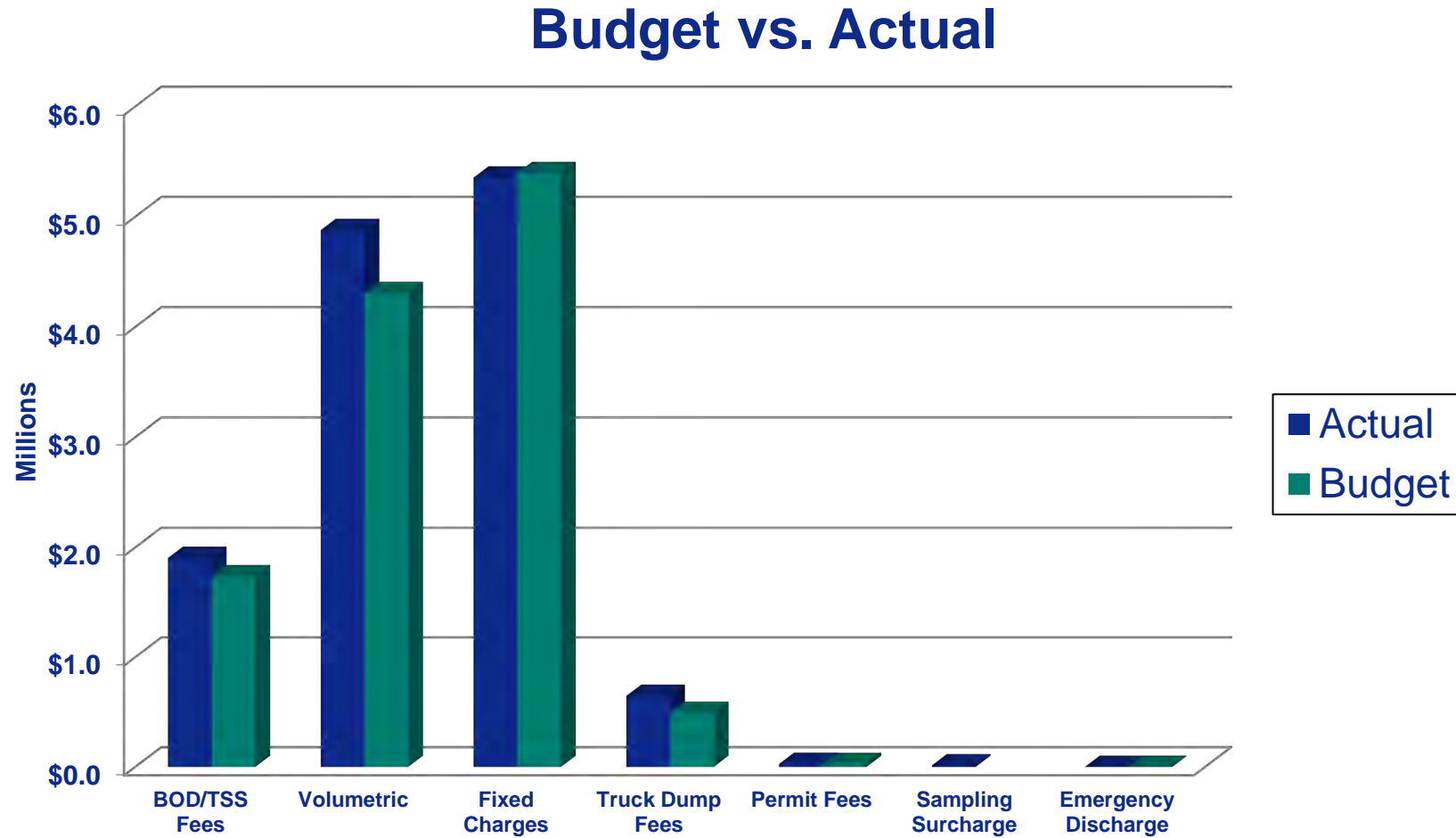
- Contribution of \$325,309

Interest Earned (All Reserve Funds) - \$2,327,818

Total Operating Revenues

Source	Actual	Budget	Variance Positive/(Negative)
BOD/TSS Fees	\$1,905,187	\$1,738,500	\$166,687
Volumetric Fees	4,879,411	4,308,095	571,316
Fixed Charges	5,355,510	5,396,025	(40,515)
Truck Discharge	647,714	492,400	155,314
Permit Fees	27,700	26,600	1,100
Sampling Surcharge	14,589	0	14,589
Emergency Discharge Fees	567	0	567
Total Operating Revenues	\$12,830,678	\$11,961,620	\$869,058

