

CITY OF SACRAMENTO

Office of the City Auditor – Research and Analysis Division

Storm Drainage Funds Review

Report# 2026/27-06 October 2026



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Appendix A: RCNLD Supporting Data Tables

Appendix B: Long-Term Fiscal Forecast Tables

Table of Acronyms and Abbreviations

Acronym / Abbreviation	Definition / Expansion
ASL	Average Service Life
AWWA	American Water Works Association
BMP	Best Management Practice
BRE	Business Risk Exposure
CAGR	Compound Annual Growth Rate
Caltrans	California Department of Transportation
CCTV	Closed-Circuit Television (Pipeline Inspection)
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management System
COF	Consequence of Failure
CPI	Consumer Price Index
CSS	Combined Sewer System
CVFPB	Central Valley Flood Protection Board
CWSRF	Clean Water State Revolving Fund
DOC	Departmental Operations Center
DOU	Department of Utilities (City of Sacramento)
DWC	Days of Working Capital
DWR	California Department of Water Resources
FEMA	Federal Emergency Management Agency
FTE	Full-Time Equivalent
FY	Fiscal Year

Acronym / Abbreviation	Definition / Expansion
GIS	Geographic Information System
ISC	Impervious Surface Coefficient
LHMP	Local Hazard Mitigation Plan
LMA	Local Maintaining Agency
LOF	Likelihood of Failure
LOS	Level of Service
MS4	Municipal Separate Storm Sewer System
MYOP	Multi-Year Operating Program
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
R/R	Rehabilitation and Replacement
RCNLD	Replacement Cost New Less Depreciation
RUL	Remaining Useful Life
SACOG	Sacramento Area Council of Governments
SCADA	Supervisory Control and Data Acquisition

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1. Executive Summary

1.1. Study Objectives

The Office of the City Auditor engaged Raftelis, in partnership with West Yost Associates, to conduct an independent fiscal stability assessment of the City of Sacramento (City) Department of Utilities (DOU) Storm Drainage Fund and the fees that support it. The assessment evaluates whether current and projected revenues are sufficient to sustain the DOU Storm Drainage program's operational, capital, and regulatory obligations over a 10-year, 15-year, and 20-year planning horizon. The study comprises five components: benchmarking against peer utilities; a review of expense, revenue, and funding history; a high-level system assessment; a desktop valuation of system assets using the replacement cost new less depreciation (RCNLD) methodology; and a fiscal forecast developed with an open-source, Excel-based financial planning model that considers several future scenarios.

1.2. Key Findings

Rates for the two fees supporting DOU's storm drainage program have not been adjusted since their implementations in 1996 and 2022. The lack of adjustment means that revenue growth is dependent on customer and billing-unit growth, which has trailed inflation. Per the analysis described in Section 6, the separated storm drainage system carries an estimated replacement cost of approximately \$4.30 billion and an RCNLD of approximately \$1.26 billion, reflecting a mature system with substantial long-lived conveyance assets, and a growing set of assets reaching the end of their estimated useful life. Benchmarking shows that DOU's operations and maintenance (O&M) costs (when compared by combined and separated drainage pipe length and per capita) and residential fees are relatively high compared to peer agencies while the utility's cash position is leaner than peers, driven largely by factors including that DOU's drainage conveyance requires energy-intensive, pump-dependent infrastructure to convey stormwater, DOU's partially combined sewer system (in which stormwater and wastewater are conveyed together) and DOU's responsibilities as a Local Maintaining Agency for levees. Across both future financial plan scenarios, existing rates are insufficient to meet projected operating expenditures. Even under the Status Quo scenario, anticipated revenues in Fund 6011 average \$45.9 million from FY 2027 to FY 2031, compared to average expenses of \$50.7 million, resulting in an average annual shortfall of approximately \$4.8 million. California's Proposition 218 constrains DOU's ability to adjust rates and represents a significant enterprise risk that can weigh on the utility's credit profile.

1.3. Conclusion

The Status Quo scenario demonstrates that even with no changes to the current level of service, a revenue adjustment is needed to maintain financial stability. The Level of Service scenario, which addresses critical infrastructure and regulatory compliance needs, requires larger initial adjustments to address the accumulated gap between current rates and the cost of providing service. The modeled initial adjustments are staggered between Fund 6011 and 6021. Modeled rate adjustments begin in FY 2029 for Fund 6011, with an increase of 40 percent. For Fund 6021, modeled rate adjustments begin in FY 2031 with an

increase of 205 percent. These adjustments will fund all expenses and achieve and maintain the minimum operating reserve target of 120 days of O&M expenses for each Fund.

DOU faces a widening gap between current revenues and the cost of maintaining and improving its storm drainage and flood control systems. Both of the future financial plan scenarios require a revenue adjustment to restore financial stability, with larger initial adjustments needed to address critical infrastructure, regulatory compliance, and levee maintenance obligations. Raftelis recommends that DOU evaluate these scenarios against its service priorities, affordability considerations, and long-term infrastructure goals as it embarks on the formal rate-making process in the coming years.

2. Introduction

2.1. Objectives, Scope, and Methodology

The Office of the City Auditor engaged Raftelis, in partnership with West Yost Associates, to conduct an independent fiscal stability assessment of the City of Sacramento (City) Department of Utilities (DOU) Storm Drainage Fund and associated fees. The purpose of this study is to provide an objective evaluation of the financial position of the DOU storm drainage program and to determine whether current and projected revenues are sufficient to sustain the program's operational, capital, and regulatory obligations over a multi-year planning horizon. The findings and conclusions presented in this report are intended to support informed decision-making by DOU as well as the City's Utilities Rate Advisory Commission, Budget and Audit Committee, and City Council regarding the long-term sustainability of the storm drainage program.

To meet this objective, the Raftelis team conducted five core analyses. First, a benchmarking analysis compared DOU's storm drainage program operations, rates, levels of service, and fiscal policies against those of peer utilities and industry best practices. Second, a review of expense, revenue, and funding history examined storm drainage program revenues, funding sources, and operational and capital expenses for at least the past five fiscal years to identify trends and assess changes over time. Third, a high-level storm drainage system assessment evaluated DOU's storm drainage infrastructure, including system capacity, level of service performance, deferred capital and operational needs, and the associated impacts on system condition, conducted in partnership with West Yost Associates. Fourth, a desktop asset valuation estimated the value of storm drainage infrastructure using the Cost Approach methodology focused on RCNLD values by major asset classification. Fifth, a fiscal forecast and open-source Excel-based financial model projected program revenue requirements—incorporating operating costs, capital improvement needs, regulatory obligations, debt service, and Fund 6011 (Storm Drainage Fee) and Fund 6021 (Storm Drainage Property-Related Fee) revenue projections for 10-year, 15-year, and 20-year planning horizons.

2.2. Background

The City of Sacramento is the capital of California and one of the oldest cities in the state, with a population of approximately 530,000 residents. DOU provides drinking water, wastewater, and storm drainage services to residents and businesses throughout the city. The storm drainage program is responsible for collecting and conveying stormwater runoff to prevent localized flooding and protect public health, water quality, and the environment. DOU serves more than 155,000 storm drainage customers (137,550 residential and 17,660 commercial accounts) and maintains a complex network of infrastructure that spans more than 135 individual drainage basins across the city.

Sacramento's geography and hydrology present unique challenges for storm drainage management. The city sits at the confluence of the Sacramento and American Rivers in California's Central Valley, an area historically prone to flooding. Because much of the city lies at or below the elevation of surrounding waterways, the storm drainage system relies heavily on mechanical pumping to move stormwater off streets and away from homes and businesses. Unlike many municipalities where gravity conveyance is sufficient,

DOU's system requires continuous operation of sump stations¹, levees, and control structures to manage flows—making the system both operationally intensive and costly to maintain.

DOU's separated storm drainage infrastructure includes approximately 1,087 miles of separated storm drainage pipeline, inclusive of 132 miles of large-diameter pipeline (42 inches or greater in diameter) and 10 miles of force mains, 107 drainage sump stations, 76 detention basins, 23 miles of levee, 390 floodgate assets, 179 control valves, and 21,500 manholes. A significant portion of this infrastructure is aging, with some components dating back more than a century. A portion of DOU's storm drainage system is combined with its wastewater system, known as the Combined Sewer System (CSS), which is also partially funded by the drainage fees. Sacramento is one of only two cities in California—and one of four on the West Coast—that operates a CSS. The City's CSS, which dates back over 100 years, collects both stormwater runoff and sanitary sewage into a single set of pipes across approximately 7,500 acres of the city's oldest neighborhoods and includes two wet weather primary treatment plants. By miles of pipe, the city is 24% combined; by acreage, the city is 12% combined. The remainder of the city is served by a separated storm drainage system, where stormwater and sanitary sewage flow through independent pipe networks.

The storm drainage program is funded through two dedicated fees, the Storm Drainage Fee established in 1996 and the Storm Drainage Property-Related Fee established in 2022 (and, after defeating a legal challenge, it was available for use in 2025). The former is dedicated to existing storm drainage infrastructure operating costs associated with DOU's Fund 6011, while the latter was developed to address the system's growing capital improvement needs tracked in DOU's Fund 6021.

¹ DOU refers to these facilities as "sump stations"; the industry-standard term is "pump stations." DOU's terminology is used throughout this report

3. Benchmarking

3.1. Benchmarking of Peer Agencies

Benchmarking serves as an essential assessment tool, allowing evaluation of a utility's financial and operational status against peer agencies. This comparison helps determine if the organization aligns with industry standards or if specific areas require heightened attention or investment. While these comparisons are helpful, benchmarking inherently lacks an evaluation of service delivery quality. Therefore, integrating knowledge of best practices is necessary to provide accurate context for interpreting the peer comparison data.

As part of its review of DOU's Storm Drainage Fund, Raftelis has conducted benchmarking research on financial metrics, staffing, organization, and functions. Achieving truly comparable data is difficult given the significant geographic, operational, political, and economic differences between utilities. To mitigate this challenge, the project team collected data from publicly available documents and prioritized utilities sharing characteristics such as combined sewer systems, complex rate-setting environments, or similar environmental constraints.

The final peer group comprises eleven utilities, including six in California and three located in the Central Valley. Operational similarities among these peers include five organizations that operate partially or near-fully combined sewer systems, with some delegating conveyance and treatment functions to external entities.

3.2. Peer Agencies

We identified eleven peer cities for benchmarking, including six in California, two in Ohio, one in Oregon, one in Washington, and one in Massachusetts. See Table 3-1 for general metrics on all benchmarked peers. As described above, peers were selected to reflect various elements and challenges of DOU's Storm Drainage Fund and program.

Sacramento's storm drainage system is uniquely positioned – it is partially combined, meaning the infrastructure collects sewage and stormwater runoff into the same set of pipes, requires significant pumping to operate, and is regulatorily constrained on rate adjustments. While most California peers are operationally distinct from Sacramento because they operate separate storm sewers and have limited pumping requirements, they face identical cost-recovery constraints due to Proposition 218. Proposition 218 subjects storm drainage rate setting to both a majority protest and majority approval processes, significantly inhibiting the ability of overseeing entities to increase rates.

The City of Modesto's storm sewers, operated by the city's Environmental Services department, are fully separated and discharge excess runoff into canals operated by the Modesto Irrigation District. It is heavily rate-constrained, with its only active fee having been approved in 1995. Moreover, its annual operating costs exceed its fee revenues, driving a nearly \$1 million deficit for its Storm Drainage fund in FY 2024.

Similarly, the City of Stockton's Stormwater Utility, which operates a fully separate storm sewer system, maintained a \$2.8 million operating loss in FY 2024, although developer contributions offset this loss. The

city's only active fee was implemented in 1992, with an attempted Clean Water Fee failing to pass in 2010. At the time of this report, Stockton is pursuing a stormwater rate adjustment, having noted that, without additional funds, the stormwater fund balance will be insufficient by FY 2027.

The City of Davis Public Works Department operates separate storm sewers which were funded by a decades-old storm drainage fee until activating a new fee in FY 2023. In FY 2022, the Storm Drainage Fund operated at a significant loss.² Since activating the new fee, the Storm Drainage fund has managed to cover its operating costs with storm drainage fees alone.³

The City of San José Department of Public Works also operates a separated storm drainage system. Its current storm drainage fee was implemented in 2011. Its most recent financial results reported a net operating income for its Storm Drainage Service Use Charge. San José's adopted FY 2027 budget projects fee revenues of just over \$34 million compared to nearly \$37 million in operating expenditures.

Santa Rosa Water operates a fully separated storm drainage system which is funded by its 1996 Storm Water Assessment. This assessment is noteworthy as it is restricted to operational costs and cannot fund capital programs.⁴ While the fee is nearly 30 years old, it is updated annually using Consumer Price Index (CPI) and recent financial results indicate that total stormwater fees slightly exceed program expenses.⁵

The City of Berkeley's 2018 Clean Stormwater Fee is escalated annually and enhances its prior 1991 stormwater fee. The more recent fee more than doubled revenues for the storm drainage fund. However, the City noted in its recent biennial budget that the Clean Stormwater Fund faces impending budgetary shortfalls due to constraints deriving from Proposition 218.⁶

While cities in California face similar rate-constraints due to Proposition 218, most operate separate storm sewers and none appear to approach Sacramento's obligation to pump a significant portion of flows. To address the operational constraints faced by DOU, we identified multiple peers outside California who maintain systems with other similarities.

Portland, Oregon's Bureau of Environmental Services (BES) operates a mostly combined storm drainage system, with the separated system covering a small portion of the City's Urban Services Boundary.⁷ Its stormwater fee consists of two components, passed at different times, which link rates to the number of dwellings and the amount of impervious area on each parcel.⁸ However, the rate-setting environment is not

² Annual Comprehensive Financial Report FY 2022, City of Davis, pg. 24, <https://www.cityofdavis.org/home/showpublisheddocument/20474/638869681974270000>

³ City of Davis Adopted Budget FY 2025-2027, pg. E-56, <https://www.cityofdavis.org/home/showpublisheddocument/20488/638877627772000000>

⁴ Stormwater Assessment, City of Santa Rosa, <https://www.srcity.org/2909/Storm-Water-Assessment>

⁵ Annual Comprehensive Financial Report, City of Santa Rosa, California, Fiscal Year Ended June 30, 2024, pg. 22, <https://www.srcity.org/ArchiveCenter/ViewFile/Item/4594>

⁶ City of Berkeley Adopted Budget, Fiscal Years 2025-2026, pg. 138, <https://berkeleyca.gov/sites/default/files/documents/FY-2025-2026-Proposed-Biennial-Budget.pdf>

⁷ About Our Sewer and Stormwater System, Portland.gov, <https://www.portland.gov/bes/resource-recovery/about-sewer-stormwater> ; City of Portland Fiscal Year 2024-25 (FY 25) NPDES MS4 Annual Compliance Report (Permit No. 101314)

⁸ Sewer and Stormwater Rates and Charges, Portland.gov, <https://www.portland.gov/bes/pay-your-utility-bill/sewer-and-stormwater-rates-and-charges>

as challenging, producing financials which reflect less strain on the system than observed in many California cities.

The City of Cleveland, Ohio's stormwater system is primarily combined and is operated by two entities; Cleveland Water Pollution Control (WPC) manages the municipal-level collection of wastewater and stormwater while the Northeast Ohio Regional Sewer District (NEORS) manages regional-level wastewater conveyance, treatment, and stormwater management across the region. Cleveland residents are charged a stormwater fee by NEORS for its storm drainage services, including conveyance and treatment. While residents do not pay a fee to WPC for local stormwater collection, WPC receives stormwater-specific funding from NEORS in the form of a Community Cost Share program disbursement, which allocates a portion of NEORS storm drainage revenues to local entities, such as WPC.⁹ Initially, NEORS faced significant legal challenges to its authority to collect and manage stormwater, and to charge for the service. This has since been clarified and established through an amended charter.

The City of Cincinnati, Ohio maintains a mostly combined storm drainage system, with only 20 percent of stormwater-conveying pipes being fully separated. The separated part of its system is managed by the Greater Cincinnati Water Works (GCWW) under its Stormwater Management Utility. This utility is funded by a storm drainage service charge; however, it should be noted that this fee does not support the combined elements of the storm drainage system. The sewer system (including combined pipes) is managed by the Metropolitan Sewer District of Greater Cincinnati (MSD), which operates 100 pump stations and seven treatment plants in addition to its combined sewer pipes.¹⁰

Seattle Public Utilities (SPU) operates Seattle's partially combined storm drainage system. Stormwater-related costs are funded by its storm drainage fees, updated as recently as June 2025.¹¹ SPU operates 67 pump stations and conveys its combined sewer flows to a separate entity (King County Wastewater Treatment) for treatment.¹² While SPU's system is combined and requires some pumped flows, this agency is distinct from Sacramento in that it faces fewer obstacles to fee setting.

Finally, Boston's Water and Sewer Commission (BWSC or Boston W&S) operates a partially combined storm drainage system. Its stormwater-related costs are paid via its storm drainage fees, which are assessed monthly and escalated using inflationary figures.

For the purpose of consistency and readability across all subsequent tables and figures in this report, peer agencies are identified by the name of the city served (e.g., 'Portland Bureau of Environmental Services').

⁹ NEORS FY 2024 ACFR, pg. XI, https://www.neorsd.org/I_Library.php?SOURCE=library/Northeast%20Ohio%20Regional%20Sewer%20District%202024%20ACFR.pdf&a=download_file&LIBRARY_RECORD_ID=8079

¹⁰ Metropolitan Sewer District of Greater Cincinnati Hamilton County Single Audit For the Year Ended December 31, 2023, pg. 5, https://msdgc.org/sites/default/assets/downloads/about_msd/Audits/msd_financial_statements_2023.pdf

¹¹ *Drainage Rates*, Seattle.gov, <https://www.seattle.gov/utilities/your-services/accounts-and-payments/rates/drainage>

¹² Seattle Public Utilities 2027-2032 Proposed CIP document, page 9.

https://www.seattle.gov/documents/Departments/FinanceDepartment/2732proposedcip/cip_SPU_DrainWastewater.pdf

Table 3-1: Overview of Peer Benchmarked Agencies

Agency Name	City Served	Population Served	Median Household Income ¹³	Separate Stormwater Fee	Combined/ Separate System
City of Berkeley Public Works	Berkeley, CA	120,000	\$108,558	Yes	Separate
Boston Water and Sewer Commission	Boston, MA	673,000	\$94,755	Yes	20% Combined
Greater Cincinnati Water Works / MSD	Cincinnati, OH	310,000	\$51,707	Yes	80% Combined
Cleveland Water Pollution Control / NEORS	Cleveland, OH	367,000	\$39,041	Yes	91% Combined
City of Davis Public Works	Davis, CA	67,000	\$87,421	Yes	Separate
City of Modesto Environmental Services	Modesto, CA	221,000	\$79,661	Yes	Separate
Portland Bureau of Environmental Services (BES)	Portland, OR	643,000	\$88,792	Yes	Partially Combined
Sacramento Department of Utilities (DOU)	Sacramento, CA	530,000	\$83,753	Yes	Partially Combined
San José Department of Public Works	San José, CA	991,000	\$141,565	Yes	Separate
Santa Rosa Water	Santa Rosa, CA	177,000	\$97,410	Yes	Separate
Seattle Public Utilities (SPU)	Seattle, WA	741,000	\$121,984	Yes	Partially Combined
City of Stockton Stormwater Utility	Stockton, CA	326,000	\$76,851	Yes	Separate

¹³ Based on data from the 2023 American Community Survey.

Throughout this section, there are figures provided with greater confidence and also those provided with greater uncertainty. Assumptions or descriptions are provided where applicable.

3.3. Storm Drainage System & Assets

Storm drainage systems can vary significantly from one agency to the next, depending on the topography, weather patterns, and how the agency has prioritized investment in the system. As discussed earlier, Sacramento's system does not have the benefit of gravity to move water away from the developed areas, so significant available funding is spent operating and maintaining sump stations to convey drainage water in addition to the City's floodplain management and levee maintenance responsibilities. Systems that are gravity-based avoid this particular obligation and can instead provide a higher level of service for other parts of the system, including pipe maintenance, green infrastructure, and capital reinvestment. The table below provides a high-level overview of the benchmarked agencies' system assets and includes other notable programs or facilities in which the stormwater program invests.

Table 3-2: Benchmarked Agency System Information

City Served	Miles of Separated Storm Sewers	Miles of Combined Sewers	Pump Stations	Levees	Other	Notes
Berkeley, CA	~100	0	0	N/A	Green Infrastructure and Trash Capture Facilities	
Boston, MA	670	155	9 (sanitary and storm)	N/A	N/A	
Cincinnati, OH	>300	Managed by MSD	4	1.5 miles, Dam and Pumps	N/A	
Cleveland, OH	~120	~1,200	11 (sanitary and storm)	<1 mile	2 Stormwater basins	Conveyance Only
Davis, CA	130	0	9	N/A	7 Detention Ponds/ Basins (65+ acres)	
Modesto, CA	77	0	25	N/A	Groundwater recharge facilities	
Portland, OR	448 ¹⁴	915 ¹⁵	7 (storm only) ¹⁶	Managed by separate Drainage Districts	Focus on Nature Based Solutions	2 WWTPs – costs higher on sanitary side
Sacramento, CA	1,087	337	107 ¹⁷	23 miles	76 detention basins	2 CSS wet weather primary treatment plants

¹⁴ Reported in *Fiscal Year 2024-25 (FY 25) City of Portland NPDES MS4 Annual Compliance Report (Permit No. 101314)*. May include pipes in underground injection control (IUC) area.

¹⁵ City of Portland Annual Combined Sewer Overflow and Capacity, Management, Operation, and Maintenance Report FY2025. [Efiles - CSO CMOM RPT Annual CSO and CMOM Report FY2025 - 20250926 FINAL \(26/ED/106300\)](#)

¹⁶ [City of Portland MS4 Map](#)

¹⁷ Sump 163 was added to the separated drainage system following completion of West Yost's 2026 *City of Sacramento – 2025 Storm Drainage Fund Review Storm Drainage System Assessment* technical memorandum, which identified 106 sump stations.

City Served	Miles of Separated Storm Sewers	Miles of Combined Sewers	Pump Stations	Levees	Other	Notes
San José, CA	~1,100	0	30	Managed by other entities	Co-permittee in Santa Clara Valley MRP	
Santa Rosa, CA	320	0	0	N/A	N/A	
Seattle, WA	481	968	67 (sanitary and storm)	~5 miles	N/A	Conveyance Only; larger pipes operated by King County
Stockton, CA	620	0	72	N/A	N/A	

System composition and age are challenging to capture across the board, but several benchmarked agencies note aging infrastructure. Portland highlights that over a third of pipes are over 80 years old, across all sewer and stormwater pipelines. Cleveland's WPC indicates that about 43 percent of pipes are over 100 years old. Seattle's combined sewers are 70 to 100 years old. In the early to mid-20th century, most sewers were being built of clay and cast iron, with plastic more recently becoming the material of choice. Most agencies don't provide information on their overall system capacity or the capacity of individual pumps.

As shown above, several agencies have a role in the operations of levees and associated infrastructure. Cleveland's are earthen embankments, whereas Cincinnati's includes a sophisticated dam. No peer agency comes close to the length of levee managed by the City of Sacramento, though others do have significant levee systems operated in whole or part by other agencies.

Agencies in California's Central Valley and those in the Pacific Northwest have a higher reliance on pumps to move stormwater and combined wastewater through the system. These system elements can be seen in system costs detailed below.

KEY TAKEAWAYS: STORM DRAINAGE SYSTEM & ASSETS

Sacramento's drainage system profile is significantly more complex than many of its peers. This is due to locally flat geography and the presence of levees, requiring the use of sump stations to actively pump drainage water where gravity-based conveyance is not possible. The capital investment, energy consumption, and maintenance of sump stations and their associated pressurized force main pipes increase non-discretionary system operational costs. This baseline complexity introduces higher regulatory and maintenance requirements that are not standard for most municipal stormwater utilities, directly impacting the long-term allocation of resources.

3.4. Staffing Levels

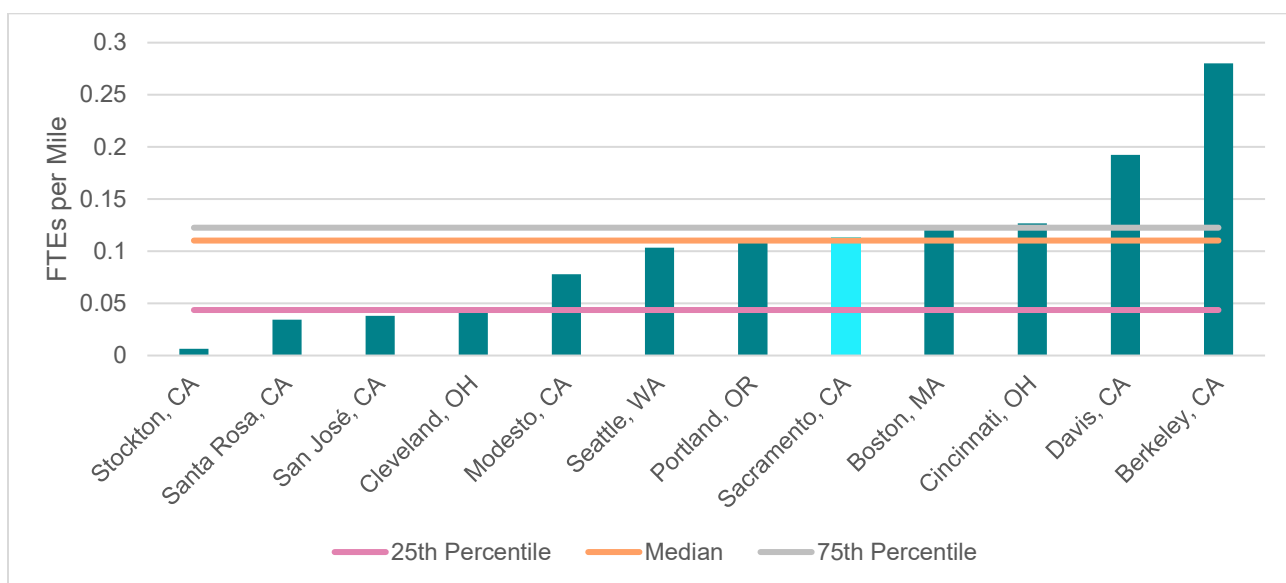
The following table contains reported or estimated number of full-time equivalent (FTE) employees associated with each agency providing stormwater management and/or stormwater system operations. Estimates are provided in situations where data are only available at a higher organizational level and assume a reasonable distribution between stormwater management and other organizational functions. Some organizations may not include overhead or administrative support staff within staffing figures; Sacramento has incorporated them into its FTE numbers, which are discussed in detail in Section 5.6.

Where applicable, information from the 2025 AWWA Utility Benchmarking Report¹⁸ is included for reference.

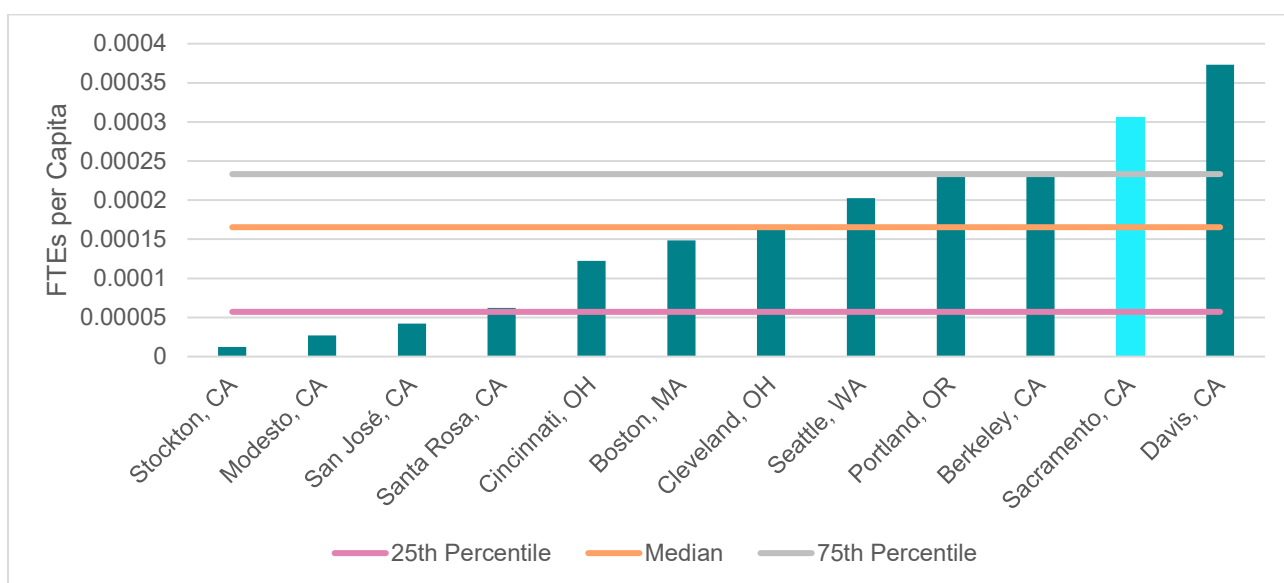
¹⁸ The American Water Works Association (AWWA) Utility Benchmarking Report is a definitive annual study of water, wastewater, and stormwater utility performance in the United States. It aggregates data from utilities to establish industry-standard performance indicators across financial, operational, and customer service categories. *AWWA (2025). 2025 Utility Benchmarking: Performance Management for Water and Wastewater Utilities. American Water Works Association, Denver, CO.*

Table 3-3: Storm/Drainage FTEs by Agency

City Served	FTEs	Notes
Berkeley, CA	28	Estimated; 350 Public Works
Boston, MA	100	Estimated; 505 Water, Sewer & Storm
Cincinnati, OH	38	Storm
Cleveland, OH	60	Estimated; 128 Sanitary & Storm
Davis, CA	25	Estimated; 96.5 Public Works
Modesto, CA	6	
Portland, OR ¹⁹	150	Estimated; 658 Sanitary & Storm
Sacramento, CA	162	FTEs supported by Drainage (6011)
San José, CA	42	
Santa Rosa, CA	11	
Seattle, WA	~150	Estimated Storm based on functional breakdown in budget
Stockton, CA	4	

Figure 3-1: Storm Drainage FTEs per Mile (Separated and Combined)

¹⁹ City of Portland Adopted FY 2026 Budget, Bureau of Environmental Services, Authorized Positions

Figure 3-2: Storm Drainage FTEs per Capita (Population Served)

Sacramento's storm drainage program may appear to be well-staffed as compared to the other benchmarked agencies since it is at about the 75th percentile of FTEs per mile of pipe and near the top of FTEs per population served. As noted above, Sacramento's staffing numbers include the overhead and technical staff necessary to operate its highly complex system, whereas other cities may not. This high number does not necessarily indicate that Sacramento's systems and program funded under the storm drainage fund and storm drainage property fund are sufficiently staffed overall.

KEY TAKEAWAYS: STAFFING LEVELS

Sacramento's staffing levels rank near the 75th percentile per mile of pipe. This is a direct reflection of the maintenance, engineering, and support staff necessary to support a complex drainage system of both gravity and force main pipes, multiple pump stations, and flood control structures. In addition, while many peer agencies may exclude administrative support from their metrics, Sacramento utilizes a comprehensive accounting model that incorporates administrative support FTEs. The resultant staffing level is a necessary function of the system's complexity and does not necessarily indicate a surplus of resources, but rather the workforce required to sustain current service levels.

3.5. Financial Performance

3.5.1. Financial Metrics

The table below summarizes raw financial metrics for the benchmarked entities. These include expenditures for operation and capital improvement projects (CIP); revenues; outstanding debt; annual debt service; and cash on hand. Note: In cases where a city has two agencies responsible for stormwater management, financial metrics are shown for the benchmarked agency only.

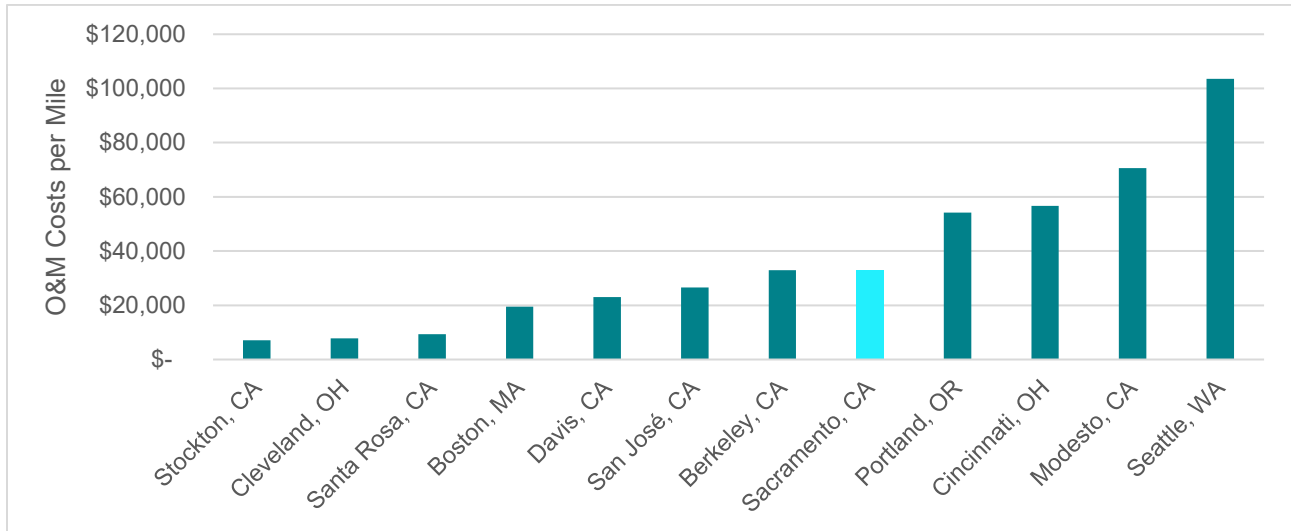
Table 3-4: Financial Metrics (Raw)

City	Type	Fiscal Year	Operating Expenses (\$ M)	Annual CIP (\$ M)	Revenues (\$ M)	Outstanding Debt (\$ M)	Debt Service (\$ M)	Days Cash on Hand
Berkeley, CA	Storm	2024	\$3.3	\$4.0 (FY 2025 Adopted)	\$4.5	\$0	\$0	>900
Boston, MA	Storm	2025	\$16.1	\$25.0	\$23.1	Unavailable	\$0.75	>500
Cincinnati, OH	Storm (separate only)	2026 (approx.)	\$17.0	\$63.5 (sewer and storm)	\$30.0	~\$29.0 (FY 2024)	\$2.2	>365
Cleveland, OH	Sewer and Storm (WPC only)	2023	\$20.5	\$6.7	\$35.2	\$57 (FY 2024)	\$5.4	>1500
Davis, CA	Storm	2026 (prop)	\$3.0	\$1.3	\$5.2	Unavailable	\$0.62	~120
Modesto, CA	Storm	2026 (approx.)	\$5.4	\$0 (FY 2024)	\$6.5	Minimal (FY 2024)	Minimal (FY 2024)	~230
Portland, OR	Sanitary and Storm	2024	\$222.0	\$204.0	\$444.0	\$1,370.0	\$138.0	>400
Sacramento, CA ²⁰	Storm	2025	\$47.2	\$8.9	\$61.4	\$2.2	\$0.23	~240
San José, CA	Storm	2024	\$29.2	\$8.1	\$34.2	Minimal	Minimal	>600
Santa Rosa, CA	Storm	2024	\$3.0	\$0	\$3.0	\$0	\$0	>700
Seattle, WA	Sanitary and Storm	2024	\$430.0	\$260.0	\$576.0 (san) \$200.0 (storm)	\$2,680	\$72.5	>550
Stockton, CA	Storm	2025 (approx.)	\$7.9	\$0.6	\$6.5	\$0	\$0	~0

²⁰ See Tables 4-3, 4-4, 4-8, 4-9

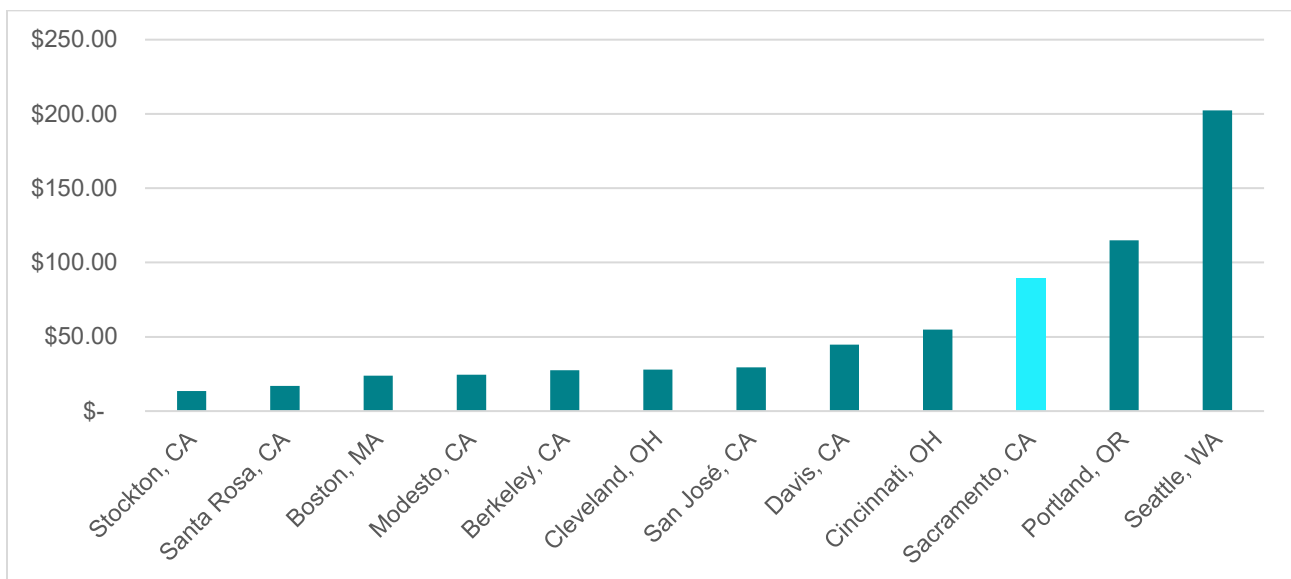
Operations and Maintenance (O&M) expenses per mile of storm/sewer are provided below. In cases where budget and actual cost data are provided at different scales (that is, stormwater plus sanitary systems, all utilities), the costs have been adjusted to reflect storm drainage only. Where financial planning information was available, the total O&M costs are provided for the storm drainage system as reported; otherwise, stormwater O&M costs are assumed to be half of O&M costs for agencies providing storm and sanitary transmission only and one third of costs for agencies that also provided wastewater treatment.

Figure 3-3: Annual Storm Drainage Operations and Maintenance Expenditures per Mile Separated Storm and Combined Pipes



The annual O&M cost of providing storm drainage service is shown below using the population served rather than the length of pipe.

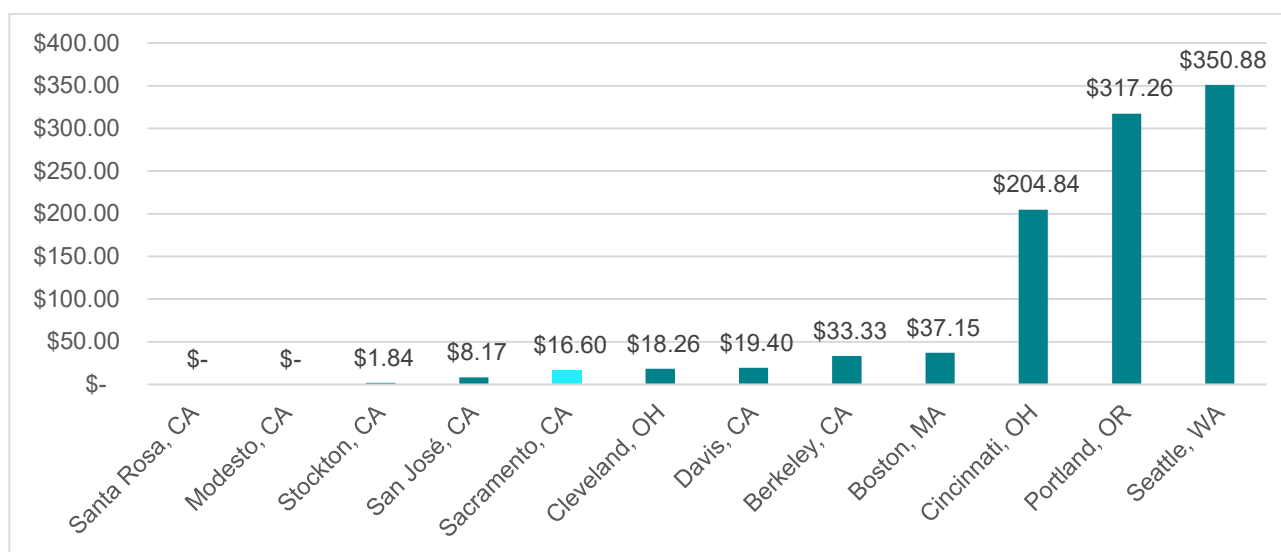
Figure 3-4: Annual Storm Drainage Operations and Maintenance Expenditures per Capita



The City of Sacramento spends more on ongoing O&M activities than most of the other benchmarked agencies, when standardized by miles of pipe or population. As previously discussed, O&M costs increase for systems with pumping requirements and for combined systems. Partially combined systems also land on the higher side of O&M spending.

O&M costs vary widely from one agency to the next, as shown above. Capital spending can also vary significantly from year to year, so the comparative value is less pronounced using this metric. Sacramento's capital spending should be associated with the needed investment and improvements to the City's existing system. Comparative capital costs per capita are provided below. As discussed throughout this report, the recent changes to Sacramento's revenue availability mean that future years' capital spending will be higher than the FY 2025 value captured herein. Future years are discussed in Section 7.7.

Figure 3-5: Annual CIP Spending per Capita



Some benchmarked agencies have issued stormwater revenue bonds. Others may rely on general obligation debt or pay-as-you-go capital to fund capital projects with large up-front costs.

Notably, the benchmarked agencies have relatively strong cash-on-hand positions, averaging over 500 days. The 2025 AWWA Utility Benchmarking Report provides a median of 485 days cash on hand for stormwater utilities. Sacramento's FY 2025 year-end position of approximately 240 days cash on hand²¹ is on the lower side compared to this value and to the benchmarked agencies, indicating that revenues are largely being spent as much as possible within the City's prevailing financial policies around reserve requirements.

²¹ As compared to operating expenses excluding debt service and General Fund Tax

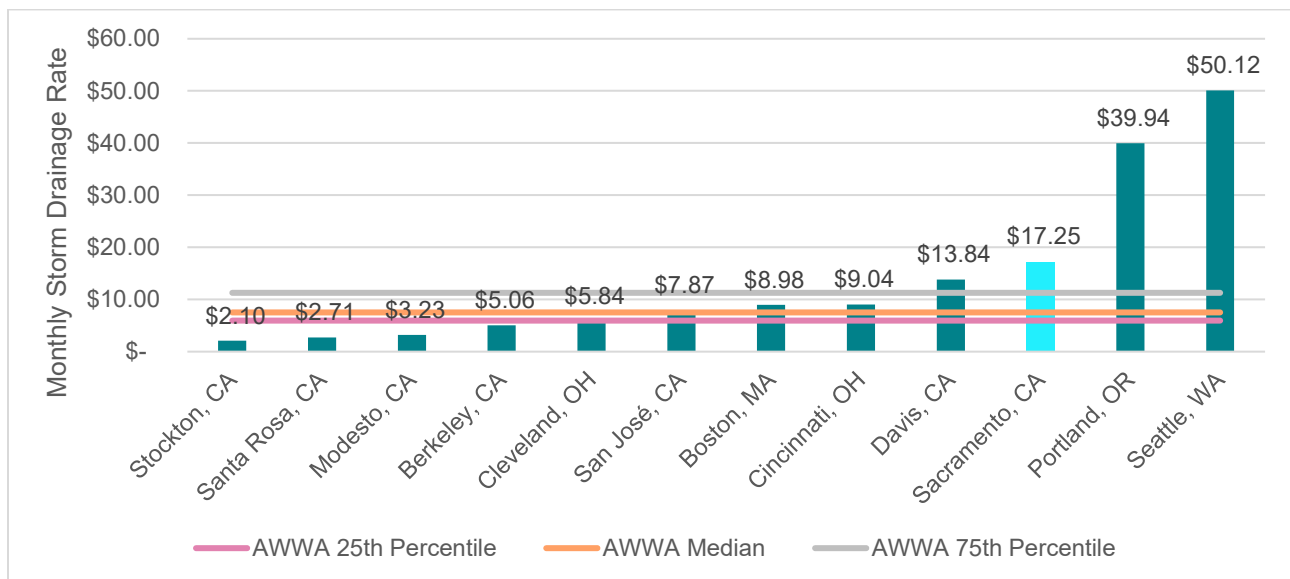
3.5.2. Storm Drainage Rate Comparisons

To compare rates, this benchmarking analysis provides a “typical” residential bill for each peer agency. This is calculated as the total cost of a mid-tier residential customer (a typical residential customer within the community) across all relevant fee types. While the exact characteristics of the mid-tier property may vary from one community to the next, the rates presented represent the typical (and most common) storm drainage charge for residential customers.

Nationwide, the monthly cost of residential service for stormwater customers based on the 2025 AWWA Utility Rate Survey²² is typically between \$5.95 (25th percentile) and \$11.28 (75th percentile). Note that this range may reflect data from the prior year (2024), and is not adjusted for cost of living, which varies between and within peer communities. For this metric, the City of Sacramento’s rates are on the higher side, above the 75th percentile mark. As already discussed, annual spending per person is higher due to the drainage system’s costs, though this higher than typical rate does not necessarily reflect sufficient funding levels.

The figure below shows the typical monthly residential storm drainage bill for the benchmarked peers and AWWA data.