Operating Revenues vs. Budget

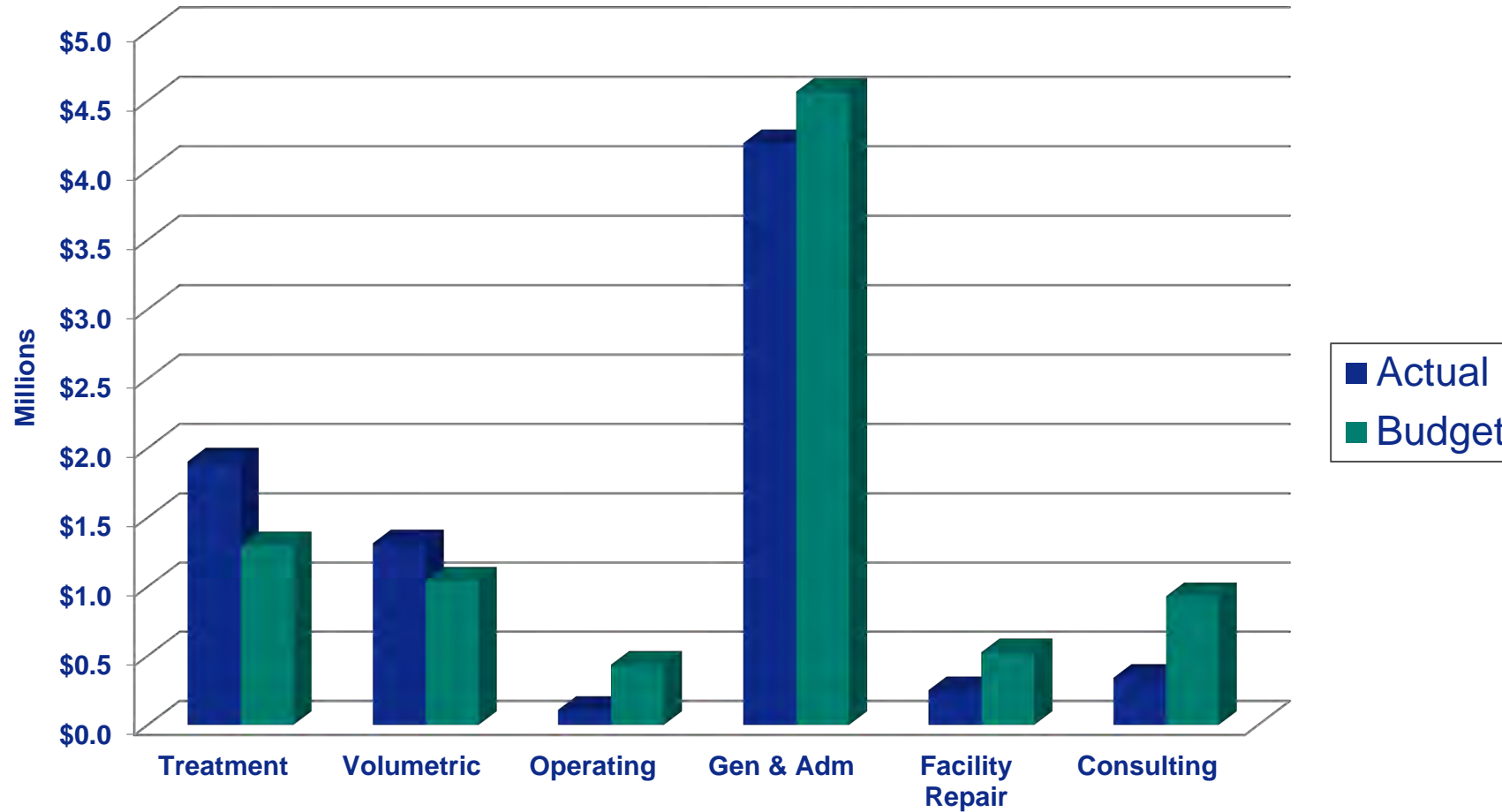


Total Operating Expenses

Source	Actual	Budget	Variance Positive/(Negative)
Treatment Costs	(\$1,903,142)	(\$1,298,500)	(\$604,642)
Volumetric Costs	(1,313,088)	(1,043,137)	(269,951)
Operating Costs	(108,080)	(434,712)	326,632
General & Administration	(4,194,070)	(4,565,406)	371,336
Facility Repair & Maintenance	(250,554)	(525,080)	274,526
Consulting & Prof. Services	(340,138)	(930,000)	589,862
Total Operating Expenses	(\$8,109,072)	(\$8,796,835)	\$687,763