Figure 3-6: Typical Monthly Residential Storm Drainage Fee(s)



As discussed in later sections of this report, Raftelis identified that DOU has significant additional capital investment needs over the next 10 years that must be funded to efficiently operate and maintain the drainage system. These needs are summarized in the Sections 5 and 7 of this report.

²² 2025 AWWA Utility Rate Survey. AWWA. (2025). *Water and Wastewater Rate Survey*. American Water Works Association, Denver, CO.

3.5.3. Proposition 218 and Revenue Generation

Under California's Proposition 218, property-related fees must prevail against a majority protest following notice and hearing requirements and, more significantly, must be approved through a majority vote of property owners or voters. This poses a challenge when utilities want to adjust rates to generate revenue for system maintenance, to increase levels of service, or for future critical system investments.

KEY TAKEAWAYS: FINANCIAL PERFORMANCE

The financial metrics included here indicate that Sacramento's ongoing O&M expenditures are higher than most benchmarked agencies when standardized by pipe mileage and population served. This may be a direct result of the energy-intensive nature of its drainage system, which relies on pumping. While current storm drainage rates are positioned above the 75th percentile of peer agencies, these figures reflect the inherently high cost of the system's complexity, as well as regional trends reflecting higher rates in California and the west as compared to other parts of the Country. The City also retains a leaner cash-on-hand position relative to its peers, indicating that revenues are largely spent on immediate operational needs and reserve requirements.

Furthermore, the restrictive nature of California's Proposition 218 represents a significant enterprise risk that can negatively influence the utility's credit profile. As rate adjustments are subject to a majority protest and approval process, the ability of the utility to respond to critical infrastructure needs is inherently limited. This regulatory environment necessitates a proactive, forward-looking financial strategy to ensure the utility can fund significant upcoming capital investments while maintaining long-term fiscal sustainability and borrowing capacity, if necessary.

3.6. Benchmarking Summary

A summary of the benchmarking section is presented below. Rankings (low to high) are provided for each city, based on FTEs, O&M costs, and residential storm drainage rates.

Table 3-5: Summary of Benchmarking Metrics

	Storm Drainage FTEs Per Mile	Storm Drainage FTEs Per Capita	O&M Expenses per Mile	O&M Expenses per Capita	CIP Spending per Capita	Storm Drainage Rate
Berkeley, CA	12	10	7	5	8	4
Boston, MA	9	6	4	3	9	7
Cincinnati, OH	10	5	10	9	10	8
Cleveland, OH	4	7	2	6	6	5
Davis, CA	11	12	5	8	7	9
Modesto, CA	5	2	11	4	2	3
Portland, OR	7	9	9	11	11	11
Sacramento, CA	8	11	8	10	5	10
San José, CA	3	3	6	7	4	6
Santa Rosa, CA	2	4	3	2	1	2
Seattle, WA	6	8	12	12	12	12
Stockton, CA	1	1	1	1	3	1

When compared to the benchmarked agencies, staffing of the City's storm drainage program is near the 75th percentile of FTEs per mile of pipe and is near the top of FTEs per population served. As noted above, Sacramento's staffing numbers include allocations of overhead and administrative staff, where other cities might not. The resultant high staffing levels are a result of the manpower necessary to operate Sacramento's complex system and do not necessarily indicate adequate staffing for the City's drainage system and program as a whole. While staffing is high relative to peers, the system assessment indicates these levels are commensurate with the demands of operating a complex, pump-dependent combined system; current staffing appears adequate to sustain existing operations but leaves limited capacity to absorb the expanded maintenance and regulatory responsibilities identified later in this study.

- The O&M costs for providing services are compared against the population served and miles of storm and combined pipes. The City appears to spend more on O&M using these metrics than most of the other benchmarked agencies. Notably, other combined systems also reflect higher level O&M expenditures. Although O&M expenditures exceed that of most benchmarked agencies, the system assessment indicates it reflects the cost of operating the existing system rather than over-investment;

on its own it does not demonstrate that O&M funding is sufficient to meet the long-term maintenance and reinvestment needs identified later in this study.

- The City of Sacramento's residential storm drainage related fees are on the higher side when compared to benchmarked agencies, trending alongside other combined systems. As discussed above, higher rates do not indicate sufficient investment into the program in and of themselves; rather, this factor must be considered alongside current system needs, historical funding levels, and future projected needs.
- The City of Sacramento and peer agencies in California have a significant challenge in generating revenue from property-related fees to support the storm drainage program and system. This impacts the level of investment that can be made into the system and may potentially impact the utility's credit quality. The rate setting environment provides a critical context for considering the utility's financial health and ability to meet current and future needs.

4. Expense, Revenue, and Funding History

4.1. Overview

DOU's Storm Drainage Fund (Fund 6011) historically relied on the storm drainage rates established in 1996, which provided the primary revenue for the system's capital investments and operations and maintenance activities. DOU manages this rate revenue in Fund 6011, and it serves as the financial foundation for the stormwater management program, funding day-to-day operational needs, staffing, regulatory compliance, and emergency storm response efforts. Over time, development drove all revenue growth captured in the fund, as rates remained unchanged since the fee's implementation 30 years ago. DOU applies this rate to utility accounts based on each property's classification, number of rooms, and estimated impervious surface area.

In April 2022, DOU adopted a separate, voter-approved Storm Drainage Property-Related Fee, which introduced a distinct and dedicated revenue stream. DOU manages this revenue in the Fund 6021. City Council Resolution 2022-0100 defined the purpose of the fee as:

- Providing funds to meet capital improvement expenses, including associated operations and maintenance expenses, and employee wage rates and fringe benefits.
- Funding the purchase or lease of necessary supplies and equipment for the operations and maintenance of capital improvements.

DOU began billing the new fee in July 2022; however, a legal challenge soon constrained DOU's ability to spend the collected revenues. Although DOU achieved a favorable judgment in December 2023, a subsequent appeal delayed the full use of the fee revenues until the fall of 2025, when the deadline to file with the California Supreme Court passed without further action — a process spanning approximately three and a half years. During this period, DOU continued to collect the fee but limited the use of revenues, holding approximately one year's worth of collections in reserve in the event of an unfavorable judgment. DOU applies this rate to utility accounts based on each property's classification, lot size, and estimated impervious surface area. DOU designated this fee for capital projects and modeled it separately from the

1996 fee to ensure alignment between funding sources and their intended purposes. Fund 6011 supports operation and maintenance of existing storm drainage infrastructure costs and Fund 6021 supports new capital improvements and related operations and maintenance.

4.2. Operating Expenses

Raftelis reviewed the provided budgeted and actual expenses for the storm drainage fund (collectively referencing Fund 6011 and Fund 6021) from Fiscal Year (FY) 2021 through FY 2026. Specifically, budgeted data for Fund 6011 was available for FY 2021 through FY 2026, with actuals for complete fiscal years of FY 2021 through FY 2025; budgeted data for Fund 6021 was available for FY 2023 through FY 2026, with actuals for complete fiscal years of FY 2023 through FY 2025. While year-to-date figures for FY 2026 were provided for both funds, Raftelis utilized only complete fiscal year data in its analysis to ensure consistency and avoid distortion from partial-year results. Budgets were compared to actuals to evaluate the budget assumptions and projections and to identify escalation factors that should be used in the fiscal forecast.

The budgeted and actual expenses and revenues analyzed for this review were provided by DOU and are based on cash managed by DOU. Therefore, these numbers may vary from audited financial statements that are reported in conformance with Generally Accepted Accounting Principles (GAAP). DOU uses a cash basis to identify total revenues required to meet its annual cash expenditures and budget to meet fiscal requirements and targets. Unlike accounting on an accrual basis, a cash basis that recognizes revenues as earned when cash is received, and expenses charged when cash is distributed. This is consistent with standard industry practice for publicly-owned utilities, as described in AWWA Manual M1 and Water Environment Federation (WEF) Manual of Practice No. 27.

Because of the existence of the CSS, there are elements of maintenance and capital improvements that impact both the sewer and drainage system's funds. The operations and capital improvement expenditures are allocated among Fund 6011, Fund 6021, and Wastewater funds in proportion to their respective obligations and impacts.

4.2.1. Budgeted Operating Expenses

The budgeted expenses and Compound Annual Growth Rate (CAGR) for each line item in the Storm Drainage Fund are shown in the following tables. Interfund expenses relate to transfers to other funds for shared or overhead services. In FY 2026, the City's Finance Department implemented new offsets associated with each position in the City according to their support of other funds. As discussed, most operating expenses are allocated to Fund 6011, though there are a small number of operating expenses in Fund 6021 that support management of the capital programs. Fund 6011 FTEs are described in detail in Section 5.6.

Table 4-1: Budgeted Fund 6011 Expenses from FY 2021 through FY 2026 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Employee Services	\$16,773	\$17,084	\$17,586	\$20,787	\$22,407	\$31,549	13.47%
2	Service and Supplies	\$6,815	\$7,719	\$7,861	\$8,363	\$10,346	\$10,458	8.94%
3	Interfund Reimbursement	\$4,603	\$5,549	\$6,066	\$5,328	\$4,410	\$1,567	-19.39%
4	Interfund Transfer	\$4,146	\$4,141	\$4,256	\$4,287	\$4,060	\$3,771	-1.88%
5	Property	\$714	\$1,684	\$687	\$134	\$624	\$1,832	20.72%
6	Other Objects (Memberships, Licenses & Dues, and Bad Debt)	\$291	\$291	\$107	\$107	\$109	\$109	-17.78%
7	MYOP Appropriation	\$1,294	\$1,475	\$1,823	\$1,885	\$1,694	\$2,214	11.35%
8	Budgeted Expenses Total	\$34,636	\$37,944	\$38,386	\$40,892	\$43,650	\$51,501	8.26%

Table 4-2: Budgeted Fund 6021 Expenses from FY 2023 through FY 2026 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Employee Services	\$0	\$0	\$0	\$2,376	N/A
2	Service and Supplies	\$0	\$0	\$0	\$0	N/A
3	Interfund Reimbursement	\$1,239	\$1,304	\$897	\$424	-30.08%
4	Interfund Transfer	\$2,205	\$4,328	\$2,518	\$7,785	52.27%
5	Property	\$0	\$0	\$0	\$203	N/A
6	Other Objects (Memberships, Licenses & Dues, and Bad Debt)	\$203	\$203	\$203	\$203	0.00%
7	MYOP Appropriation	\$1,250	\$1,700	\$2,250	\$2,250	21.64%
8	Budgeted Expenses Total	\$4,897	\$7,535	\$5,868	\$13,240	39.31%

4.2.2. Actual Operating Expenses

Actual expenses in the Storm Drainage Fund are summarized below.

Table 4-3: Actual Fund 6011 Expenses from FY 2021 through FY 2025 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	CAGR
1	Employee Services	\$14,178	\$15,874	\$16,197	\$18,033	\$19,490	8.28%
2	Service and Supplies	\$6,325	\$7,966	\$8,034	\$8,471	\$9,252	9.97%
3	Interfund Reimbursement	\$4,605	\$4,738	\$6,041	\$5,616	\$5,643	5.21%
4	Interfund Transfer	\$4,181	\$4,316	\$4,485	\$4,388	\$3,733	-2.80%
5	Property	\$658	\$1,641	\$685	\$115	\$693	1.30%
6	Other Objects (Memberships, Licenses & Dues, and Bad Debt)	\$113	\$69	\$38	\$59	\$74	-10.15%
7	MYOP Appropriation	\$1,294	\$1,475	\$1,823	\$1,885	\$1,694	6.96%
8	Actual Expenses Total	\$31,354	\$36,080	\$37,303	\$38,571	\$40,578	6.66%

Table 4-4: Actual Fund 6021 Expenses from FY 2023 through FY 2025 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	CAGR
1	Employee Services	\$0	\$0	\$872	N/A
2	Service and Supplies	\$0	\$0	\$3	N/A
3	Interfund Reimbursement	\$0	\$1,147	\$964	N/A
4	Interfund Transfer	\$0	\$4,303	\$2,558	N/A
5	Property	\$0	\$0	\$0	N/A
6	Other Objects	\$12	\$6	\$21	32.3%
7	MYOP Appropriation	\$1,250	\$1,700	\$2,250	34.16%
8	Actual Expenses Total	\$1,262	\$7,155	\$6,669	129.88%

Average annual inflation as measured by the consumer price index (CPI) was about 2.4% from July 2023 to January 2026.²³ For Fund 6011, actual expenses grew at a CAGR of 6.66% from FY 2021 through FY 2025, compared to a budgeted expense CAGR of 8.26% from FY 2021 through FY 2026. Though across a longer period, the lower actual growth rate indicates that DOU has been budgeting conservatively for operating expenses, with actual spending coming in below budgeted projections. The largest driver of expense growth in Fund 6011 was Employee Services, which grew at a CAGR of 8.28% for actuals versus 13.47% for budgeted expenses. Service and Supplies also showed notable growth, with an actual CAGR of 9.97% compared to 8.94% budgeted. Interfund reimbursement actuals grew at 5.21%, while the budgeted CAGR declined at 19.39%.

For Fund 6021, most categories lack sufficient historical data for CAGR calculations, as the fund was newly established in FY 2023. Other Objects (32.3%) and Multi-Year Operating Program (MYOP) Appropriation (34.16%) were the only categories with expenditures in the base year, and their growth rates reflect the early ramp-up of capital program operations. As the fund matures, future years of data will provide a more meaningful basis for evaluating budget accuracy.

4.3. Capital Expenses

As discussed above, the 2022 fee revenue dedicated to capital spending was not fully utilized between FY 2023 and FY 2026 due to pending litigation. In this period, some capital projects were funded directly from Fund 6011, specifically in FY 2024 with reimbursements from Fund 6021 occurring in FY 2026.

Additionally, in FY 2025, funding originally appropriated to Fund 6021 CIP, as shown in Table 4-6, was withdrawn to ensure that a sufficient reserve was maintained in the Fund 6021 fund balance during the pending litigation. Following the successful resolution of the litigation, this funding was restored to the FY 2026 CIP budgets, as reflected in Table 4-7. These items are discussed in more detail in Section 4.7.

4.3.1. Budgeted Capital Expenses

The budgeted capital expenses for the Storm Drainage Fund are shown in the following tables. The average annual budgeted appropriations were \$2.8 million for Fund 6011 and \$10.9 million for Fund 6021. The storm drainage system's capital improvement program no longer relies solely on Fund 6011, as Fund 6021 has been incorporated to support CIP activity. This shift has allowed Fund 6011 to release budget capacity to non-CIP multiyear projects, which is reflected in the negative budgeted amounts shown in FY 2025 and FY 2026.

²³ Bureau of Labor Statistics Data, Series ID CUUR0000SA0, U.S. City Average, All urban customers, Not seasonally adjusted. <https://data.bls.gov/dataViewer/view/timeseries/CUUR0000SA0>

Table 4-5: Budgeted Fund 6011 Capital Appropriation Expenses from FY 2021 through FY 2026 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Total Budgeted Capital Appropriation Expenses	\$4,561	\$5,476	\$216	\$6,586	\$(131)	\$(161)	-151.23%

Table 4-6: Original Budgeted Fund 6021 Capital Appropriation Expenses from FY 2023 through FY 2026 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Total Budgeted Capital Appropriation Expenses	\$11,316	\$15,394	\$7,896	\$20,780	22.46%

Table 4-7: Adjusted Budgeted Fund 6021 Capital Appropriation Expenses from FY 2023 through FY 2026 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Total Budgeted Capital Appropriation Expenses	\$11,316	\$9,488	\$1,998	\$20,780	22.46%

4.3.2. Actual Capital Expenses

The actual capital expenses for the Storm Drainage Fund are shown in the following tables.

Table 4-8: Actual Fund 6011 Capital Expenses from FY 2021 through FY 2025 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	CAGR
1	Total Actual Capital Expenses	\$1,848	\$4,359	\$3,221	\$5,555	\$6,688	37.93%

Table 4-9: Actual Fund 6021 Capital Expenses from FY 2023 through FY 2025 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	CAGR
1	Total Actual Capital Expenses	\$0	\$18	\$2,194	N/A ²⁴

As indicated in budget data, actual capital appropriations have aligned with the amounts budgeted in recent years. However, appropriation alignment does not necessarily reflect whether capital spending has occurred at the expected pace or scale. A comparison of actual capital expenditures with corresponding appropriations indicates that the CIP program typically spends less than appropriated each year. The primary observation from the appropriation data is the variability from year to year.

4.4. Debt Service History

4.4.1. Budgeted Debt Service

The budgeted debt service history for the Storm Drainage fund is shown in the following tables. The total debt service of the Storm Drainage utility budgeted from FY 2021 through FY 2026 was approximately \$4.4 million. Excluding FY 2021, the debt service average is \$234,000. FY 2021 was the final year of debt service payments associated with three Clean Water State Revolving Fund (CWSRF) loans, of which the Storm Drainage Fund was responsible for a share of each of three CWSRF loans.

Table 4-10: Budgeted Debt Service History from FY 2021 through FY 2026 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Debt Service Transfer In	\$0	\$0	\$0	\$0	\$0	\$0	N/A
2	Debt Service Transfer Out	\$75	\$74	\$74	\$75	\$73	\$73	-0.52%
3	Principal Payments	\$3,025	\$92	\$95	\$98	\$101	\$104	-49.02%
4	Interest Payments	\$142	\$69	\$66	\$62	\$59	\$55	-17.19%
5	Budgeted Debt Service Total	\$3,242	\$235	\$235	\$235	\$233	\$232	-40.97%

²⁴ CAGR is shown as N/A as the FY 2023 base year value is \$0, and FY 2024 expenditures reflect the initial costs of the capital program rather than a stabilized baseline suitable for annualized growth calculation.

4.4.2. Actual Debt Service

The actual debt service history paid from FY 2021 through FY 2025 was \$4.1 million. The actual expenditures for debt service aligned well with the budgeted amounts and are shown in the following tables, with adjustments between principal and interest happening over time. Debt service transfers out are related to the North Area Corporation Yard (NACY) renovations, improvements, and master planning — Resolution 2003-616 — and align with budgeted costs.

Table 4-11: Actual Debt Service History from FY 2021 through FY 2025 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	CAGR
1	Debt Service Transfer In	(\$67)	\$0	\$0	\$0	\$0	-100.00%
2	Debt Service Transfer Out	\$75	\$74	\$74	\$75	\$73	-0.65%
3	Principal Payments	\$3,025	\$92	\$95	\$98	\$101	-57.25%
4	Interest Payments	\$141	\$69	\$66	\$68	\$59	-19.53%
5	Actual Debt Service Total	\$3,174	\$235	\$235	\$241	\$233	-47.96%

4.5. Revenues

4.5.1. Budgeted Revenues

The budgeted revenues and CAGR for the Storm Drainage Fund are shown in the following tables.

Table 4-12: Budgeted Fund 6011 Revenues from FY 2021 through FY 2026 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Charges, Fees, & Services Accounts	\$38,149	\$38,149	\$38,849	\$39,369	\$40,710	\$41,226	1.56%
2	Interest	\$422	\$422	\$440	\$440	\$440	\$540	5.05%
3	Other (Intergovernmental)	\$10	\$10	\$30	\$30	\$0	\$3,200	216.98%
4	Total Budgeted Revenues	\$38,581	\$38,581	\$39,319	\$39,839	\$41,150	\$44,966	3.11%

Table 4-13: Budgeted Fund 6021 Revenues from FY 2023 through FY 2026 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	FY 2026	CAGR
1	Charges, Fees, & Services Accounts	\$20,250	\$19,500	\$20,150	\$20,207	-0.07%
2	Interest and Investment Income	\$0	\$0	\$100	\$100	N/A
3	Total Budgeted Revenues	\$20,250	\$19,500	\$20,250	\$20,307	0.09%

Budgeted revenues for Fund 6011 averaged approximately \$40.4 million annually from FY 2021 through FY 2026, with a CAGR of 3.11%. Fund 6021 budgeted revenues averaged approximately \$20.1 million annually from FY 2023 through FY 2026, with a CAGR of 0.09%. The primary revenue source for both funds was from Charges, Fees, and Services Accounts. These accounts showed budgeted growth of 1.56% for Fund 6011 and a slight decline of -0.07% for Fund 6021.

4.5.2. Actual Revenues

The actual revenues and CAGR for the Storm Drainage Fund are shown in the following tables. Miscellaneous and other agency revenues are excluded because they represent a negligible portion of the total revenues.

Table 4-14: Actual Fund 6011 Revenues from FY 2021 through FY 2025 (in thousands)

Line No.	Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	CAGR
1	Charges, Fees, & Services Accounts	\$39,039	\$40,059	\$40,190	\$41,056	\$39,974	0.59%
2	Interest and Investment Income	\$535	\$389	\$902	\$1,300	\$29	-51.55%
3	Other (Intergovernmental)	\$135	\$17	\$257	\$44	\$43	-24.69%
4	Total Actual Revenues	\$39,709	\$40,465	\$41,350	\$42,399	\$40,047	0.21%

Table 4-15: Actual Fund 6021 Revenues from FY 2023 through FY 2025 (in thousands)

Line No.	Description	FY 2023	FY 2024	FY 2025	CAGR
1	Charges, Fees, & Services Accounts	\$19,612	\$19,685	\$20,431	2.07%
2	Interest and Investment Income	\$145	\$560	\$952	156.16%
3	Total Actual Revenues	\$19,757	\$20,245	\$21,383	4.03%

Actual revenues for Fund 6011 averaged \$40.8 million annually from FY 2021 through FY 2025, with a CAGR of 0.21%. Actual revenues for Fund 6021 averaged approximately \$20.5 million annually from FY 2023 through FY 2025, with a CAGR of 4.03%. For Fund 6011, actual revenues slightly exceeded budgeted revenues on average, indicating that DOU is conservatively budgeting for storm drainage revenues.

For Fund 6011, the CAGR for actual revenues (0.21%) was lower than the CAGR for budgeted revenues (3.11%), driven in part by a decline in Interest revenue (-51.55%) and Other (Intergovernmental) revenues (-24.69%). The largest revenue source, Charges, Fees, and Services Accounts, grew at a modest 0.59% CAGR.

For Fund 6021, the CAGR for actual revenues (4.03%) exceeded the budgeted revenue CAGR (0.09%), suggesting actual performance is outpacing budget projections. For Fund 6021, Charges, Fees, & Services Accounts grew at 2.07%, while Interest grew significantly at 156.16%, likely due to rising interest rates during the period or a change in the account holdings to keep 6021 funds in reserve.

As previously discussed, annual inflation, as measured by the CPI, was approximately 2.4% from July 2023 to January 2026. For Fund 6021, Charges, Fees, and Services accounts grew at 2.07%, slightly under inflation.

4.6. Historical Storm Drainage Rates

4.6.1. 1996 Storm Drainage Fee

The Storm Drainage Fee was established in 1996, prior to the requirements of Proposition 218, and charges customers on a monthly basis (via utility bills) as illustrated in Table 4-16. Rates have not increased since the fee's implementation.