Operating Expenses vs. Budget

Budget vs. Actual



Non-Operating Revenues and Expenses

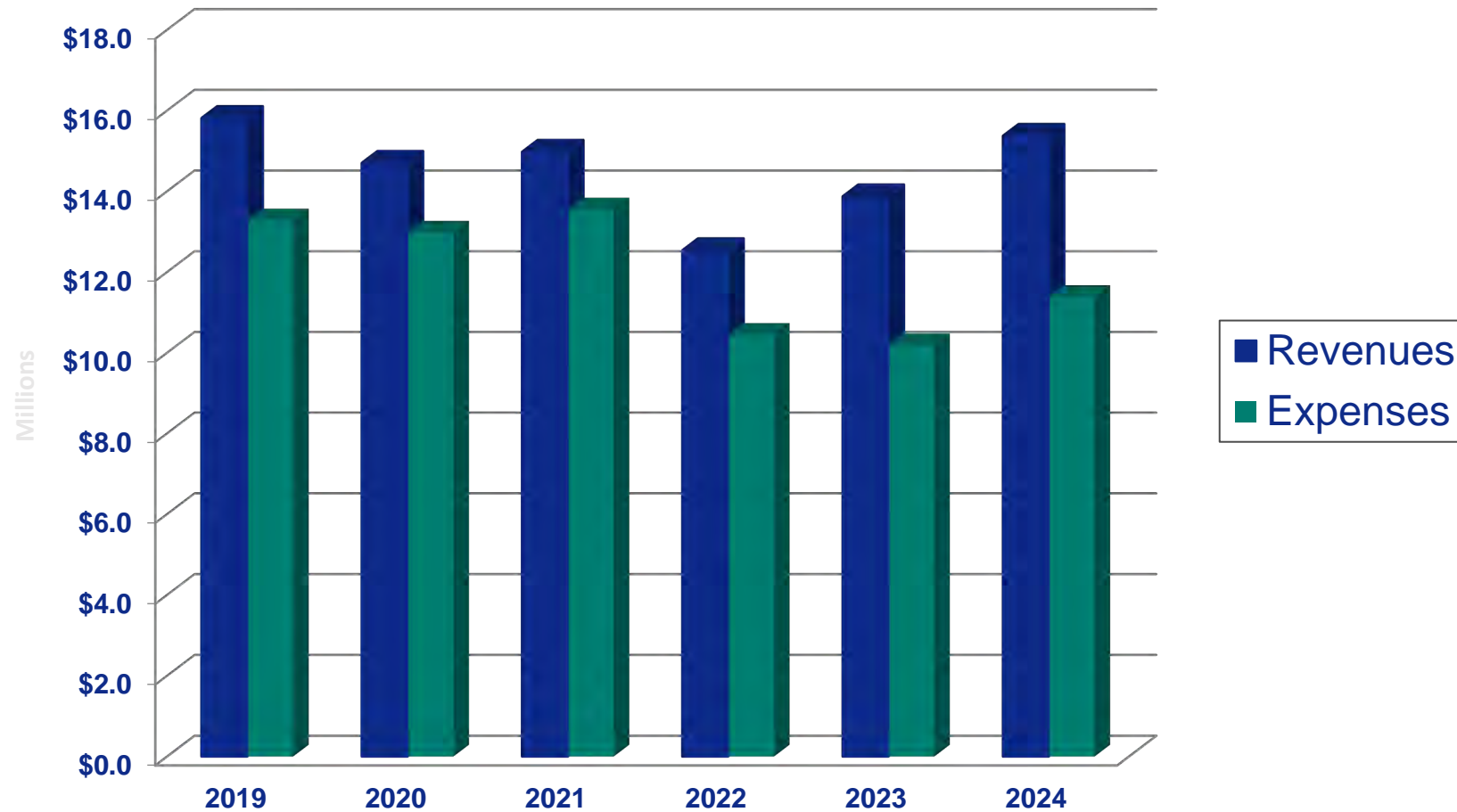
Source	Actual	Budget	Variance Positive/(Negative)
Interest & Investments	\$2,327,818	\$770,000	\$1,557,818
Other Income	217,073	0	217,073
Capital Contribution – RBF	1,389,215	0	1,389,215
Capital Contribution – SBVMWD	776,801	0	776,801
Debt Service	(1,044,273)	(1,044,273)	0
Contributions to Reserves	(2,225,309)	(2,225,309)	0
Total Non-Operating	\$1,441,325	(\$2,499,582)	\$3,940,907

5 Year Enterprise Performance

FYE	Revenue	Expense	Net Gain (Loss)
2019	\$15,815,809	(\$13,275,330)	\$2,540,479
2020	14,705,314	(12,973,136)	1,732,178
2021	14,979,869	(13,547,431)	1,432,438
2022	12,540,991	(10,440,350)	2,100,641
2023	13,875,754	(10,184,463)	3,691,291
2024*	15,375,569	(11,378,654)	3,996,915

- Revenues for 2024 does not include capital contributions of \$2,1660,016 for the construction of the Agua Mansa Lateral which are one time revenue sources used to pay for construction.

5 Year Enterprise Performance



Enterprise Performance

Flow, BOD, TSS Actual vs. OC San Billing

	SAWPA Billed	OC San Billing	Difference
Total Flow (MG)	4,553.728	4,497.03	56.698
Total BOD (1,000 lbs)	1,022.763	908.244	114.519
Total TSS (1,000 lbs)	3,040.928	3,129.485	(88.557)
Flow - Pass through per MG	\$292.00	\$291.99	\$0.01
BOD cost per 1,000 lbs	\$394.00	\$393.64	\$0.36
TSS cost per 1,000 lbs	\$494.00	\$493.89	\$0.11

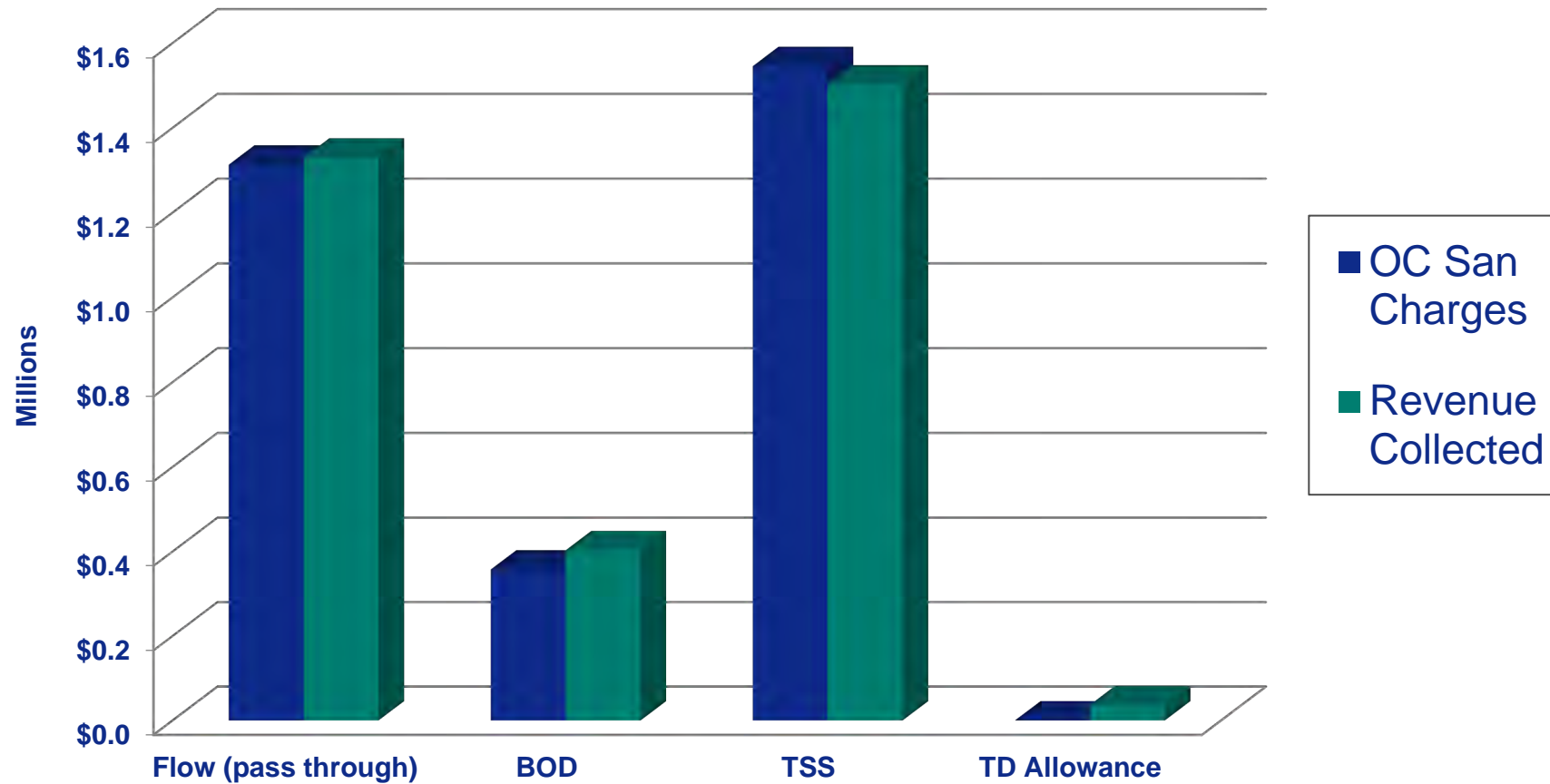
Enterprise Performance

OC San Flow, BOD & TSS Charges vs. Revenue Billed

	Revenue Billed	OC San Charges	Difference
Flow (pass through)	\$1,329,689	\$1,313,088	\$16,601
BOD	402,969	357,520	45,449
TSS	1,502,219	1,545,622	(43,403)
TD Allowance	36,861	0	36,861
Total	\$3,271,738	\$3,216,230	\$55,508