Table 4-16: 1996 Storm Drainage Fee Rates

Customer Class	Monthly Rate
Single & Multi-Family Residential, 1-3 Rooms	\$7.53
Single & Multi-Family Residential, 4-5 Rooms	\$9.58
Single & Multi-Family Residential, 6-7 Rooms	\$11.31
Single & Multi-Family Residential, 8-9 Rooms	\$13.38
Single & Multi-Family Residential, 10-15 Rooms	\$15.25
Single & Multi-Family Residential, 16+ Rooms	\$15.25 + \$1.19 per room above 15 rooms
Cemeteries, City Parks, and airports	\$0.001928 per square foot impervious surface
Vacant Undeveloped Parcels	\$0.001928 per square foot gross surface area x 11%
Common area parcels, with low impervious	\$0.001928 per square foot gross surface area x 30%
Other Non-residential Parcels	\$0.001928 per square foot gross surface area

4.6.2. 2022 Storm Drainage Property-Related Fee

The 2022 Storm Drainage Property-Related Fee was established pursuant to the requirements of Proposition 218, and charges customers on a monthly basis (via utility bills) as illustrated in Table 4-17 and Table 4-18. Rates have not increased since the fee's implementation. For non-residential properties, each property has an estimated impervious area according to its property type-specific impervious surface coefficient (ISC). ISC values are summarized in the table below. All properties, except those exempt from the fee, are subject to a minimum charge of \$1.00 per month.

Table 4-17: Storm Drainage Property-Related Fee Rates

Customer Class	Monthly Rate
Single Family Residential, Parcel Gross Area <1/10 ac	\$3.13
Single Family Residential, Parcel Gross Area $\geq 1/10$ ac and $<1/4$ ac	\$5.94
Single Family Residential, Parcel Gross Area $\geq 1/4$ ac	\$10.78
Multi-Family Residential, >50 Units per Acre	\$0.67 per unit
Multi-Family Residential, 11-50 Units per Acre	\$2.41 per unit
Multi-Family Residential, 1-10 Units per Acre	\$5.84 per unit
Non-Residential Properties	\$0.0016458333 per square foot gross area x ISC

Table 4-18: Impervious Surface Coefficient Values

Non-Residential Property Type	ISC
Exempt	0.00
Agriculture	0.04
Golf, Park, Cemetery, Misc., Vacant	0.10
Airport & Common Areas	0.30
Public & Utilities	0.44
Office, Recreational, Church & Welfare, Personal Care & Health	0.80
Industrial, Retail, Commercial	0.86

4.6.3. Capital Improvement Funding History

Since FY 2021, capital investments have been cash funded in the amounts discussed in Section 4.3. Debt service payments relate to debt issued before the study period; debt is not a significant source of capital funding under the current program.

DOU has leveraged a diverse range of funding sources for grant revenue, underscoring the value of multi-agency collaboration in advancing DOU's storm drainage infrastructure priorities.

Since FY 2021, the storm drainage fund has been awarded approximately \$38.1 million in grant funding. In FY 2023, the Sacramento Area Council of Governments (SACOG) administered State General Fund allocations totaling \$11.0 million, which funded major projects including sump improvements in the River District (\$6.6 million).

In FY 2025, DOU secured its two largest individual awards: a \$23.0 million Local/State funding agreement through California Department of Transportation (Caltrans) to fund a large trash capture project, and a \$3.2 million grant through Building Resilient Infrastructure and Communities (BRIC) program in partnership with the Sacramento Area Flood Control Agency (SAFCA) to mitigate flooding on Interstate 5 (I-5). The figure below shows the grant funding by source.

Table 4-19: Grant Funding by Source, FY 2021 through FY 2026 (in thousands)

Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
State	\$0	\$0	\$842	\$0	\$0	\$0	\$842
Local/ State	\$0	\$0	\$0	\$0	\$23,000	\$0	\$23,000
Federal	\$0	\$0	\$0	\$0	\$3,201	\$0	\$3,201
State General Fund	\$0	\$0	\$11,033	\$0	\$0	\$0	\$11,033
Total	\$0	\$0	\$11,875	\$0	\$26,201	\$0	\$38,076

4.7. Fund 6021 to 6011 Transfers

Fund 6021 has made a series of reimbursements to Fund 6011 to reconcile expenses that were initially borne on its behalf. The largest of these involve capital improvement projects, most notably the Drainage Sump Replacement and Rehabilitation (R/R) Program (included in the capital plan as Project W14130600) and the Drainage Collection System Rehabilitation and Replacement Program (included in the capital plan as Project W14170100), which together account for over \$5.6 million in budget transfers approved through Council resolutions between late 2023 and early 2024. These CIP reimbursements were facilitated through standalone resolutions authorizing DOU to move funding from Fund 6021 to Fund 6011. Two additional FY 2025 City-wide CIP allocations for firewall infrastructure and the CCM/CARA cloud migration totaling approximately \$27,200 were also approved for reimbursement. Lastly, Fund 6021 CIP allocations that had been held in reserve until the successful resolution of the litigation in FY 2026 in which allocations were released, totaling \$6.6 million.

Regarding operating expenses, several reimbursements address routine but significant expenditures, including \$18,708 in legal fees, \$11,613 in bad debt expense, and \$180,295 in Pool A interest to compensate Fund 6011 for foregone interest earnings associated with amounts it advanced to Fund 6021. The majority of these operating items were completed through the FY 2026 Midyear Scrub on January 27, 2026. As of the most recent updates, all items have been processed, with Resolution 2026-0014 serving as the primary

authorization vehicle for the operating reimbursements. Collectively, these transactions reflect an ongoing effort to ensure that Fund 6021 accurately bears the costs attributable to its capital program, maintaining fiscal integrity across the City's fund structure.

4.8. Regulatory Requirements

DOU's storm drainage system operates under the Central Valley Regional Water Quality Control Board's Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit requirements, which mandate specific stormwater quality management practices. Sacramento is subject to NPDES Permit and Waste Discharge Requirements General Permit for Discharges from MS4s Permit No. CAS082597, as adopted by the Central Valley Regional Water Quality Control Board. The City acts as a co-permittee alongside the County of Sacramento and the Cities of Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova. As a permittee, the City is required to maintain the necessary legal authority and has implemented appropriate procedures to regulate the entry of pollutants and non-stormwater discharges into (and, ultimately, from) the storm drainage system. The City has operated under an area-wide Phase I MS4 permit since initially required in 1996 (Order No. 96-105). As a part of the Phase I MS4 requirements, DOU has prepared and implemented a Storm Water Management Program to reduce the discharge of pollutants to the maximum extent practicable.

The MS4 permit includes provisions for trash management, referred to as the "Trash Amendments." The Trash Amendments provide compliance pathways for MS4 permittees through trash-capture systems and other best management practices or institutional controls, with full compliance required by December 2030. The trash-capture systems are various configurations of 5 mm stainless steel screens or nets placed strategically in the drainage system. The State-certified list contains high flow capacity devices (for underground vaults, outfalls, or in drainage channels) and smaller devices (for installation at manholes or individual drainage inlets). The current plan is to install up to 15 large high flow capacity devices and up to 200 smaller devices throughout the city to provide coverage for ~40% of the trash generating areas in the city. Sacramento has developed and has budgeted for meeting the Trash Amendments in Fund 6021 for approximately \$7 million of CIP costs to fund a combination of trash capture projects and has entered into an agreement with Caltrans, wherein Caltrans is providing funding of \$23 million for construction costs of four high flow capacity devices which jointly benefit the City and Caltrans.

Other trash best management practices and institutional controls include activities DOU is already conducting such as street sweeping, drainage system cleaning, and trash cleanups along waterways. Some of these activities will need to be modified and/or increased to meet the requirements of the Trash Amendments. Credits taken for these controls must be reported annually and clearly calculated with assumptions and reference studies to show compliance for the remaining ~60% of the trash generating areas in the city.

Sacramento's stormwater regulatory framework is complicated by DOU's partially combined sewer system, which is separately regulated under NPDES Permit No. CA0079111 for the combined wastewater collection and treatment system, which mandates the implementation of a Long-Term Control Plan to prevent sewage outflows and combined sewer overflows. The CSS Long-Term Control Plan requires infrastructure investment, which was initially supported in part by Fund 6011. Now, Fund 6021 provides partial funding for the CSS CIP. Funding for the operation of the CSS operation and maintenance,

including the operation of CSS collection system and pumping facilities in addition to the two combined wastewater treatment plants is split between Fund 6011 and the Wastewater Fund, Fund 6006.

In addition to NPDES regulations, California's Advanced Clean Fleets Regulation (Title 13, California Code of Regulations, Section 2013) adopted in 2024, requires that all new purchases of City vehicles that have a gross vehicle weight rating (GVWR) of greater than 8,500 pounds must be electric vehicles instead of gas vehicles. DOU is estimating an increase of 150-200% to the budget for each qualifying vehicle used in storm drainage system operations and maintenance plus additional funding for charging infrastructure will be needed to meet these requirements.

4.9. Floodplain Management Requirements

DOU is responsible for enforcing all floodplain development requirements within the city, including Federal and State regulations and the City's Floodplain Ordinance as codified in municipal code. DOU's core responsibilities for Floodplain Management in the city include:

- Administering and enforcing floodplain development restrictions, including regulating the issuance of building permits based on local, FEMA, and State floodplain requirements.
- Reviewing, collecting, and maintaining elevation certificates for construction within Special Flood Hazard Areas (SFHAs) to ensure compliance with National Flood Insurance Program (NFIP) standards.
- Providing public outreach, education, and resources related to flood risk, evacuation procedures, and overall flood preparedness for residents and businesses.
- Coordinating flood emergency preparedness planning with City, County and State agencies, including scheduling and conducting emergency response exercises.
- Managing the City's participation in FEMA's Community Rating System (CRS) program to reduce flood insurance premiums for residents and businesses through improved floodplain management practices.
- Updating both the Local Hazard Mitigation Plan (LHMP) and Comprehensive Flood Management Plans (CFMP) every 5 years.
- Developing and maintaining hydrologic and hydraulic models for City drainage basins, producing updated floodplain maps, and submitting technical data to FEMA for incorporation into Flood Insurance Rate Maps (FIRMs).
- Making findings for development projects subject to the Central Valley Flood Protection Board's (CVFPB) SB 5 requirements for 200-year flood protection.
- Preparing and submitting levee engineering reports to the CVFPB and FEMA as part of levee accreditation requirements.
- Addressing, documenting, and resolving Urban Levee Design Criteria (ULDC) exceptions (right-of-way, encroachments, & penetrations) identified in levee engineering reports, reporting compliance status to CVFPB every five years, and obtaining updated levee engineering reports every 20 years to maintain accreditation.

In addition to floodplain management duties, DOU is responsible for operating and maintaining significant flood protection infrastructure, including:

- An approximately 4-mile section of levee on the east bank of the Sacramento River roughly from the confluence of the American and Sacramento Rivers down to Sutterville Rd.
- Approximately 19 miles of levee within the South Sacramento Streams Group.

As the Local Maintaining Agency, DOU's levee system responsibilities include, but are not limited to:

- Operating and maintaining designated flood protection facilities in accordance with the California Water Code and Central Valley Flood Protection Board standards.
- Conducting routine levee inspections at least four times per year, including vegetation management, rodent control, erosion monitoring, and upkeep of levee access roads.
- Preparing and submitting annual O&M compliance reports to the California Department of Water Resources (DWR).

4.10. Weather Impacts

DOU recognized and experienced the impact of changing climate patterns on the stormwater system's ability to adequately manage flooding, along with the costs associated with managing and recovering from severe weather events.

The 2022–2023 winter storm season represented one of the most significant weather events in recent California history. Between December 2022 and March 2023, a series of at least 12 atmospheric rivers struck the state in rapid succession, producing catastrophic flooding, landslides, and widespread infrastructure damage across California. Governor Newsom declared a State of Emergency in 47 counties, including Sacramento County, and President Biden approved a Major Disaster Declaration for the State of California.

During the 2023 storms, the City transitioned to 24-hour operations and activated its Departmental Operations Center (DOC), a central command and coordination hub activated during disasters to manage response efforts, facilitate communication, and allocate resources, ensuring a unified approach. The DOC included representatives from operations, engineering, finance, procurement, and other administrative functions, operating in two 12-hour shifts around the clock. Staff assigned to the DOC maintained detailed records of both time and expenditures throughout the event. The primary goal of the DOC was to take steps necessary to provide ongoing utility operations, including water, sewer, and drainage services. Given the type of event, drainage operations were paramount, and the City dedicated significant resources to immediately addressing any system needs. DOC-related costs extended well beyond labor, encompassing emergency food and water procurement, security services, diesel spill remediation, underwater construction services, emergency fuel, generator parts, and chemical supplies. These costs accumulated rapidly during sustained emergency operations and represented a significant, unanticipated draw on the storm drainage fund.

Given the disaster declarations, the City became eligible for Federal Emergency Management Agency (FEMA) reimbursements. Ultimately, the total FEMA-eligible costs incurred by DOU during the period totaled approximately \$2.57 million across four major expense categories, as follows:

- Labor costs, including hours and benefits, accounted for roughly \$1.68 million, of which approximately \$935,000 was attributable to overtime alone.
- Vehicle costs for the 50 units deployed during the event totaled approximately \$268,000 at FEMA-approved rates.
- Generator operations, including fuel and run time for both portable and stationary units, added another \$486,000.
- Services and supplies — spanning emergency tree removal, equipment rentals, motor and pump repairs, fencing restoration, sandbag materials, and other logistical support — totaled approximately \$132,000.

When storm events occur, DOU activates its "Rain Patrol" program — a designated storm response protocol — to differentiate emergency storm-related expenditures from routine operational costs. Under normal conditions, DOU does not anticipate exceeding operational budgets for Rain Patrol operations; however, when events escalate to the severity experienced in 2023, the existing budget proves insufficient to cover the surge in personnel costs. Supplies and services represent additional unbudgeted expenditures during these events.

During the 2023 event, Rain Patrol costs alone totaled approximately \$1.05 million, distributed across Water (\$249,000), Wastewater (\$491,000), and Storm Drainage (\$305,000). Beyond Rain Patrol, additional FEMA-eligible activities included debris removal from drainage channels and neighborhoods, equipment rental, levee patrol and levee break response, plant and sump inspections and repairs, and sandbag distribution. These non-Rain Patrol costs totaled an additional \$872,000, distributed across Water (18%), Wastewater (23%), and Storm Drainage (59%) based on labor and vehicle usage.

The City submitted claims for FEMA reimbursement and received two payments to date totaling approximately \$882,000. Notably, not all reimbursed funds flowed to the storm drainage fund, or even to DOU. The FEMA reimbursement process proved protracted, with the City receiving funds for an event that occurred over two years prior. The extended timeline for federal reimbursement highlighted the importance of maintaining adequate fund balance reserves to bridge the gap between emergency expenditures and cost recovery, and reinforced the need for a dedicated financial framework to absorb the fiscal shock of large-scale storm events.

4.11. Summary

Raftelis evaluated the historical financial performance of DOU's Storm Drainage Fund from FY 2021 through FY 2026, analyzing revenues, operating expenses, capital investments, and debt service. The analysis details the utility's two fees and respective revenue structure, distinguishing between the 1996 fee used for daily operations (Fund 6011) and the 2022 voter-approved fee primarily dedicated to capital improvements (Fund 6021). Without having adjusted rates for either fee since they were implemented, revenues and overall budget are relatively consistent year to year. Over time, actual revenues are increasing slightly, due only to growth in units of service. This growth has been outpaced by the change in the national CPI.

5. System Assessment

5.1. Introduction

Raftelis' subcontractor, West Yost, completed a high-level evaluation of DOU's storm drainage infrastructure, including system capacity, level of service performance, deferred capital and operational needs, and the associated impacts on system condition. This assessment was performed as a desktop evaluation using available asset inventory data, historical maintenance records, capital improvement program (CIP) information, and prior planning documents provided by DOU. The evaluation focused on identifying gaps between current system practices and stated policies, understanding the extent of deferred capital and maintenance activities, and evaluating the risks and implications associated with aging infrastructure.

Discussion in the following subsections of this report is based on the analyses and findings that are documented in a technical memorandum²⁵ by West Yost. The report expands upon the memorandum by incorporating additional context and updated data to support informed decision-making.

5.2. Background Documents Reviewed

A range of technical, operational, and planning documents were provided by DOU and other City sources. These materials were used to understand system inventory, historical performance, maintenance practices, capital planning, and regulatory obligations.

The following background documents were reviewed:

- Vertical asset (facility) data and maintenance history from Maintenance Connection, DOU's Computerized Maintenance Management System (CMMS) for facilities
- Geographic Information System (GIS) spatial data and attribute tables for horizontal assets (pipelines, manholes, and other structures) and maintenance history from Cityworks, DOU's CMMS for horizontal assets
- Preventive Maintenance schedules
- City of Sacramento Amended 2040 General Plan (adopted by City Council on Nov. 28, 2025)
- Drainage Master Plans
- 30-Year Drainage CIP
- CIP Prioritization Memorandum
- Previous Storm Drainage Fund Report
- DOU Development Standards, Section 11: Stormwater Collection Systems (July 2024 version)

5.3. Storm Drainage Infrastructure

²⁵ West Yost 2026. *City of Sacramento – 2025 Storm Drainage Fund Review Storm Drainage System Assessment* (Technical Memorandum, Project No. 738-80-25-03).

DOU's storm drainage system consists of a network of conveyance, collection, and pumping facilities designed to collect and safely convey stormwater.

DOU has several different drainage and wastewater collection systems including:

- D-System: separated drainage system
- Y-System: drainage into combined system
- X-System: wastewater into combined system
- C-System: combined system
- S-System: separated wastewater

The focus of this assessment was on the D- and Y-Systems. Based on available system data as of the time of this report, active assets of the D- and Y-Systems include the following:

- Pipelines consisting of:
 - 1,087 miles of *separated storm drainage system* (D-system; 868 miles of mains, 219 miles of drain inlet leads)
 - Inclusive of 132 miles of large-diameter pipe (≥ 42 inches in diameter) and 10 miles of force mains
 - 11 miles of storm drainage into combined system (Y-system)
- 179 control valves²⁶
- 179 cleanouts²⁷
- 390 floodgate assets, including flap gates, control structures (flood doors, stop logs), sluice/slide gates, and staff gauges
- 21,500 manholes
- 76 detention basins
- 23 miles of maintained levees (consisting of Sacramento River and South Sacramento Streams Group)
- 71 miles of creeks, ditches, and canals maintenance responsibility
- 107²⁸ drainage sump stations, with each station including mechanical, electrical, and control systems (over 4,900 assets identified at these vertical facilities)

5.4. Remaining Useful Life Estimates

Based on available age (date of installation) and material information for separated storm drainage system pipelines, remaining useful life (RUL) was estimated for major asset classes using standard estimated useful life (EUL) assumptions, shown in Table 5-1 by pipeline material. Table 5-2 summarizes the RUL of the storm drainage pipelines, and Table 5-3 summarizes the RUL of the drainage sump station assets. Figure 5-1 spatially displays the RUL of storm drainage pipelines.

²⁶ Geographic data provided included 175 records

²⁷ Geographic data provided included 166 records

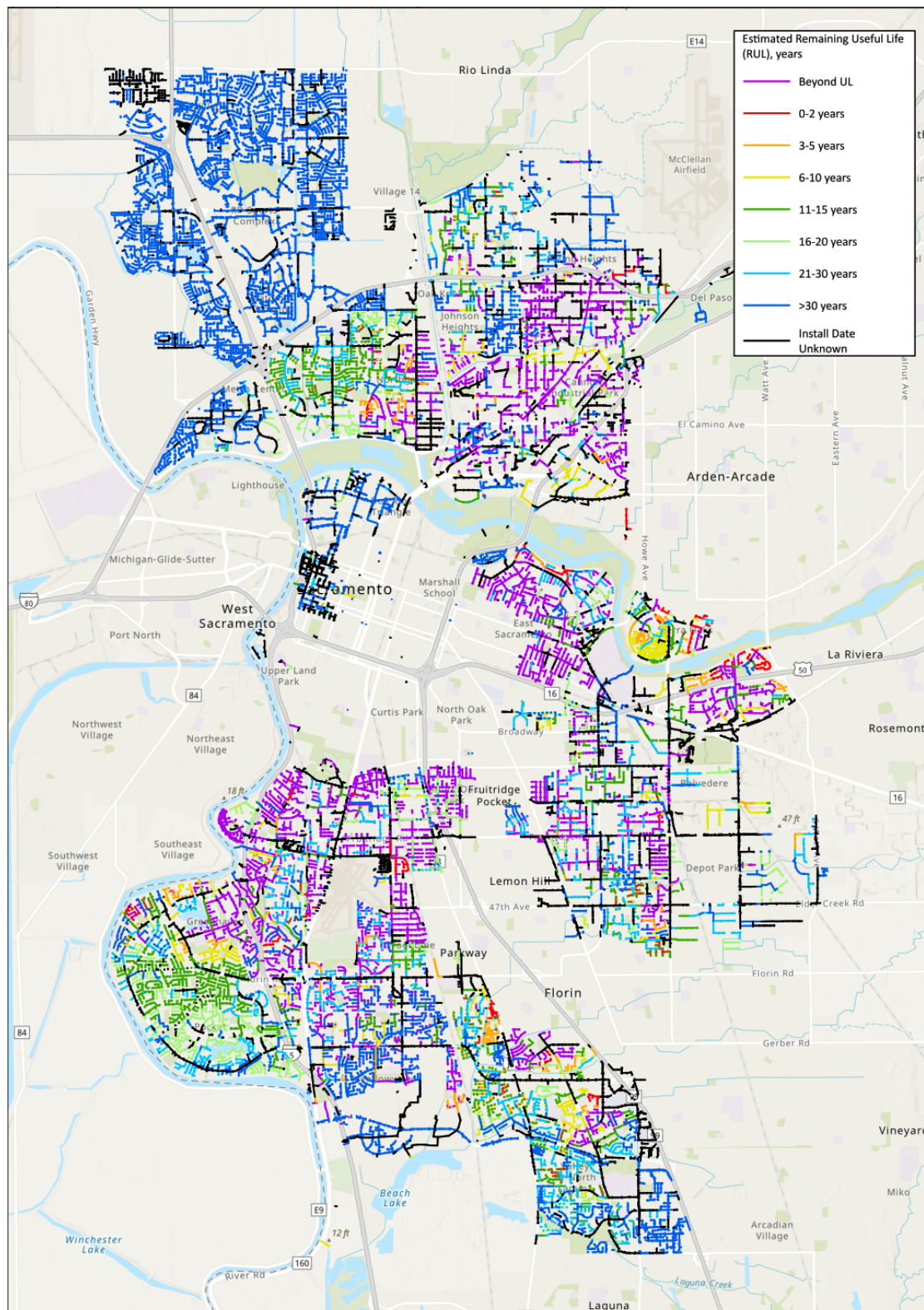
²⁸ Sump 163 was added to the separated drainage system following completion of West Yost's 2026 City of Sacramento – 2025 Storm Drainage Fund Review Storm Drainage System Assessment technical memorandum, which identified 106 sump stations.