Enterprise Performance

OC San Flow, BOD & TSS Charges vs. Revenue Billed



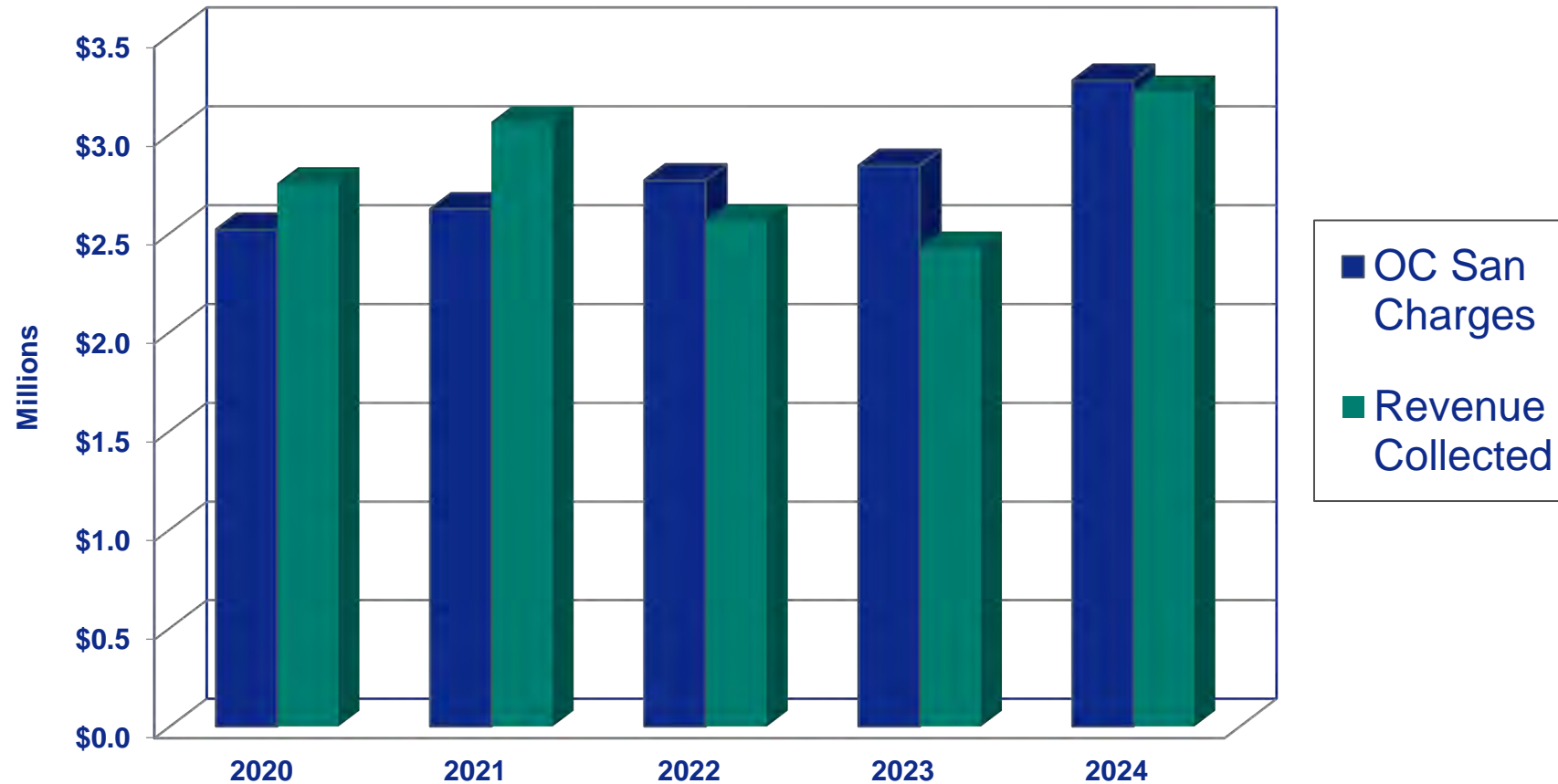
5 Year Enterprise Performance

Flow, BOD & TSS Charges vs. Revenue Billed – Last 5 Years

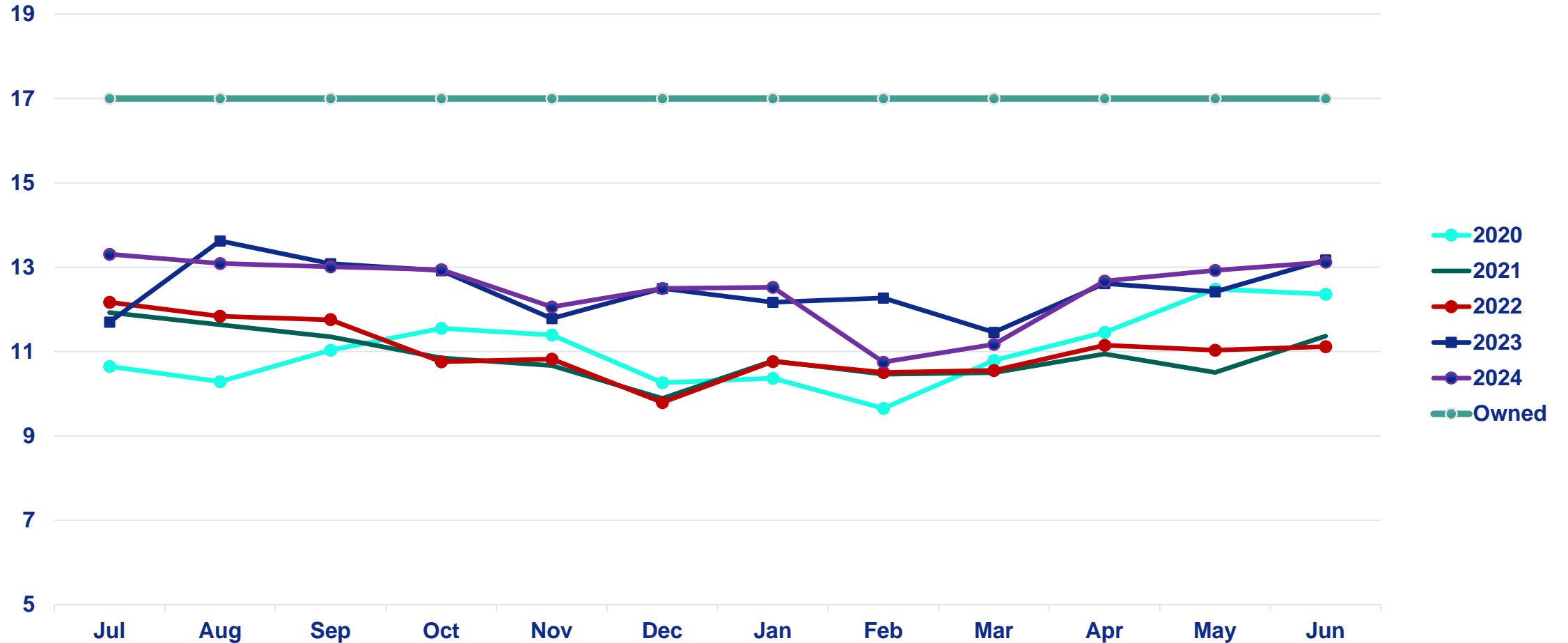
FYE	Revenue Billed	OC San Charges	Difference
2020	2,751,954	2,518,051	233,903
2021	3,061,944	2,621,142	440,802
2022	2,566,021	2,767,351	(201,330)
2023	2,427,005	2,841,389	(414,384)
2024	3,271,738	3,216,230	55,508
Total	\$14,078,662	\$13,964,163	\$114,499