Table 5-1: Estimated Useful Life by Pipeline Material

Pipeline Material	Estimated Useful Life (years)
Unknown Material (UNK)	60
Reinforced Concrete Pipe (RCP)	75
Vitrified Clay Pipe (VCP)	100
Polyvinyl Chloride (PVC)	75
Asbestos Cement (AC)	70
Concrete Pipe (CP)	50
Polypropylene (PP)	75
Concrete Tile (CT)	50
Steel Pipe (SP)	70
Polyethylene (PE)	75
Corrugated Metal Pipe (CMP)	40
Ductile Iron Pipe (DIP)	65
Wrought Iron (WI)	90
Corrugated Steel Unlined (CSU)	50
Cement Lined (CLC)	50
Cast Iron (CAS)	65
Prestressed Concrete (PSC)	75
Galvanized Pipe (GP)	50
Acrylonitrile Butadiene Styrene (ABS)	60
Orangeburg (OB)	40

Table 5-2: Separated Drainage Pipe Segment Remaining Useful Life

RUL (years)	Pipe Segment Count	Pipe Length, feet	Pipe Length, miles	Percent of System by Length, %
Install Date 'Null'	8,837	1,066,278	202	18.6
Beyond Useful Life	13,193	1,244,969	236	21.7
0-2	657	93,151	18	1.6
3-5	1,102	141,797	27	2.5
6-10	1,780	211,697	40	3.7
11-15	5,409	514,882	98	9.0
16-20	2,750	310,013	59	5.4
21-30	3,678	484,894	92	8.5
>30	17,826	1,669,583	316	29.1
Grand Total	55,232	5,737,264	1,087	100

Figure 5-1: Separated Drainage Pipe Segment Remaining Useful Life

Prepared by:



Prepared for:

City of Sacramento
2025 Storm Drainage
Fund Review



**Existing System
Assessment**
*Separated Drainage Pipe Segment
Remaining Useful Life*

Figure 1

Table 5-3: Separated Drainage Sump Station Asset Remaining Useful Life²⁹

RUL (years)	Asset Count
Install Date 'Null'	3,703
Beyond Useful Life	510
0-2	0
3-5	345
6-11	85
12-15	34
16-20	89
21-30	140
>30	16
Grand Total	4,922

Note that data gaps within GIS and CMMS reduce the accuracy and confidence of calculating RUL estimates. For example, approximately 19 percent of pipelines (by length) and 75 percent of vertical assets are not populated with an installation date.

5.5. Current Capacity of Storm Drainage Infrastructure

This section evaluates DOU's storm drainage system in comparison to adopted policies and Levels of Service (LOS). This evaluation helps identify areas where constraints may exist, where service levels may not be fully met, and where future maintenance or capital improvements may be warranted to align system performance with policies or expectations.

DOU provides domestic water treatment and distribution, wastewater collection, and stormwater systems services. These systems are complemented by other regional agencies and organizations that provide additional sewage and stormwater collection and treatment. The City's Amended 2040 General Plan³⁰ states that *"ensuring that this infrastructure operates in ways that minimize adverse impacts on the environment, protect public health, and optimize benefit to the community is essential for a sustainable and equitable city."*

DOU has developed policies included in the General Plan to provide for proactive planning and maintenance of utility systems, with investments made strategically to ensure that built capacity matches demand and that improvements to accommodate new development are balanced with the need to maintain quality services for existing residents and businesses. DOU's policies are also intended to improve the sustainability, resilience, and energy efficiency of its facilities, infrastructure, and operations. Goals,

²⁹ Assets for newly completed Sump 163 excluded from this analysis.

³⁰ City of Sacramento. 2024 (Adopted February 27, 2024; Amended November 18, 2025)

<https://www.cityofsacramento.gov/community-development/planning/long-range/general-plan/2040-general-plan>

policies, and LOS included in the General Plan for the storm drainage system infrastructure are provided in Table 5-4, below.

Table 5-4: City of Sacramento General Plan Key Goals and Policies for Storm Drainage Infrastructure

Policy Number	Policy
Goal PFS-3 – Efficient, high-quality utility infrastructure and services to meet the needs of residents and businesses throughout the City.	
PFS-3.1 – Provision of Adequate Utilities	The City shall continue to provide reliable water, wastewater, and stormwater drainage utility services.
PFS-3.2 – Utility Sustainability Standards	The City shall continue to improve the sustainability, resilience, and energy efficiency of its facilities, infrastructure, and operations consistent with the CAAP and the goal of achieving carbon neutrality by 2045.
PFS-3.3 – Development Impacts	Through the development review process, including through development impact fees and off-site improvements constructed by new development, the City shall ensure that adequate public utilities and services are available to serve new development.
PFS-3.6 – Combined Sewer System Rehabilitation and Improvements	In keeping with its Combined Sewer System (CSS) Long-Term Control Plan (LTCP), the City shall continue to rehabilitate and improve the CSS to decrease flooding, CSS outflows, and Combined System Overflows (CSOs). Through these improvements and requirements for new development, the City shall also ensure that development in the CSS area does not result in increased flooding, CSS outflows, or CSOs or reduce the overall percentage of flow routed to the Sacramento Regional Wastewater Treatment Plant.
PFS-3.7 – Rate and Fee Studies	The City shall periodically conduct rate and fee studies to ensure adequate funds are collected to maintain and expand utility systems as needed to support projected growth, implementing rate and fee increases as needed.
PFS-3.8 – Capital Improvement Programming	The City shall give high priority in capital improvement programming to funding the rehabilitation or replacement of critical infrastructure that has reached the end of its useful life, considering the probability and risk of infrastructure failure. In prioritizing R/R projects for inclusion in the CIP, the City shall consider the potential for projects and locations to support inclusive economic development and climate adaptation objectives and serve to build healthy, climate-resilient, sustainable, and inclusive communities.
PFS-3.10 – Meet Projected Needs	The City shall foster the orderly and efficient expansion of facilities and infrastructure to adequately meet projected needs, comply with current and future regulations, and maintain public health, safety, and welfare. Infrastructure and facility planning should discourage oversizing of infrastructure that could induce growth at the edges of the city beyond what is anticipated in the General Plan.
PFS-3.11 – Joint-Use Facilities	Wherever feasible, the City shall pursue the development of joint-use water, stormwater quality, flood control and other utility facilities as appropriate in conjunction with schools, parks, bike paths, golf courses, and other suitable uses to achieve economy and efficiency in the provision of services and facilities.

In addition to the goals and policies included in the General Plan, DOU's drainage planning and design criteria incorporate the following performance objectives for projects within existing drainage basins and projects within new development areas:

Level of Service for existing drainage basins:

- For a 100-year, 24-hour storm event, keep flood levels below finished floor elevations and mitigate any identified safety hazards.
- For a 10-year, 24-hour storm event, keep flood levels within the street (between the curbs) and mitigate safety hazards.

Level of Service for greenfield (i.e., new development):

- For a 100-year, 24-hour storm event, flood levels must be one foot below finished floor elevations.
- For a 10-year, 24-hour storm event or smaller, storm water levels must be maintained below street elevations.

While master plans and hydraulic models exist for approximately half of the City's drainage basins, the remaining basins have not been comprehensively evaluated under current design criteria or storm frequency standards. As a result, DOU lacks a complete, systemwide understanding of where capacity may be sufficient, marginal, or deficient relative to adopted LOS benchmarks (i.e., 10-year and 100-year storm performance targets). This data gap limits the ability to confidently perform basin-level analysis to support informed capital planning decisions.

5.6. Storm Drainage Operations and Maintenance

DOU's storm drainage O&M program supported by Fund 6011 includes maintenance activities associated with the storm drainage conveyance system, levees, flood protection facilities, water quality facilities, storm drainage sump stations, and a portion of the CSS conveyance and treatment systems. Drainage O&M activities are primarily conducted by the following sections:

- *Drainage Collection Section:* System repairs and maintenance, flood control and levee maintenance, First Responders, CCTV inspection, and Underground Service Alert
- *System Maintenance Section:* Combined system treatment plant operation, sump station maintenance, mechanics, and generator maintenance
- *Electrical, Instrumentation & SCADA (EIS) Section:* Electricians, instrumentation, and process control operations using Supervisory Control and Data Acquisition (SCADA) systems

Drainage Collection Section staff perform cleaning, debris and sediment removal, root intrusion management, and inspection of pipeline assets, including levee penetrations. Open channel maintenance involves debris and vegetation removal and upkeep of trash racks and screens at pipe-to-channel transitions.

Detention basins and waterways span approximately 900 acres and are maintained by North Area and South Area crews. This work includes vegetation management, herbicide application, erosion control, water quality programs, and periodic sediment dredging. As the Local Maintaining Agency for 23 miles of flood control levees, DOU conducts quarterly inspections, vegetation and rodent control, erosion

monitoring, levee access road upkeep, and annual flood fight training. Staff also inspect hundreds of drainage pipeline segments that penetrate levees on a five-year cycle, with the majority being pressurized force mains that require coordination with sump station operations.

The sump station program requires a multidisciplinary workforce of machinists, electricians, instrument technicians, SCADA specialists, and plant operators. Route operators handle monthly preventive and corrective work orders and staff the SCADA-based monitoring center, Control-12. A “heavy operations” crew cleans wet wells and dry wells, with current staff capacity to clean only about 50% of all stations annually. Beyond core infrastructure work, drainage-funded staff provide 24/7 First Responder coverage, citywide Underground Service Alert locating, and encampment and illicit dumping response.

The following table describes full-time equivalent staff (FTEs) within a range of functional and cost centers supported by Fund 6011, including the roles and services described above.

Table 5-5: Fund 6011- Supported FTEs by DOU Department ID³¹

Dept ID	Department Name	Description	Fund 6011 Drainage FTEs
14001011	Department Administration	The Office of the Director administers the Department of Utilities and provides general management and strategic guidance to the operations of the department. The Office represents the City on water supply, sewer, flood protection, drainage issues, and advises the Mayor/City Council and City Manager's Office on these issues. The Office coordinates with other departments and outside agencies.	0.75
14001061	Chief of Staff	Department Support provides support for the Director and oversees the Department's media, communications, and outreach program. Additional responsibilities include administrative support in audit implementation, whistleblower case management, safety training compliance, and procurement for the Office of Director. Public Outreach is mandated as part of the regulatory requirements for the National Pollutant Discharge Elimination System (NPDES) Permit, National Flood Insurance Program (NFIP) program and state regulatory water conservation mandates. Additionally, it supports programs essential to the mandated programs for Sewer System Management Program (SSMP) and Water Quality and Drinking Water Reporting Requirements.	1.00
14001071	Government Affairs - Utilities	The Government Affairs section represents the Department of Utilities (DOU) at the local, state, and federal level in legislative and regulatory matters that affect the Department's operations. As a highly regulated entity, Government Affairs helps to shape the regulatory and legislative language that affects drinking water delivery, wastewater conveyance, and drainage operations. Each year brings new regulatory and legislative changes. This section coordinates and directs professional lobbyists and attorneys and assists in the policy development and strategic affairs of the Department. This section also supports the work of safeguarding the City's water rights.	0.80
14001081	Sustainability	Sustainability takes part in long-range planning and development of projects, programs, and policies that address water conservation, water quality, stormwater, wastewater, energy consumption, and adaptation to climate change to improve sustainability of City of Sacramento's Utility facilities and operations. Planning and implementation of projects to reduce environmental impacts and GHG emissions in facilities and operations to meet the City's Climate Action and Adaptation Plan goals.	0.50

³¹ Data as of FY 2027

Dept ID	Department Name	Description	Fund 6011 Drainage FTEs
14001101	Wastewater/Drainage O&M Admin	Operations and Maintenance have mandatory programs that necessitate oversight and administrative support to comply with operations and financial regulations including State Proposition 218. The administrative support team was developed to assist the division in meeting compliance with internal business needs and external environmental regulatory requirements and is responsible for ensuring adequate equipment and staffing resources for division program compliance. The administration team provides reporting and permit renewal tracking support and management of the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit, Hazardous Materials Permit (HMP), Air Quality Permit, and Sanitary Sewer Management Plan (SSMP).	3.60
14001131	Drainage Operations	Operations and maintenance of the storm water conveyance system and pumping facilities, including the combined system pumping operations and the cleaning of sump wet wells.	20.00
14001161	Drainage Maintenance		14.75
14001162	On-Site Power	The Department of Utilities (DOU) On-Site Power Program provides operations, maintenance, and emergency response for the on-site power equipment for all City facilities — DOU, Public Works (including parking structures), Police, and Fire.	4.24
14001222	Security & Emergency Preparedness	This unit provides department-wide safety, security, and emergency preparedness training, initiatives and activities. It is responsible for the operation and staffing of DOU's Department Operation's Center (DOC), security of over 200 DOU facilities, updating and maintaining emergency response plans, training requirements and exercises. In addition, this unit provides regulatory required safety training to approximately 600 staff.	1.25
14001311	Engineering Administration	Provides the support function for the division including the Capital Improvement Program and Construction Management, Water Policy & Regional Planning, Development Review and Floodplain Management, Environmental and Regulatory Compliance, Asset Management, and Logistics. These division functions support compliance with numerous Federal and State mandates.	1.92
14001324	Drainage Engineering	The Drainage Engineering program is responsible for developing comprehensive plans for each drainage basin which includes hydraulic modeling to ensure compliance with City established levels of service and to protect property from flood damage caused by rainfall runoff; develop, design and manage construction of capital improvement projects that maintain and improve current drainage infrastructure and facilities; maintaining an asset management plan for existing drainage infrastructure assets; and conducting drainage	14.00

Dept ID	Department Name	Description	Fund 6011 Drainage FTEs
		infrastructure design reviews to support development and other agency projects within the City of Sacramento. Additionally, Drainage team provides engineering support for the operation and maintenance of drainage systems.	
14001331	Environmental and Regulatory Compliance	Regulatory support, program development and implementation, technical expertise and evaluations, and regulatory liaison for DOU's water quality regulatory programs including Source Water Protection, Stormwater and CSS NPDES permits and Sanitary Sewer WDR/SSMP.	6.80
14001341	Development Services	Review planning and building projects, providing entitlement conditions and building permit corrections prior to approval, related to water, wastewater, drainage, water quality and floodplain management. Provide development-related information and support to City departments, developers, engineers and the public.	13.80
14001361	Electrical/Instrument/SCADA	Electrical - Responsible for maintaining electrical systems and equipment rated from 21KV to 50 volts at the Department's water plants, reservoirs, lift stations, and wells. Provide technical assistance for design and review of electrical installations and upgrades on CIPs. SCADA and Instrumentation - Provide maintenance and support for Industrial Control Network or Operations Technology (OT) of the SCADA system which includes Network, Process Control, Automation and Cybersecurity. Responsible for process control equipment, operator interface equipment, SCADA network, calibration of water quality instruments and chemical detection safety systems. Maintains all process control instruments as well as signal and communication equipment at department water plants, reservoirs, lift stations, and wells. Provide technical assistance for design and review of instrumentation equipment for updates on CIPs.	7.41
14001363	Electrical Engineering	Electrical Engineering provides planning and development of future capital improvement projects that maintain and improve new and current electrical infrastructure for water, wastewater, and drainage facilities; preparation of electrical studies of our facilities; preparation of request for proposals to test our electrical infrastructure. Activities include developing budgets, preparation of plans and specifications, construction support, supporting operations and maintenance programs and projects, and developing projects in compliance with various Federal and State regulations. Electrical Engineering also provides electrical infrastructure design reviews to support development and other agency projects within the City of Sacramento. In addition, Electrical Engineering implements sustainable, reliable, and cost-effective measures to improve energy efficiency and conservation in the	1.70

Dept ID	Department Name	Description	Fund 6011 Drainage FTEs
		water, wastewater and drainage systems; maximize energy, performance, reduce operating expenses, and minimize asset risk by actively and responsibly managing energy usage.	
14001421	Wastewater Collection	Maintain and repair combined and separated wastewater collection systems infrastructure.	0.50
14001431	Drainage Collection	This team provides: 1) Rain & Levee Patrol; 2) Weed Abatement (Fire Breaks) for All Levees, Ditches, Canals, and Basins; 3) Protection of Critical Infrastructure; 4) South Sacramento Streams Group Project; and 5) Preventative and Reactive Drainage Collection System Maintenance.	52.89
14001451	Logistics	Warehousing, procurement, contracting, equipment and facility maintenance.	3.50
14001461	USA Program	Marking all DOU infrastructure and all Public Works fiber optic, traffic loops, signals, and streetlights.	2.00
14001611	Fiscal and Administration Services	Administration of the DOU budgeting and accounting operations. This includes financial reporting, the development and administration of DOU operating and capital budgets, general ledger monitoring, management of the accounts payable function, purchase orders and change requests, interfund transfers, bond disclosures, wholesale water pricing agreements, Regional Sanitation revenue and annual reporting, review of council reports, and coordination with internal and external stakeholders to ensure compliance with financial policies, regulatory requirements, and strategic objectives.	1.86
14001621	Utilities Customer Service	Update billing account records for property ownership, process payments, and answer customer questions and/or concerns related to utility billing and services. Manage Control 1 Dispatch. Customer Service is responsible for all daytime dispatching of water, wastewater and storm drainage service requests from the public and other agencies, and including emergency requests.	3.38
14001631	Account Management	Management of utility accounts and related rates, services and adjustments. Integrity management of the billing system, including audits, City Code compliance, reconciliations, system enhancements and modifications. Administration of billing programs and processes such as Sacramento Utility Rate Assistance Program, Identity Theft Protection Program, liens, special assessment levies and service discontinuance.	2.34
14001651	Employee and Administrative Services	Department-wide administrative support including coordination with Human Resources related to personnel actions, recruitment and hiring and on-boarding efforts. Coordinating across the department's assigned staff for all personnel, recruitment, hiring, on-boarding,	1.00

Dept ID	Department Name	Description	Fund 6011 Drainage FTEs
		and separation efforts. Coordinate reporting of Out-of-Class assignments for CalPERS reporting requirement; Develops and oversees the department's employee recognition program. Leads community outreach efforts for employment opportunities in the Department. Process and coordinate all Public Records Act requests for the Department. Coordinates and oversees the Department's use of the City's contract with University Enterprise Inc, which is how we hire and employ college interns across the Department.	
14001661	Business Services Administration	Business Services Admin provides oversight and administrative support to the Account Management, Customer Service, Fiscal Operations, Long Range Financial Planning and Logistics programs. The office coordinates with other departments and outside agencies on all financial matters for the department and provides support and oversight to ensure compliance with Proposition 218.	0.80
14001671	Long Range Financial Planning	The Long Range Financial Planning (LRFP) section within DOU's Business Services Division (BSD) is responsible for securing mandated and essential long range financial strategies, that includes, but is not limited to, strategically diversifying the portfolio of funding options (e.g., utility rates, bonds, low-interest loans, fees, charges, etc.) providing the City with the greatest flexibility to replace and/or repair aging infrastructure, while minimizing potential risks.	0.85
Grand Total			161.64

5.7. Storm Drainage Conveyance System Condition Assessment

DOU uses closed-circuit television (CCTV) inspections to assess pipeline conditions for identification of defects and location tracking. CCTV inspections follow National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) standards. In 2025, DOU started using a new software, FreeFlow H2O, to assist in scheduling, which assigns inspection frequency based on pipe characteristics and maintenance history.

Figure 5-2, Figure 5-3, and Figure 5-4 present the results of available CCTV inspection data, including PACP ratings for O&M conditions, structural defects, and the overall pipeline rating.

The O&M condition ratings presented in Figure 5-2 represent observed foreign objects that may interfere with operation of the drainage system, such as sediment deposits, root intrusion, infiltration, or other physical obstructions. Most inspected pipelines received low O&M defect scores and appear as green in the figure. However, isolated segments are shown in yellow and red, indicating more frequent or severe operational defects. These defects can present ongoing maintenance challenges and may become recurring problem areas. As the Figure also illustrates, a significant portion of the drainage system has not yet undergone CCTV inspection. It is estimated that approximately 20 to 25 percent of the system has been inspected to date.

PACP structural defects identify issues with the pipe itself, including, but not limited to breaks, holes, collapse, or displaced joints. The structural defect ratings in Figure 5-3 indicate that most inspected pipelines are in fair to good structural condition, represented in green. Some areas of pipelines are shown in yellow and red, reflecting moderate to poor structural defects; these areas may point to emerging rehabilitation needs as additional inspection data becomes available.

Figure 5-4 presents pipeline overall condition score, which combines both O&M and structural defect ratings to provide a more complete assessment of pipeline condition. While most inspected pipelines exhibit fair to good overall condition scores, some segments show elevated scores. Locations with elevated scores may reflect areas where operational and structural defects may be compounding.

Beyond evaluating pipeline condition, CCTV inspections help improve the accuracy and completeness of data used in managing assets by verifying essential attributes such as pipe diameter, material, length, and other relevant characteristics.

Historically, the rate of CCTV inspection has been limited relative to the size of the existing drainage system. At the current rate, some assets may approach or exceed 100 years of age before being inspected. With implementation of the FreeFlow H2O software to support preventative cleaning and inspection activities, DOU estimates that completing a full systemwide cleaning and inspection cycle would take approximately 20 years.