5 Year Enterprise Performance

Flow, BOD & TSS Charges vs. Revenue Billed – Last 5 Years

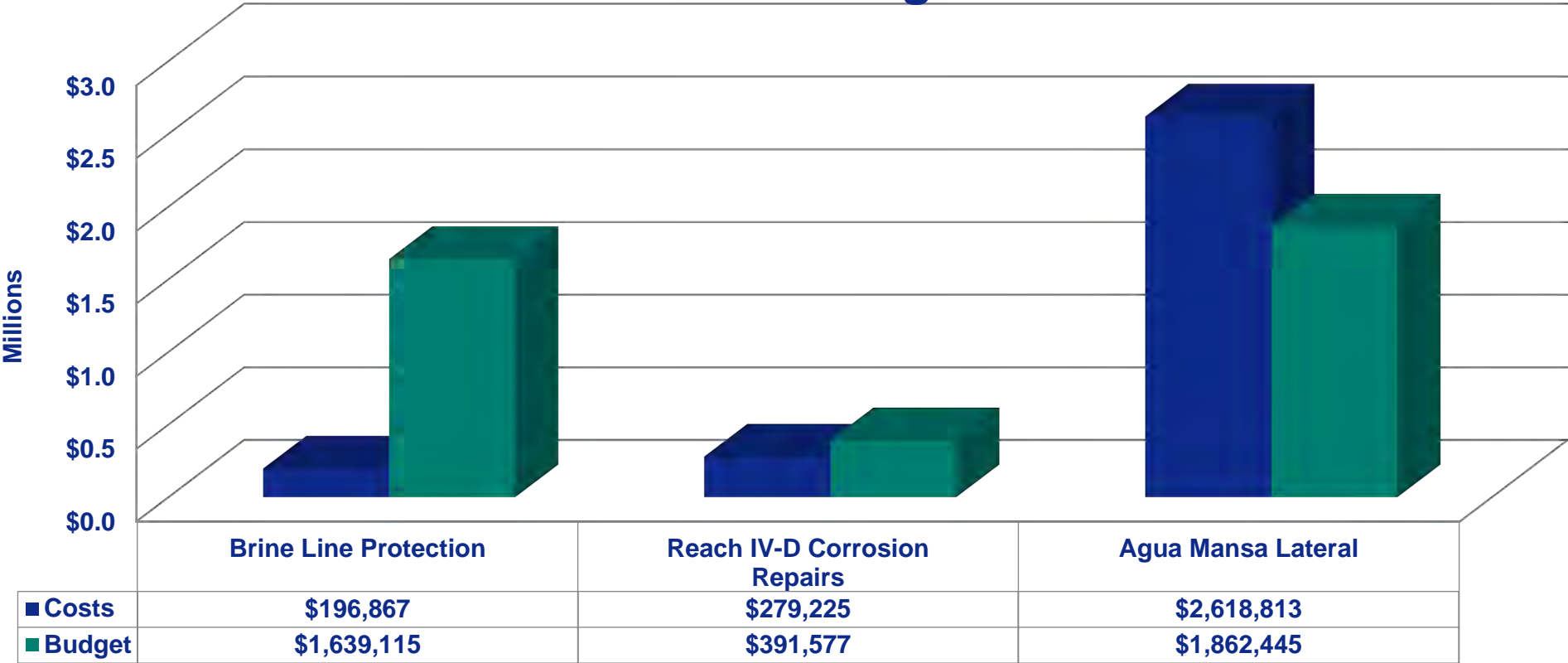


Average Daily Flow



Capital Projects

Costs vs. Budget



Capital Project Fund (320)

Brine Line Protection / Relocation Projects

- **D/S Prado in OC – emergency protection work, pipeline relocation**
- **Above Prado - pipeline relocation and manhole lid adjustments – when required**
- **D/S Prado in Riverside County – bank armoring**

Questions

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