Figure 5-2: O&M Condition Rating

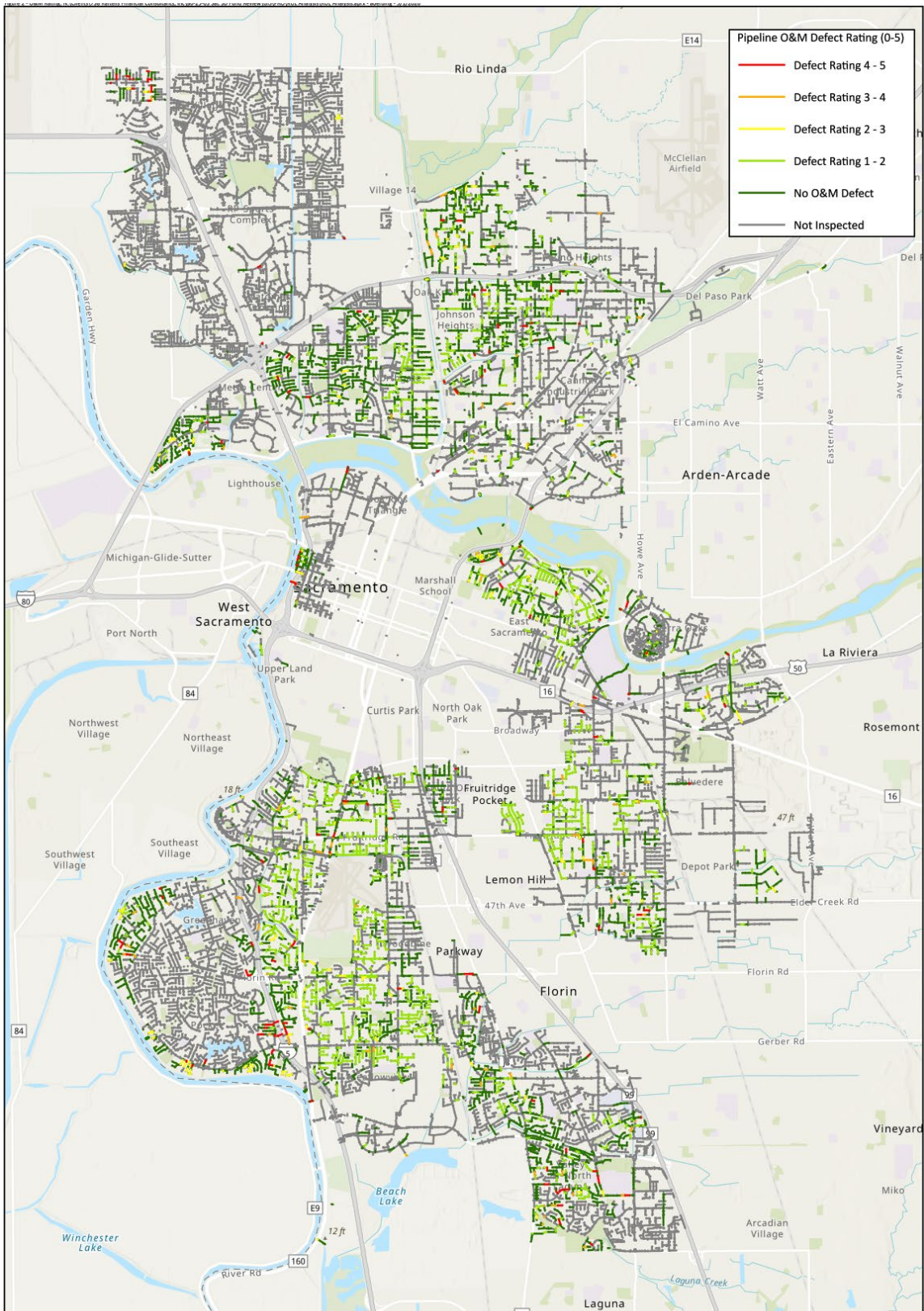


Figure 5-3: Structural Condition Rating

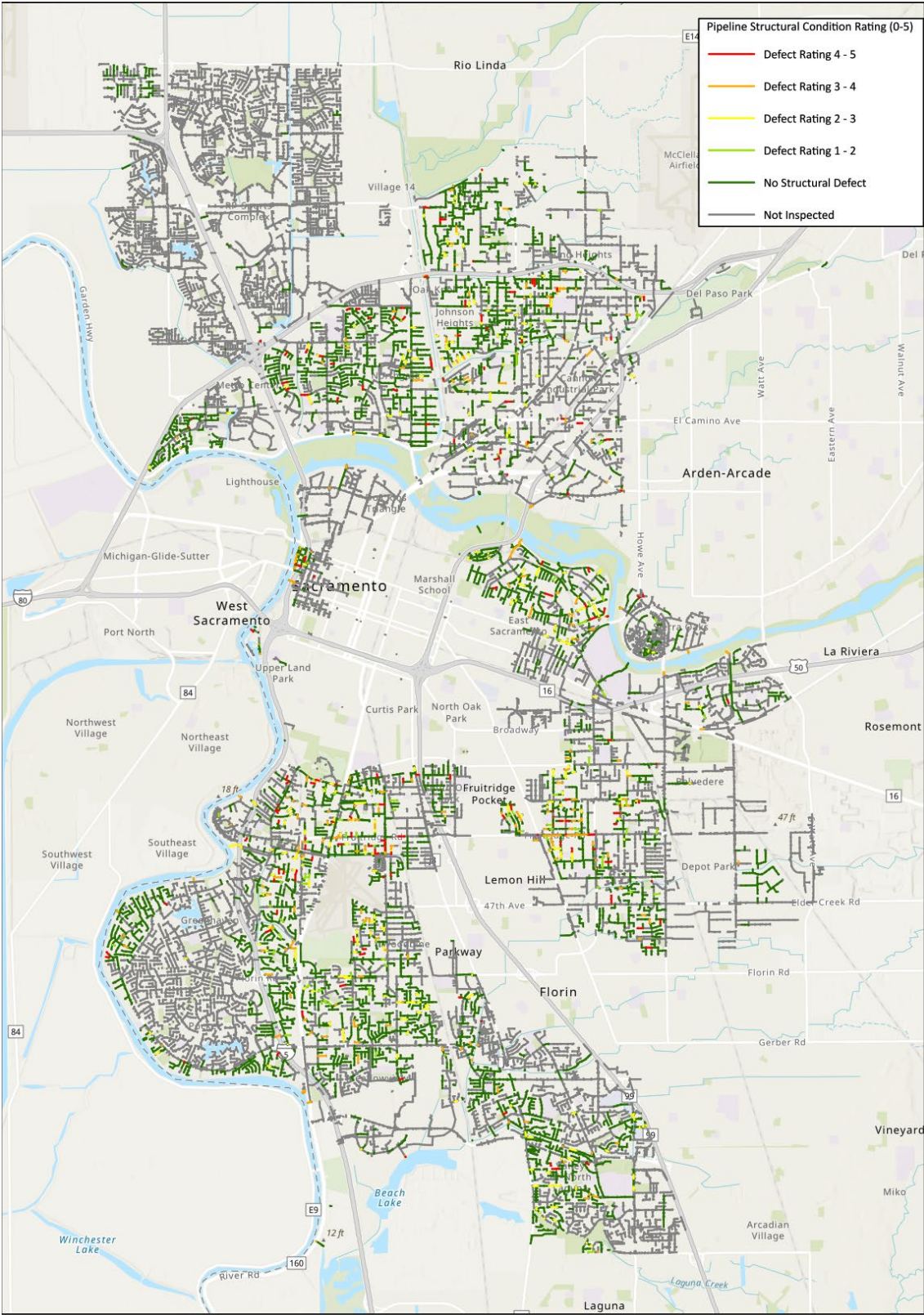
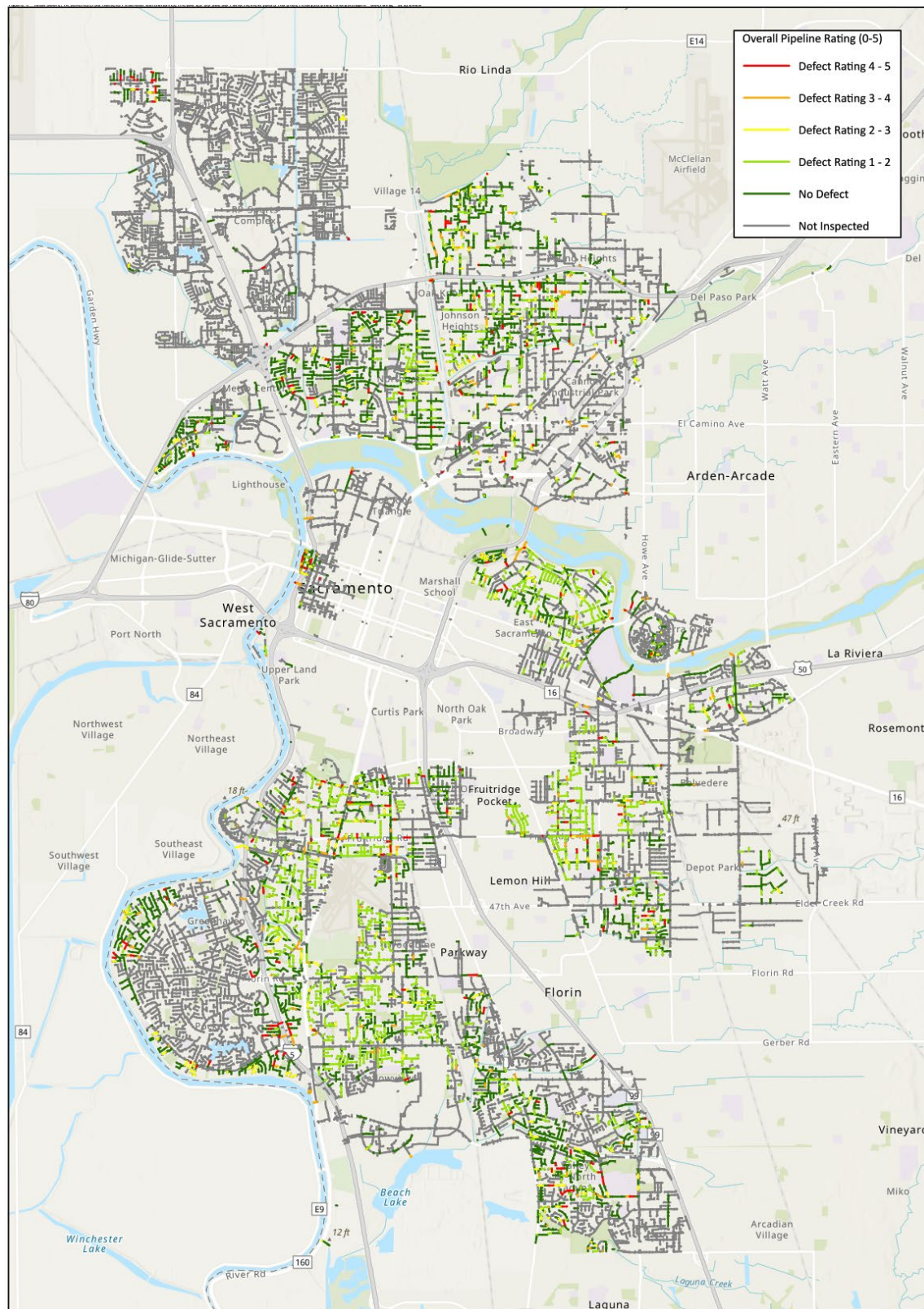


Figure 5-4: Total Condition Score



Prepared by:



Prepared for:

City of Sacramento
2025 Storm Drainage
Fund Review



Existing System
Assessment
Total Condition Score

Figure 4

5.8. 30-Year Capital Improvement Program

DOU's 30-Year Drainage CIP establishes a long-range funding plan for rehabilitation, regulatory compliance, system improvements, and planning initiatives. The CIP was developed through a structured prioritization process grounded in historical system performance, master planning efforts, and regulatory requirements. The foundation of the program originates from drainage master plans completed beginning in the mid-1990s, which identified needed improvements by basin and classified them by improvement type and priority class.

Improvements are categorized as “new” or “upgrade” projects and assigned a priority class (Class A through E), with Class A projects addressing existing 100-year public safety deficiencies and Class E projects primarily focused on water quality enhancements.

The prioritization process incorporated the following:

- Historical flood incident data from major storm events (1986, 1990, and 2005)
- O&M input, including sump station ratings
- Basin development intensity and growth patterns
- Improvement class (A-E), with greater weighting assigned to higher public safety impacts

In addition to infrastructure upgrades, the CIP incorporates ongoing rehabilitation programs, regulatory compliance initiatives, planning efforts, and technology upgrades.

- For FY 2026 through FY 2031, the program reflects approximately \$13.5 million per year, funded by the 2022 Storm Drainage Property-Related Fee.
- Beginning in FY 2032, the forecasted CIP investments approximately double to address long-term rehabilitation, regulatory compliance, and 100-year storm LOS improvements.

Over the 30-year horizon, total CIP expenditures, as summarized below, are projected at approximately \$723 million (uninflated 2025 dollars). Costs shown are the total over the 30-year CIP period from FY 2026 through FY 2055:

- Replacement and Rehabilitation (R/R): \$380.7 million
- O&M Support: \$16.6 million
- Regulatory Compliance: \$116.1 million
- System Improvements: \$142.9 million
- Information Technology and SCADA: \$23.3 million
- Planning: \$3.6 million³²
- Drainage CIP Contingency: \$40.1 million

³² This total excludes Multi-year Operating Programs (MYOPs), which are captured in DOU's 30-year CIP.

5.9. Extent of Deferred O&M of Storm Drainage Infrastructure

Limited historical inspection data has resulted in incomplete condition information across much of the system. CCTV efforts have focused primarily on reactive needs, known hotspots, and operational problem areas rather than systematic condition assessment. As a result, some assets may approach or exceed 100 years of age before comprehensive condition data is obtained. Additional operational constraints, including sediment accumulation, regulatory inspection requirements for levee penetrations, increased trash and debris loads, vandalism, and coordination challenges related to encampments further reduce preventative maintenance (PM) efficiency and production rates.

Deferred maintenance has contributed to increased reactive maintenance activities, including debris removal, root intrusion management, and emergency response efforts. In addition, sediment buildup, debris accumulation, and delayed inspection reduce hydraulic capacity and increase localized flooding risk.

As discussed above, DOU recently established a PM program for pipelines that is intended to systematically clean and inspect the system approximately once every 20 years. Based on current staff and equipment resources, approximately 45 miles of pipeline is cleaned annually. Of which, approximately 37 miles is preventative cleaning, and the remainder being reactive maintenance. DOU's goal is to establish a 20-year cycle (over 50 miles of pipeline cleaned and inspected annually). This goal is driven primarily by available and anticipated resources rather than defined LOS targets. At this time, there is insufficient historical inspection data to determine whether a 20-year cycle is adequate to maintain long-term system condition and hydraulic performance. As DOU progresses through a complete cycle of cleaning and CCTV inspections, maintenance frequencies are expected to be adjusted based on observed condition, defect rates, and sediment accumulation patterns. Expanded cleaning and CCTV efforts will identify additional maintenance and rehabilitation needs throughout the system. As a result, the deferred maintenance backlog may increase unless funding and staffing levels are adjusted accordingly to address maintenance and rehabilitation needs based on the inspection outcomes.

Storm Drainage Sump Stations have also experienced a high number of deferred maintenance work orders. Resources are not available to complete all the necessary PM activities at required intervals. This has resulted in work being completely deferred until a later date or only completing the necessary portions of the PM on time. Since 2016 over 5,800 work orders have been deferred, averaging about 500 work orders per year. The types of work orders being deferred include monthly, quarterly or semi-annual PMs to sump stations, their engines, pumps, generators, hoists, and more.

5.10. Extent of Deferred Capital Investment

DOU's storm drainage asset management program is still developing and maturing, and the R/R costs in the 30-year CIP likely do not reflect the long-term investment needed to proactively manage aging infrastructure. In addition, prior to additional funding available from the 2022 Storm Drainage Property-Related Fee (Fund 6021), DOU had constrained capital budget funding for many years due to the absence of drainage utility rate increases, resulting in the deferral of necessary asset R/R activities. This historical lack of funding increases the risk of asset failure, increases the consequences of failure, and increases the need for higher levels of asset R/R funding in the next 5 to 10 years to "catch up" on the backlog of deferrals.

While the 2022 Storm Drainage Property-Related Fee has enabled DOU to program approximately \$13.5 million per year in CIP expenditures over the next five fiscal years, this level of funding is understood to be significantly below the amount required to fully support proactive R/R of aging infrastructure. Capital investments largely focus on failed or near-failed infrastructure, rather than condition-based proactive replacement.

Aging infrastructure in annexed areas, corroded sump station outfalls, and sluice gates at or beyond their useful life represent areas of elevated concern. Detention basins have not undergone comprehensive condition assessments, and limited funding has been allocated for basin rehabilitation.

Deferred capital renewal can affect system capacity by increasing the likelihood of structural failure, corrosion, and mechanical breakdown. In some basins, aging infrastructure and limited rehabilitation have reduced operational flexibility and increased vulnerability during storm events. As more assets approach or exceed their expected service life, the probability of capacity loss and emergency replacement increases, constraining DOU's ability to proactively improve LOS.

5.11. Summary and Recommendations

DOU has made significant progress in advancing its storm drainage asset management, maintenance, and capital improvement programs, including establishment of a long-term CIP and expansion of PM and inspection efforts. However, aging infrastructure, incomplete condition data, deferred maintenance, and constrained historical funding continue to present challenges to long-term system reliability and performance. Continued investment in condition assessment, PM, rehabilitation, and asset management practices will support more proactive decision-making and help reduce long-term operational and capital risks.

The following recommendations are provided to support continued advancement of DOU's storm drainage asset management, maintenance, and capital improvement programs as funding and resources allow:

- **Develop Business Risk Exposure Scores**
 - Develop business risk exposure (BRE) for storm drainage assets by incorporating likelihood of failure (LOF) and consequence of failure (COF). Risk-based scoring can support prioritization of maintenance activities, rehabilitation projects, and capital investments. Where condition data is limited, initial prioritization may rely more heavily on COF criteria until additional inspection and condition assessment data becomes available.
- **Expand Systematic CCTV Inspection Efforts**
 - Continue transitioning from primarily reactive CCTV inspections to a more systematic, programmatic approach. Establishing a tighter target inspection cycle (e.g., 10 to 15 years) will improve understanding of system condition. Cleaning and CCTV programs should remain coordinated to ensure inspections are effective. Expanded inspection efforts will reduce uncertainty and support data-driven decision-making.

- **Establish Long-Term Pipeline Rehabilitation Targets**

- Establish a target annual R/R rate by total system length based on system condition, risk, and desired asset renewal rates. Industry practices commonly use annual renewal rates as a planning benchmark, with actual investment levels refined over time based on CCTV inspection results, condition trends, and BRE scoring.
- For example, a renewal rate of 1 percent represents an average asset renewal cycle of approximately 100 years. Based on DOU's 1,087 miles of storm drainage pipelines, a 1 percent annual renewal rate would equate to rehabilitation or replacement of approximately 11 miles of pipeline per year. Assuming an average rehabilitation cost of \$300 per linear foot, this level of investment could require more than \$17 million annually for pipeline rehabilitation activities alone.
- The 30-year CIP includes Drainage Collection System R/R at \$750,000 annually over the next five years, ramping up to \$7.5 million per year later in the planning horizon (starting in FY 2032). While this represents a significant advancement in storm drainage infrastructure investment, current funding levels reflect less than a 1 percent R/R rate. The appropriate annual rate of investment may need to be lower or higher per year based on the actual CCTV data and BRE scores.

- **Continue Refining Preventive Maintenance Programs**

- Continue transitioning from reactive to proactive maintenance by refining the PM program as additional inspection and condition data becomes available. The current estimated 20-year cleaning and inspection cycle should be periodically reassessed to determine whether it is sufficient to maintain long-term hydraulic performance and asset condition. Maintenance frequencies may need to be adjusted over time based on observed defect rates, sediment accumulation, and system performance.

- **Implement Reliability-Centered Maintenance for Vertical Assets**

- Implement reliability-centered maintenance practices for vertical assets. Tracking asset-level maintenance history, costs, and performance data can support repair versus replacement decisions. Replacement should be considered when maintenance costs become excessive relative to asset value or if performance declines.

- **Improve Asset Inventory Data Completeness**

- Continue improving asset data completeness and quality, including installation dates, material classifications, and condition information. Integrating GIS, CCTV inspection data, and maintenance records into a comprehensive asset management framework will support improved planning and prioritization.

- **Evaluate Capital Delivery Capacity**

- As capital funding levels increase, evaluate DOU's ability to effectively deliver planned projects. This evaluation may include reviewing staffing levels, internal processes, contracting strategies, and program management to ensure that increased funding can be effectively translated into completed improvements.
- **Expand Sump Station Condition Assessments**
 - Prioritize completion of comprehensive condition assessments for the storm drainage sump stations to better understand asset condition, RUL, and risk of failure. While some assessments have been completed, a large portion of sump stations have not yet undergone comprehensive evaluation, limiting DOU's ability to make informed, proactive replacement and rehabilitation decisions. As a result, capital investments are currently more reactive in nature, often focused on assets that have already failed or are exhibiting visible issues.
 - Expanding the sump station condition assessment program will likely require additional funding and staffing resources. A phased approach to completing assessments across all sump stations should be developed, with priority given to higher COF facilities, older facilities, and facilities with known performance issues. The results of these assessments should be used to inform maintenance prioritization and future CIP development.

6. System Valuation

6.1. Subject Assets

6.1.1. General Description of the System

The subject of this system valuation review is the separated storm drainage system owned, operated, and maintained by DOU and accounted for within the Storm Drainage Fund.³³ The storm drainage system collects, conveys, stores, pumps, and discharges stormwater and urban drainage across the City service area in the Sacramento Valley, a low-lying, flood-prone region at the confluence of the Sacramento and American rivers. Because much of the service area sits at or below adjacent river stages during high-water periods, the storm drainage system relies on an extensive network of pump stations (locally referred to as "sumps"), detention basins, and floodgates in addition to conventional gravity collection infrastructure.

The storm drainage system comprises both linear "horizontal" assets (e.g., pipelines, manholes, inlets, open channel, detention basins) and site-based "vertical" assets (sump stations), supported by a fleet of specialized rolling stock. Asset inventories for this review were developed primarily from the City's geographic information system (the "GIS", specifically the COS_Drainage_Uilities geodatabase provided by the City) and data from the City's maintenance management system, Maintenance Connection. Rolling Stock were provided as "Drainage TCO Report 5-21-26.xlsx." These data were supplemented by City sump records, fleet records, and Raftelis analysis. A summary of the storm drainage system core components is provided below. As described in Section 5, there are known gaps in accuracy and completeness of DOU's storm drainage asset data. Figures presented herein represent the best available data as of this analysis around July 2026.

6.1.2. Horizontal Assets

Horizontal assets within the storm drainage system consist of the buried and open-channel conveyance network. Its core components include:

- Drains and piping: approximately 55,200 pipe and drain segments ranging from small branch drains to large-diameter trunk mains up to 144 inches in diameter. Reported pipe materials and diameters were drawn from the GIS mains layer.
- Manholes: approximately 21,500 storm drainage manholes providing access and junction points across the collection network.
- Inlets: approximately 31,400 drainage inlets, including curb, grate, and combination inlet types, that capture surface runoff and convey it to the piped network.
- Concrete-lined channels and ditches: approximately 22 linear miles (roughly 116,000 linear feet) of concrete-lined open channel, averaging about 10 feet in developed lining width, with an assumed useful life of 75 years.
- Wells: 51 levee relief wells.

³³ The focus of this valuation exercise is the separated storm drainage system (X and Y systems). CSS valuation is available in Raftelis' 2024 Wastewater Fund Review.

- Detention areas: 76 detention basins that provide temporary stormwater storage and attenuate peak flows.
- Best management practices (BMPs): 210 stormwater treatment and trash capture devices for managing runoff water quality.
- Floodgates: approximately 390 floodgates, including flap gates, control structures (flood doors, stop logs), sluice/slide gates, and staff gauges that support flood fight activities and the management of pipeline flows.

The horizontal network is also served by ancillary appurtenances captured in the GIS, including approximately 166 cleanouts, 175 control valves³⁴, and 116 screens for debris and access control.

6.1.3. Vertical Assets

Vertical assets within the storm drainage system consist of the sump stations (stormwater pump stations) and their associated assets, as described below:

- Sumps: approximately 107 unique sump stations (stormwater pump station). The sump stations consist of mechanical, electrical, and instrumentation/control equipment, including approximately 323 pumps, 23 submersible pumps, 25 on-site generators, and 160 gates. Sump stations represent the most equipment-intensive component of the storm drainage system.

6.1.4. Rolling Stock

The storm drainage system is supported by approximately 158 units of rolling stock, including inspection and maintenance vehicles, portable pumps, generators, and specialized equipment used to operate and maintain the drainage network.

Inspection and maintenance vehicles are getting increasingly more expensive to purchase and maintain. The City's Public Works' Fleet Services bills DOU for accident repair, enhancements, fuel, rental vehicles, and repair and maintenance services. Drainage Collections and Drainage Operations and Maintenance costs for fleet maintenance increased from \$1.76 million in FY 2025 to \$1.87 million in FY 2026.

A complete listing of storm drainage system rolling stock assets by component, including year of installation, expected service life, estimated depreciation, and unit pricing, is provided in Appendix A.

6.2. Valuation of the Subject Assets

6.2.1. Cost Approach

The methodology used for the valuation of the storm drainage system was replacement cost new less depreciation (RCNLD). This method is commonly used in the valuation of public utility and infrastructure systems and is based on the appraisal theory of substitution: the principle that an informed party would not pay more for an asset than the cost to replace that asset, or system component, with one of comparable characteristics and service capability. The RCNLD reflects the value of tangible assets in place and in service as of the valuation date and is intended to support the review of the Storm Drainage Fund. This

³⁴ DOU reported values of 179 cleanouts and 179 control valves, though not all are recorded within the geographic data provided.

Cost Approach does not include the consideration of future capital improvements beyond assets in service as of the valuation date.

The initial step in the preparation of the RCNLD was using City-provided data sets to develop a high-level estimate of the current replacement cost of DOU's stormwater assets. These estimates were prepared based upon the basic guidelines shown in Table 6-1.

Table 6-1: RCN Estimation Approach

Asset Class	Approach to RCN Estimation ²
Drainage Piping ³⁵	Estimated based upon the linear footage of existing assets with recent bid documentation ³⁶ guiding unit cost.
Manholes & Inlets	Estimated based upon recent bid documentation guiding unit cost.
Concrete-Lined Ditches	Estimated using City guidance on linear footage of existing assets using bid documents ³⁶ and publicly available California Department of Transportation (Caltrans) documentation.
Vertical Assets – Sumps	Estimated using full construction cost budget for recent construction (Sump 163) including vault structures. Estimates were completed using data provided on a peak flow unit basis with constraints placed upon the minimum and maximum RCN values to prevent overestimation (maximum ~\$60 million) on large installations and underestimation (minimum ~\$5 million) on smaller installations.
Wells, Ditches, and BMPs	Estimated using publicly available research extended across units counts and adjusted to 2026 dollars using industry construction cost escalation indices.
Rolling Stock	Estimated using original cost escalated from acquisition date to present using Federal Reserve Transportation and Construction equipment cost escalation indices.
Floodgates	DOU has approximately 390 flood gates in their data set, many of which are understood to be installed as part of adjacent sump stations. Based upon the RCN estimation method used for the sump stations, the value of these assets is captured in the RCN carried for the sump stations themselves. Smaller tide gates not associated with sump stations are expected to have de minimis value.

³⁵ The RCN of the existing drainage piping network (inclusive of drainage pipes and interceptors with their associated branch pipes) was estimated using linear footage of drainage main as the unit of extension. This estimate was based on recent bid data from projects where this type of infrastructure was included in the consolidated construction scope.

³⁶ In instances where dated bidding data was used in the development of unit costing, all bid values were escalated to 2026 values using industry construction indices.

6.2.2. Replacement versus Reproduction Costs

There is a distinction between the reproduction cost and the replacement cost of infrastructure assets. Reproduction cost reflects the cost to duplicate the same facilities in the same manner as originally installed, escalating original installation costs and thereby capturing start-and-stop costs, restoration, overages, and other inefficiencies inherent in incremental historical construction. Replacement cost, by contrast, reflects the cost to provide facilities of comparable service capability today using commercially available materials and methods, assumed to be installed as a single, efficient construction effort that captures the economy of scale of a larger project. The replacement cost method used in this review therefore excludes the excess costs generally embedded in a reproduction cost estimate.

Replacement costs were developed from unit prices reflecting current construction and equipment costs (using DOU-provided and publicly available bid documentation from recent similar construction), and historical asset costs were trended using recognized construction cost indices to help align installed values to the valuation date. Where appropriate, published Handy-Whitman construction cost index series were used to construct trended cost factors when original cost data was available (principally for rolling stock). The same index was also used in trending construction cost unit pricing from historical bidding records of similar assets.

6.2.3. Recommended Depreciation

Three components of depreciation were considered in the Cost Approach, consistent with accepted appraisal practice for infrastructure systems:

1. Physical depreciation. The first and primary component, physical depreciation was applied on a straight-line basis using an average service life (ASL) for each asset or group of assets together with the reported year of installation. The use of ASL values reflects expected physical depreciation on an average basis, recognizing that some assets remain in service beyond their ASL while others are replaced earlier. Where installation dates were not available in the GIS, average ages were applied for groups of like assets.
2. Functional obsolescence. The second component reflects inefficiencies inherent in the design, configuration, or operation of specific facilities that are not captured by physical depreciation. Functional obsolescence was not considered as a part of our analysis.
3. External (economic) obsolescence. The third component reflects factors external to the storm drainage system, including regulatory requirements, market conditions, and development conditions. Similar to functional obsolescence, economic obsolescence (most commonly assessed when evaluating a utility for sale) was not considered as part of our analysis.

For assets which had “in service” dates included in the GIS data, depreciation was developed based upon each asset’s age since installation versus an assumed ASL for each asset class or type based upon industry guidance. For assets without installation dates available in the GIS, the average installation dates for other similar assets were applied to those assets.

6.2.4. Design, Engineering, and Indirect Cost Components

In the development of a Cost Approach for an infrastructure system, design, engineering, other indirect costs (including legal, permitting, and administrative costs), and site work (including grading, site access,

mobilization, and demobilization) are inherently part of the delivered cost of the assets. In a replacement cost method, these costs are added to the base unit costs used to develop an indication of value. An indirect cost factor appropriate to a single, efficient construction effort was incorporated into the replacement cost estimates for the storm drainage system.

6.3. System Replacement Cost New Less Depreciation

The estimated replacement cost new, physical depreciation, and RCNLD for the storm drainage system by major component are summarized in the table below. Based on the analysis, the total estimated replacement cost new of the storm drainage system is approximately \$4.30 billion, and the total RCNLD is approximately \$1.26 billion, reflecting a mature storm drainage system with a significant share of long-lived conveyance assets installed several decades ago.

The horizontal (collection and conveyance) assets account for the majority of both replacement cost new and remaining value, driven by the extensive drains and piping network. The vertical assets, sumps, carry a higher degree of physical depreciation than many other assets, reflecting the shorter life span which is expected from mechanical and complex facilities.

Results are presented in Table 6-2.

Table 6-2: Storm Drainage System RCNLD Summary

Component	Replacement Cost New (RCN)	Physical Depreciation	RCNLD
Horizontal Assets			
Drains and Piping	\$1,950,793,861	73.0%	\$526,659,829
Manholes	\$268,712,500	45.8%	\$145,582,740
Inlets	\$251,584,000	49.0%	\$128,362,063
Concrete-Lined Ditches	\$127,505,167	55.8%	\$56,344,712
Wells	\$977,500	61.1%	\$380,583
Detention Areas	\$14,655,000	41.9%	\$8,520,799
BMPs	\$49,393,840	31.9%	\$33,631,894
<i>Subtotal - Horizontal</i>	<i>\$2,663,621,868</i>		<i>\$899,482,620</i>
Vertical Assets			
Storm Drainage Sumps	\$1,622,341,101	78.3%	\$351,788,638
<i>Subtotal - Vertical</i>	<i>\$1,622,341,101</i>	-	<i>\$351,788,638</i>
Rolling Stock			
Vehicles and Equipment	\$18,859,346	55.3%	\$8,426,638
<i>Subtotal - Rolling Stock</i>	<i>\$18,859,346</i>		<i>\$8,426,638</i>
Total System	\$4,304,822,315		\$1,259,697,896

7. Future Projections & Fiscal Forecasting

7.1. Introduction

Raftelis developed a financial planning model to forecast revenue requirements, review revenue sufficiency, and calculate required revenue adjustments. Using this model, Raftelis analyzed two financial plan scenarios, each reflecting different levels of service and system investment, to demonstrate the impact on the calculated revenue requirement and rates. The following subsections describe key assumptions and inputs for the financial plan scenarios, as well as projected results.

7.2. Inputs and Assumptions

7.2.1. Key Inputs

The financial model and forecast rely on key inputs and assumptions. Sources for inputs include:

- Budget to Actuals FY 22-26 – eCAPS – 6011 Fund
- Budget to Actuals FY 23-26 – eCAPS – 6021 Fund
- DOU Storm Drainage Additional Operational Needs
- Drainage 30-YR Capital Investment Parent Programs³⁷
- Drainage Fund 6011 – Summary of Available Fund Balance
- Drainage Fund 6021 – Summary of Available Fund Balance
- FY 27 Adopted Budget – eCAPS – 6011 Fund
- FY 27 Adopted Budget – eCAPS – 6021 Fund
- FY 27 Approved Budget Load
- 6011 25_iii AFB_Final
- 6021 25_iii AFB_Final

Refinements to the capital improvement program, including the addition of new projects, were made in coordination with City staff to reflect current priorities and operational needs. These sources were supplemented by email correspondence and data transmittals with City staff during the project. These have been noted where applicable.

7.2.2. Escalation Factors

The model utilizes a variety of escalation factors that are assigned to line items as appropriate. These are summarized in Table 7-1, below.

³⁷ Provided in the Excel workbook “Sacramento SW Model_v9_DOU edits 09.15.26”.

Table 7-1: Escalation Factors³⁸

	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Capital	3.5%	3.5%	3.5%	3.5%	3.5%
Fleet Replacement	10.0%	10.0%	10.0%	10.0%	10.0%
MYOP	0%	0%	0%	0%	0%
Employee Services	2.0%	2.0%	2.0%	2.0%	2.0%
Interfund Reimbursement	3.0%	3.0%	3.0%	3.0%	3.0%
Interfund Service Provided & Used	3.0%	3.0%	3.0%	3.0%	3.0%
Interfund Transfer	3.0%	3.0%	3.0%	3.0%	3.0%
Other Objects	2.5%	2.5%	2.5%	2.5%	2.5%
Property	2.5%	3.0%	3.0%	3.0%	3.0%
Service and Supplies	3.0%	3.0%	3.0%	3.0%	3.0%
Rate Revenue Escalation	0.8%	0.8%	0.8%	0.8%	0.8%

Beyond the escalation assumptions, the future projections include a General Fund Tax, a cost to each utility fund, calculated annually at 11% of rate revenue. Revenue from reserve interest is assumed to be reduced by 10% in each year per City Finance policy.³⁹

7.3. Available Fund Balance

Beginning fund balances for FY 2026 were provided in “Storm Drainage Fund 6011 – Summary of Available Fund Balance” and “Storm Drainage Property Fee Fund 6021 – Summary of Available Fund Balance”. These are shown below.

Table 7-2: Beginning Available Fund Balances (in thousands) ⁴⁰

Description	FY 2026 Beginning Available Fund Balance
Fund 6011	\$25,649
Fund 6021	\$23,791
Total Available Fund Balance	\$49,440

³⁸ Escalation factors align with the Water Financial Plan & Cost of Service study completed in 2025.

³⁹ Interest revenue data and assumptions were provided via email, subject "Interest for Storm Drainage Funds," dated June 9, 2026.

⁴⁰ Sources: 6011 25_iii AFB_Final and 6021 25_iii AFB_Final.

7.4. Reserve Policies

DOU targets a minimum operating reserve equal to 120 days of working capital (DWC), approximately 33% of annual operating expenses, equivalent to approximately four months of operating costs, excluding debt service and General Fund Tax. This reserve provides a buffer against revenue shortfalls, unanticipated expenditures, and seasonal fluctuations in cash flow.

DOU also targets a minimum debt service coverage ratio of 1.20x, meaning net revenues available for debt service should be at least 120% of annual debt service obligations. If and when the City and DOU decide to issue revenue bonds secured by stormwater system revenues, in compliance with the City's Debt Management Policy, DOU would need to maintain a coverage ratio consistent with the investment-grade credit ratings of the stormwater drainage system by the major bond credit rating agencies.

Currently, Fund 6021 maintains no designated operating reserve balance. Beginning in FY 2028, an operating reserve will be established for the fund, adopting the target methodology currently applied to Fund 6011. In addition, DOU is planning to establish, in FY 2028, a minimum capital reserve target for Fund 6021 equal to one year of pay-go capital expenditure, calculated based on the following year's projected capital spending, excluding debt-funded capital, to support continuity of planned infrastructure investments. While operating reserves are excluded from the available fund balance, the capital reserve is maintained within available cash to fund emergency or unplanned capital requirements. The modeled rate adjustments for each financial plan scenario are designed to restore and maintain fund balances at levels that satisfy these reserve requirements over the planning period.

7.5. Projected Revenues

7.5.1. Rate Revenue

Rate revenue projections are based on the City's FY 2027 adopted budget as the baseline. The current rate structures are described in Section 4.6. DOU provided billing data detailing account level billings by customer class. The rate model reflects actual and budgeted revenue provided by DOU and rate revenue was carried forward using a 0.8% annual escalation factor, consistent with the Sacramento Area Council of Governments' (SACOG) 2025 Blueprint, which projects approximately 0.8% annual population growth for the six-County Sacramento region through 2050. This growth rate serves as a reasonable proxy for expansion of the customer base and revenue under current rates. Projected revenues under current rates for Fund 6011 range from \$41.1 million in FY 2027 to \$42.5 million in FY 2031. Projected revenues under current rates for Fund 6021 range from \$20 million in FY 2027 to \$20.6 million in FY 2031, for a total rate revenue of \$61.1 million in FY 2027 to \$63.1 million in FY 2031. As this revenue is projected under current rates, these totals do not assume any future rate adjustments; the impact of potential rate increases is modeled separately.

Table 7-3: Projected Rate Revenues under Current Rates (in thousands)⁴¹

Description	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Fund 6011 Rate Revenues	\$41,147	\$41,476	\$41,808	\$42,143	\$42,480
Fund 6021 Rate Revenues	\$20,000	\$20,160	\$20,321	\$20,484	\$20,648

7.5.2. Non-Rate Revenue and Grants

Non-rate revenue sources include grants, interest, and other income. Sacramento has a strong history of successfully pursuing grants. Current grants are modeled as \$3 million in FY 2026 and FY 2027; \$8 million in FY 2028; and \$9 million in FY 2029. To avoid overstating projected revenues, the model assumes a conservative annual grant receipt of \$5 million in later years, which falls below the average annual amount of \$6.3 million received over the past six years. This approach reduces the risk of revenue shortfalls in years when grant awards may be lower than historical levels.

Interest revenue was provided by the Treasurer's Office for FY 2026 through FY 2031. For subsequent years, interest revenue was calculated by applying a 10% reduction to the previous year's interest revenue.⁴² Other income includes miscellaneous revenues such as fines, forfeitures, and penalties, incidental governmental receipts and licenses and permit revenue. These revenues are not assumed to grow with inflation, as they are irregular in nature. Annual revenue from fines, forfeitures, and penalties are projected at \$421,000 for Fund 6011 and \$207,000 for Fund 6021. Revenues for incidental governmental receipts and licenses and permits are projected at \$40,000 and \$75,000 annually in Fund 6011.⁴³ As detailed in fund summaries in Section 7.7, non-rate revenue and grants are considered sources of funds, in addition to rate revenues.

7.6. Projected Expenses

7.6.1. Capital Improvement Programs (Fund 6021)

The 30-year Capital Improvement Program (CIP)⁴⁴ provides a long-term investment framework for DOU's drainage infrastructure, and its key highlights and enhancement needs are reflected across the planning scenarios, which is funded under Fund 6021. The FY 2026–2031 CIP 5-year plan has been approved by City Council, with minor modifications to reflect more recent wastewater rate planning data and subsequent funding updates. These near-term investments are funded by the new 2022 Storm Drainage Property-Related Fee rate at approximately \$13.5 million (uninflated) per year, with priorities focused on failed infrastructure and regulatory projects, asset management and planning, and improvement projects and technology aimed at achieving a 100-year level of service. Looking further ahead, the FY 2032–FY

⁴¹ Sources: FY 2027 Rate Revenues are from 1 - FY 27 Approved Budget Load - Using Final BC Download and projected using escalation factors in Table 7-1.

⁴² Interest revenue data was provided via email, subject "Interest for Storm Drainage Funds," dated June 9, 2026.

⁴³ Source: 1 - FY 27 Approved Budget Load - Using Final BC Download.

⁴⁴ Source: 30-year CIP_1.StatusQuo.

2055 period calls for increased investment, raising the annual CIP budget to average approximately \$26.8 million (uninflated) per year. The bulk of that increase would be directed toward rehabilitation and replacement projects, 100-year level of service improvement projects, CSS CIP projects, and regulatory projects. CSS CIP projects within FY 2026–FY 2055 time period are estimated to be funded partially by Fund 6021, but CIP project timing is dependent on increases to the wastewater fund being approved and potential wastewater debt issuance.

**Table 7-4: Projected Capital Improvement Costs by Category (in thousands),
Status Quo Scenario (uninflated)**

Line No.	Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Drainage CIP Contingency	\$619	\$619	\$583	\$750	\$750	\$750
2	Rehab/ Replacement	\$4,247	\$4,243	\$5,315	\$4,880	\$4,880	\$5,280
3	O&M Support	\$371	\$206	\$262	\$450	\$450	\$450
4	Other Rehab/ Replacement	\$0	\$0	\$0	\$0	\$0	\$500
5	Regulatory	\$4,322	\$4,758	\$4,710	\$3,250	\$5,115	\$6,673
6	Information Technology	\$959	\$1,083	\$1,305	\$1,124	\$971	\$1,298
7	System Improvement	\$1,722	\$983	\$1,419	\$1,657	\$1,657	\$2,552
8	Total CIP	\$12,240	\$11,891	\$13,594	\$12,111	\$13,823	\$17,503

**Table 7-5: Projected Capital Improvement Costs by Category (in thousands),
Status Quo Scenario (inflated)**

Line No.	Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Drainage CIP Contingency	\$640	\$663	\$647	\$861	\$891	\$922
2	Rehabilitation/ Replacement	\$4,395	\$4,545	\$5,893	\$5,600	\$5,796	\$6,490
3	O&M Support	\$384	\$221	\$291	\$516	\$534	\$553
4	Other Rehab/Replacement	\$0	\$0	\$0	\$0	\$0	\$615
5	Regulatory	\$4,474	\$5,096	\$5,222	\$3,729	\$6,075	\$8,203
6	Information Technology	\$993	\$1,161	\$1,447	\$1,290	\$1,153	\$1,596
7	System Improvement	\$1,782	\$1,053	\$1,574	\$1,901	\$1,968	\$3,137
8	Total	\$12,668	\$12,738	\$15,072	\$13,897	\$16,417	\$21,516

7.6.2. Operating Expenses

Projected operating expenses for DOU are presented by fund and reflect the FY 2027 budget⁴⁵ as the baseline, with individual cost categories escalated annually based on their respective cost drivers. Projected operating expenses are summarized in the following tables.

⁴⁵ https://www.cityofsacramento.gov/content/dam/portal/finance/Budget/26-27-proposed/FY2026_27_Proposed_Operating_Budget_Web_v2.pdf

Table 7-6: Projected Fund 6011 Operating Expenses (in thousands), Status Quo Scenario⁴⁶

Line No.	Description	FY 2026 (actuals)	FY 2027 (budgeted)	FY 2028 (projected)	FY 2029 (projected)	FY 2030 (projected)	FY 2031 (projected)
1	Employee Services	\$24,590	\$27,138	\$27,681	\$28,234	\$28,799	\$29,375
2	Service and Supplies	\$9,160	\$10,747	\$11,015	\$11,291	\$11,573	\$11,862
3	Interfund Reimbursement	\$0	\$0	\$0	\$0	\$0	\$0
4	Interfund Services Provided & Used	\$0	\$0	\$0	\$0	\$0	\$0
5	Interfund Transfer (includes GF Tax)	\$702	\$6,187	\$6,217	\$6,303	\$6,391	\$6,481
6	Property	\$47	\$30	\$31	\$32	\$32	\$33
7	Other Objects	\$54	\$104	\$107	\$110	\$112	\$115
8	One-Time Expense	\$0	\$0	\$0	\$0	\$0	\$0
9	MYOP Appropriation	\$2,214	\$2,274	\$2,314	\$2,356	\$2,323	\$2,317
10	Fleet Replacement	\$0	\$605	\$2,986	\$2,877	\$1,438	\$2,732
11	Total Operating Expenses	\$36,768	\$47,085	\$50,351	\$51,202	\$50,669	\$52,916

For Fund 6011, projected operating expenses grow from \$37 million in FY 2026 to \$53 million by FY 2031. Employee Services represents the largest cost category, accounting for 55% to 58% of total operating budget throughout the projection period. This category includes wages, overtime, paid leave, and other employee benefits. Services and Supplies is the second largest category at approximately 23%, covering professional services, contracted maintenance, equipment repair, utilities, fuel, software, and field supplies. Interfund Transfers account for about 12% to 13% of the total and reflect program support and General Fund Tax transfers between City funds. The remaining categories include Interfund Reimbursements (CIP labor and indirect cost credits), Property (vehicles, equipment, and capital assets), and Other Objects (damage claims,

⁴⁶ Sources: Budget to Actuals FY 22-FY 26 - eCAPS - 6011 Fund; 1 – FY 27 Approved Budget Load – Using Final BC Download (for MYOP and FY 2027 Fleet); and DOU Fleet Replacement Need FY 28-FY31.

memberships, tipping fees, and miscellaneous expenditures). The MYOP Appropriations are projected to be relatively flat at approximately \$2.3 million annually.

Table 7-7: Projected Fund 6021 Operating Expenses (in thousands), Status Quo Scenario⁴⁷

Line No.	Description	FY 2026 (actuals)	FY 2027 (budgeted)	FY 2028 (projected)	FY 2029 (projected)	FY 2030 (projected)	FY 2031 (projected)
1	Employee Services	\$1,386	\$2,466	\$2,516	\$2,566	\$2,617	\$2,670
2	Service and Supplies	\$15	\$168	\$173	\$177	\$181	\$186
3	Interfund Reimbursement	\$0	\$0	\$0	\$0	\$0	\$0
4	Interfund Services Provided & Used	\$0	\$0	\$0	\$0	\$0	\$0
5	Interfund Transfer (includes GF Tax)	\$7,115	\$4,251	\$4,353	\$4,435	\$4,519	\$4,605
6	Property	\$203	\$98	\$100	\$103	\$106	\$108
7	Other Objects	\$9	\$0	\$0	\$0	\$0	\$0
8	One-Time Expense ⁴⁸	\$0	(\$1,939)	\$0	\$0	\$0	\$0
9	MYOP Appropriation	\$2,250	\$2,250	\$2,250	\$2,250	\$2,318	\$2,387
10	Total Operating Expenses	\$10,978	\$7,295	\$9,392	\$9,531	\$9,741	\$9,956

Operating expenses for Fund 6021 were approximately \$11.0 million in FY 2026, driven by a large interfund transfer, reflecting accounting adjustments as Fund 6021 monies became fully accessible. The FY 2027 budget shows a one-time CIP offset. From FY 2028 onward, operating expenses stabilize for the remainder of the study period, averaging at \$9.7 million from FY 2028 through FY 2031. Major cost components for this fund include Employee Services, Interfund Transfers including General Fund Tax, MYOP, and Other Objects.

Employee Services average \$2.6 million from FY 2027 through FY 2031; Interfund Transfers average \$4.4 million during the same time period. The MYOP Appropriations are projected to be relatively flat at approximately \$2.4 million annually and Property costs are negligible at just over \$100,000 per year.

7.6.3. Debt Service

⁴⁷ Sources: Budget to Actuals FY 23-FY 26 - eCAPS - 6021 Fund; 1 – FY 27 Approved Budget Load – Using Final BC Download.

⁴⁸ Included in source documents as Bad Debt and CIP Offset; not carried forward.

Debt service obligations are assumed to exist entirely within Fund 6011. DOU is currently repaying two outstanding issuances: the 2006 North Area Corp Yard (NACY) CIP Bond and the I-Bank Loan. Annual debt service from FY 2026 through FY 2031 for the NACY CIP Bond is approximately \$107,560, while the I-Bank Loan is approximately \$160,000, for a combined annual debt service cost of roughly \$270,000. These payments are reflected as fixed obligations in the cash flow model.

7.6.4. Reserve Policy

Where needed, funding is added to reserves to remain compliant with the reserve policy described in Section 7.4. This is captured in “use of funds” in fund summary tables.

7.7. Future Scenarios

Raftelis developed two planning-level financial scenarios to evaluate DOU's long-term revenue sufficiency and model the rate adjustments needed to sustain operations and capital investment at these levels.

- **Financial Plan 1**, the Status Quo Scenario, reflects no material change to the level of service provided in recent years. It does, however, account for additional spending associated with newly available capital funding from Fund 6021 and also incorporates the 30-year capital improvement program as documented by DOU.
- **Financial Plan 2**, the Level of Service Scenario, represents a modest increase to the overall level of service and system investment, incorporating DOU's additional operational needs.

The following subsections detail the assumptions, costs, and results for each scenario. The scenarios modeled in this analysis provide a foundational baseline, with the expectation that any future rate adjustments will be refined to meet specific policy goals. Alongside the Level of Service Scenario, we have included modeled rates calculated to achieve revenue sufficiency.

7.7.1. Financial Plan 1: Status Quo

7.7.1.1. Overview

The Status Quo scenario reflects no material change to the level of service in recent years and relies on current operations maintenance budgets and the planned capital program.

7.7.1.2. Capital Costs

Raftelis used the Drainage 30-year Capital Investment Parent Programs to identify capital costs for the Status Quo scenario. Capital costs are provided above in Section 7.6.1.

7.7.1.3. Projected Expenditures

Using the projected operating expenses and capital improvement program from section 7.6, Raftelis calculated the total annual expenditures for both funds under the Status Quo scenario. The results are shown in the tables below.

Table 7-8: Projected Fund 6011 Expenses (in thousands), Status Quo Scenario⁴⁹

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Operating Expenses	\$36,768	\$47,085	\$50,351	\$51,202	\$50,669	\$52,916
2	Debt Service	\$232	\$226	\$270	\$270	\$269	\$269
3	Total Expenses	\$37,000	\$47,312	\$50,621	\$51,472	\$50,939	\$53,185
4	Target Operating Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$15,322</i>	<i>\$15,134</i>	<i>\$15,861</i>

Table 7-9: Projected Fund 6021 Expenses (in thousands), Status Quo Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Operating Expenses	\$10,978	\$7,295	\$9,392	\$9,531	\$9,741	\$9,956
2	Capital	\$12,668	\$12,738	\$15,072	\$13,897	\$16,417	\$21,516
3	Total Expenses	\$23,646	\$20,034	\$24,464	\$23,428	\$26,158	\$31,471
4	Target Operating Reserves	<i>\$2,893</i>	<i>\$1,683</i>	<i>\$2,359</i>	<i>\$2,399</i>	<i>\$2,462</i>	<i>\$2,526</i>
5	Target Capital Reserves	<i>\$12,738</i>	<i>\$15,072</i>	<i>\$13,897</i>	<i>\$16,417</i>	<i>\$21,516</i>	<i>\$40,805</i>

The combined projected expenses grow from approximately \$60.6 million in FY 2026 to \$84.7 million by FY 2031. Under this scenario, future needs are driven primarily by operating expenses. Target operating reserves consist of 120 days of operating expenses excluding debt service and General Fund Tax. In this scenario, capital and operating reserve targets for Fund 6021 total \$15.6 million in FY 2026 and are projected at \$43.3 million in FY 2031. Target capital reserves are based upon the following fiscal year's non-debt-funded capital and are calculated at \$12.7 million in FY 2026 and increase to \$40.8 million by FY 2031.

⁴⁹ Sources: Budget to Actuals FY 22-FY 26 - eCAPS - 6011 Fund; 1 – FY 27 Approved Budget Load – Using Final BC Download (for MYOP and FY 2027 Fleet); DOU Fleet Replacement Need FY 28-FY31; and FY 26 Debt Budget – DOU.

7.7.1.4. Fund Summaries

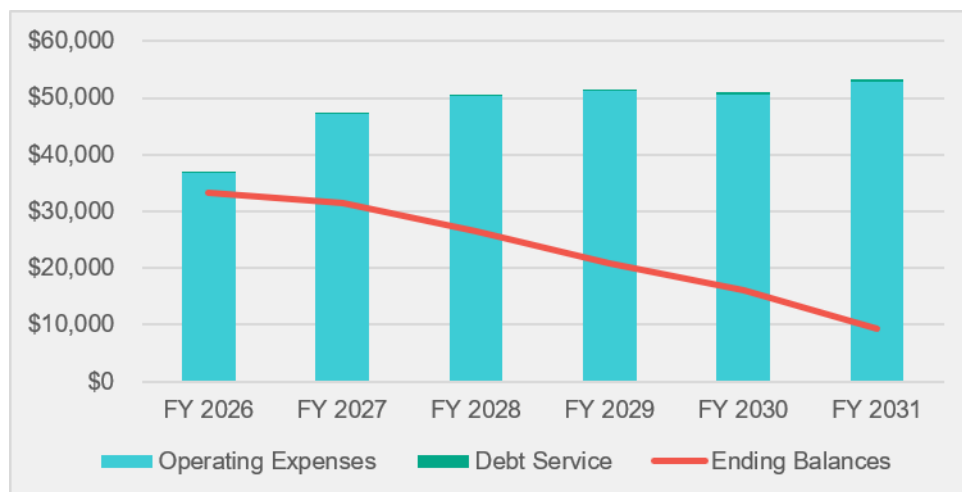
The following table shows the anticipated expenditures for Fund 6011 compared to anticipated revenues under current rates for the Status Quo scenario. The summary for FY 2032 and beyond can be found in Table A-1 in Appendix B.

Table 7-10: Projected Fund 6011 Summary Under Current Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Beginning Balance	\$25,649	\$33,208	\$31,374	\$26,446	\$20,897	\$16,125
2	Sources of Funds	\$44,560	\$45,477	\$45,693	\$45,923	\$46,167	\$46,421
3	Use of Funds	\$37,000	\$47,312	\$50,621	\$51,472	\$50,939	\$53,185
4	Ending Balance	\$33,208	\$31,374	\$26,446	\$20,897	\$16,125	\$9,362
5	Target Operating Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$15,322</i>	<i>\$15,134</i>	<i>\$15,861</i>

Under the Status Quo scenario, Fund 6011 expenses outpace revenues in most years, causing the ending fund balance to decline over time. As described above, the ending fund balance represents available funds; operating reserves are held outside of this available amount to satisfy the target reserve policy detailed in Section 7.4 and under the status quo, reserves meet the established policy through FY 2031.

Figure 7-1: Annual Expenses and Ending Fund Balances Under Current Rates (in thousands), Fund 6011, Status Quo Scenario



For Fund 6011, expenses are expected to outpace revenue through most years of the study period. Anticipated revenues are projected to recover an average of \$45.9 million from FY 2027 to FY 2031, compared to average expenses of \$50.7 million, resulting in an average annual shortfall of approximately \$4.8 million over that period. This projected gap will deplete available fund balance over time, drawing the available fund balance below \$0 in FY 2033.

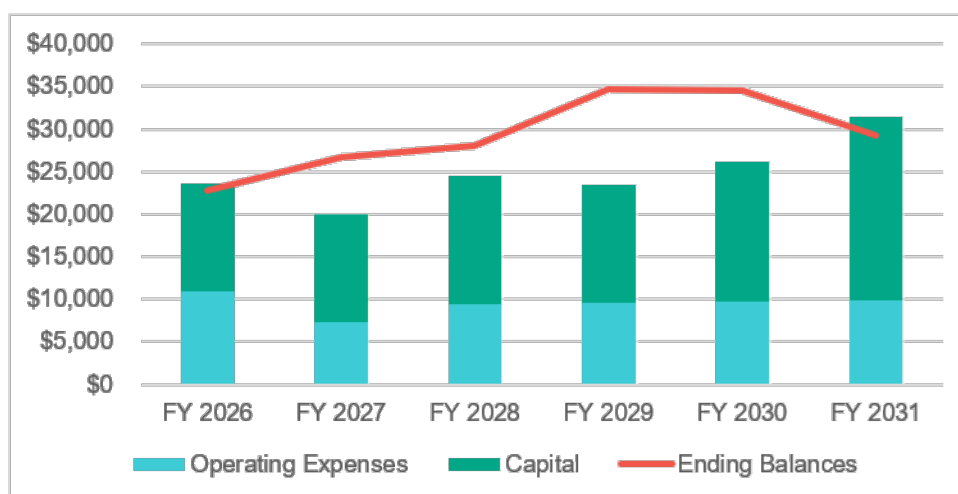
The following table shows the anticipated expenditures for Fund 6021 compared to anticipated revenues under current rates for the Status Quo scenario. The summary for FY 2032 and beyond can be found in Table A-2 in Appendix B.

Table 7-11: Projected Fund 6021 Summary Under Current Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Beginning Balance	\$23,791	\$22,760	\$26,626	\$28,773	\$35,355	\$35,274
2	Sources of Funds	\$22,615	\$23,900	\$28,970	\$30,050	\$26,140	\$26,238
3	Use of Funds	\$23,646	\$20,034	\$26,823	\$23,468	\$26,221	\$31,536
4	Ending Balance	\$22,760	\$26,626	\$28,773	\$35,355	\$35,274	\$29,976
5	Target Operating Reserves	\$2,893	\$1,683	\$2,359	\$2,399	\$2,462	\$2,526
6	Target Capital Reserves	\$12,738	\$15,072	\$13,897	\$16,417	\$21,516	\$40,805

Under the Status Quo scenario, Fund 6021 remains healthy in the short term, but increased CIP expenditures cause the available fund balance to dip below \$0 in FY 2033. Under current rates, sources of funds average \$27 million annually, from FY 2027 to FY 2031, approximately matching average uses of funds at \$25.6 million. In some years, uses of funds exceed sources of funds, drawing down the fund balance; however, in other years, funding sources exceed funding uses, adding to the fund balance. In those surplus years, uses of funds also encompass transfers to reserves, which occur only when net operating revenue is positive and the reserve targets have not been met. The operating fund balance meets established policy beginning in FY 2026, while capital reserve targets are met in FY 2026 through FY 2030. The ending fund balance in FY 2031 is approximately \$30.0 million.

Figure 7-2: Annual Expenses and Ending Fund Balances Under Current Rates (in thousands), Fund 6021, Status Quo Scenario



7.7.1.5. Required Rate Adjustments

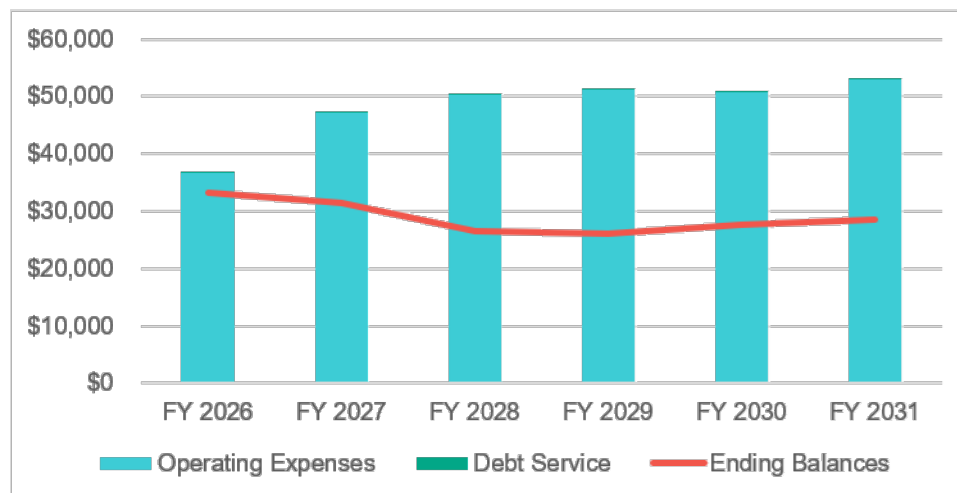
Expenses are expected to outpace revenue in both funds throughout most of the study period. To close this gap and maintain adequate fund balances over the planning period, annual revenue adjustments are necessary. The tables below include the modeled schedule of rate adjustments for the Status Quo scenario. For Fund 6011, this includes an initial rate adjustment of 20% in FY 2029, followed by 10% rate adjustments in FY 2034, FY 2039, and FY 2044. For Fund 6021, this includes an initial rate adjustment of 120% in FY 2031, followed by a rate adjustment of 30% in FY 2036. This approach will allow DOU to fund near-term operational and capital while building a reserve to reach the target operating reserve in all years and consistently meet capital reserve targets beginning in FY 2036. While the target capital reserve for Fund 6021 is not projected to be met until FY 2036, the rate adjustments gradually build the reserve to limit the strain on the fund. The summaries for FY 2032 and beyond can be found in Tables A-5 and A-6 in Appendix B.

Table 7-12: Projected Fund 6011 Summary Under Modeled Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Annual Rate Revenue Adjustment	0%	0%	0%	20%	0%	0%
2	Beginning Balance	\$25,649	\$33,208	\$31,374	\$26,446	\$26,176	\$27,634
3	Sources of Funds	\$44,560	\$45,477	\$45,693	\$54,285	\$54,595	\$54,917
4	Use of Funds	\$37,000	\$47,312	\$50,621	\$54,555	\$53,138	\$53,923
5	Ending Balance	\$33,208	\$31,374	\$26,446	\$26,176	\$27,634	\$28,627
6	Target Operating Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$15,322</i>	<i>\$15,134</i>	<i>\$15,861</i>

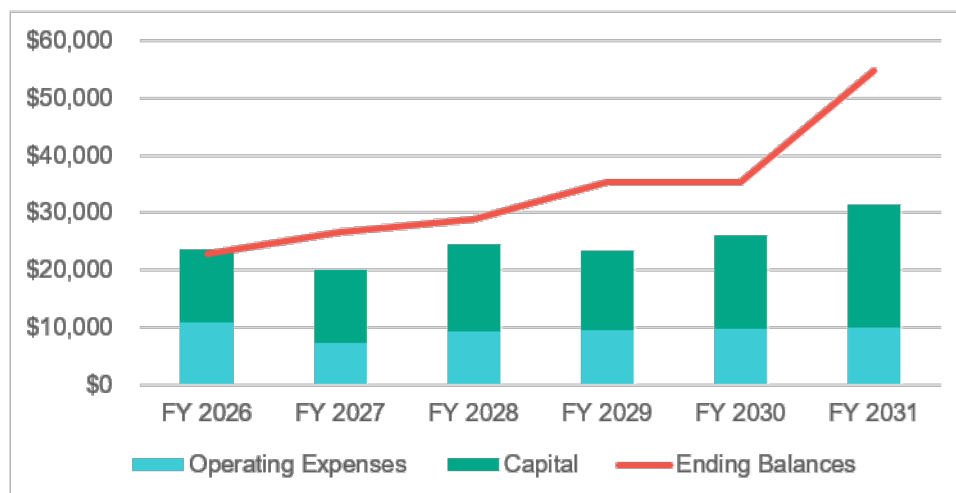
Table 7-13: Projected Fund 6021 Summary Under Modeled Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Annual Rate Revenue Adjustment	0%	0%	0%	0%	0%	120%
2	Beginning Balance	\$23,791	\$22,760	\$26,626	\$28,773	\$35,355	\$35,274
3	Sources of Funds	\$22,615	\$23,900	\$28,970	\$30,050	\$26,140	\$51,015
4	Use of Funds	\$23,646	\$20,034	\$26,823	\$23,468	\$26,221	\$31,536
5	Ending Balance ⁵⁰	\$22,760	\$26,626	\$28,773	\$35,355	\$35,274	\$54,753
6	Target Operating Reserves	\$2,893	\$1,683	\$2,359	\$2,399	\$2,462	\$2,526
7	Target Capital Reserves	\$12,738	\$15,072	\$13,897	\$16,417	\$21,516	\$40,805

Figure 7-3: Annual Expenses and Ending Fund 6011 Balances Under Modeled Rates (in thousands), Status Quo Scenario

⁵⁰ Ending fund balance reflects available funds only. For Fund 6021, total fund balance meets established policy for operating reserves throughout the study. The capital reserve is met consistently beginning in FY 2036.

Figure 7-4: Annual Expenses and Ending Fund 6021 Balances Under Modeled Rates (in thousands), Status Quo Scenario



7.7.2. Financial Plan 2: “Level of Service” Scenario

7.7.2.1. Overview

Financial Plan 2 represents DOU meeting Level of Service standards as previously discussed. Within this financial plan, additional operating needs are identified and added to the status quo operating expenses. Capital Improvement Program costs provided here replace the status quo CIP. Capital and supplemental operating program needs are presented as submitted by DOU; however, the financial plan assumes no additional costs take effect prior to FY 2029. Consequently, projected expenses through FY 2028 reflect status quo operations, with additional operational needs and the Level of Service CIP incorporated into projections beginning in FY 2029.

This financial plan is likely to be refined should DOU pursue a Fund 6011 rate adjustment in the coming years. As presented here, this represents true needs and best possible timing to achieve the desired level of service.

7.7.2.2. Additional Level of Service Scenario Costs

The following sections detail the total costs incorporated into this scenario from each source.

Drainage 30-year Capital Improvement Parent Programs

The following table summarizes costs included in the Drainage 30-year Capital Improvement Parent Program by category. Key adjustments are as follows:

- Contingency represents 5% of total CIP.
- Flood Gate R/R Program adjusted to \$400,000 annually.
- Drainage Collection System represents a 25% increase in investment over Status Quo levels.
- Other R/R Programs are funded sooner in the plan, as compared to the Status Quo scenario.
- Air Quality Combustion Motor Compliance Program represents a \$4 million annual investment, starting immediately, to meet emissions reduction requirements.

- Trash Capture costs in the near term are unchanged, but they increase beginning in FY 2031 as the requirement is in full effect.
- DOU IT Projects increased to \$500,000 annually to account for the Drainage portion of the DOU IT Strategic Plan CIP.
- Basin Improvement Program investment increases to \$5 million per year starting FY 2032.
- Additional levee investments, at \$2 million per year starting FY 2026.
- Additional R/R work includes relief well rehabilitation, Pocket Canal Master Plan projects (beginning in FY 2030), and the Drainage portion of new facility needs.

**Table 7-14: Projected Capital Improvement Costs by Category (in thousands),
Level of Service Scenario (uninflated)**

Line No.	Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Drainage CIP Contingency	\$966	\$965	\$1,057	\$988	\$1,154	\$1,323
2	Rehab/ Replacement	\$5,205	\$5,529	\$6,687	\$6,200	\$6,200	\$6,600
3	Operating Support	\$371	\$206	\$262	\$450	\$450	\$450
4	Other Rehab/ Replacement	\$750	\$750	\$750	\$750	\$750	\$750
5	Regulatory	\$8,322	\$8,758	\$8,710	\$7,250	\$9,115	\$10,873
6	Information Technology	\$959	\$1,083	\$1,305	\$1,200	\$1,200	\$1,500
7	Improvement	\$3,722	\$2,983	\$3,419	\$3,657	\$3,657	\$4,552
8	Additional R/R	\$0	\$0	\$0	\$250	\$1,717	\$1,740
9	Total CIP	\$20,295	\$20,275	\$22,190	\$20,745	\$24,243	\$27,788

**Table 7-15: Projected Capital Improvement Costs by Category (in thousands),
Level of Service Scenario (inflated)**

Line No.	Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Drainage CIP Contingency	\$1,000	\$1,034	\$1,172	\$1,134	\$1,371	\$1,627
2	Rehab/ Replacement	\$5,387	\$5,923	\$7,414	\$7,115	\$7,364	\$8,113
3	Operating Support	\$384	\$221	\$291	\$516	\$534	\$553
4	Other Rehab/ Replacement	\$776	\$803	\$832	\$861	\$891	\$922

Line No.	Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
5	Regulatory	\$8,614	\$9,381	\$9,656	\$8,320	\$10,826	\$13,366
6	Information Technology	\$993	\$1,161	\$1,447	\$1,377	\$1,425	\$1,844
7	Improvement	\$3,852	\$3,195	\$3,791	\$4,196	\$4,343	\$5,596
8	Additional R/R	\$0	\$0	\$0	\$287	\$2,039	\$2,138
9	Total CIP	\$21,006	\$21,719	\$24,603	\$23,805	\$28,794	\$34,158

Storm Drainage Fund Additional Operational Needs

Inspection and Condition Assessment: As discussed in Section 5, inspection and condition assessment has only occurred for about 20 to 25 percent of the drainage conveyance system, though DOU plans to improve this through an updated approach and supportive software. Additional inspection capabilities would be needed to support this initiative. A new CCTV and Jet Cleaning crew would be established with four service workers, two lead workers, and dedicated trucks to systematically clean and assess drainage mains and identify conveyance deficiencies before they become failures. A separate Manhole Inspection and Condition Assessment crew (one serviceworker, one lead worker, and one supervisor) would conduct field-level asset assessment. A Drone Inspection Office would be permanently staffed to provide above-ground visual inspection of drainage collection facilities and large diameter pipe inspection, an opportunity for further enhanced efficiency in the inspection program.

Drainage Repair and Channel Maintenance: The additional operational needs include establishing a dedicated Drainage Repair Crew (one supervisor, two lead workers, and six service workers) equipped with dump trucks, an excavator, a backhoe, a trailer, and service vehicles. This crew would address the existing backlog of infrastructure repairs and perform ongoing repairs identified through CCTV inspection. Channel, ditch, creek, and basin maintenance is included to cover grading, resurfacing, vegetation planting, and sediment removal at drainage facilities.

Levee Program Expansion: Additional levee crew positions (one Leadworker, two serviceworkers, and one administrative position) are proposed to expand the levee program due to an additional 20 miles of certified levees that require regulatory inspections and maintenance. The expansion also calls for additional supporting equipment that includes an excavator, trailer, mower, and service truck.

Sump Station Regulatory Compliance: The annual sump cleaning need is tied directly to NPDES permit requirements: 75 storm stations must be cleaned annually. The current staffing level supports roughly 25 stations, meaning two additional Plant Operators, three Junior Plant Operators, one Senior Plant Operator and one Supervising Plant Operator are needed to achieve permit compliance. This represents compliance gap closure in addition to a level-of-service enhancement.

These supplemental costs are grouped into three primary budget categories:

- Operations & Maintenance (O&M): Baseline non-labor operational costs, including specialized contractor services, ongoing vehicle and equipment maintenance, software licensing, facility leases, and regulatory supplies.
- Personnel (O&M FTE): Staffing additions necessary to support field operations, specialized electrical maintenance, CCTV inspection, and program administration.
- Fleet Acquisitions (Fleet): Dedicated vehicle and heavy equipment purchases, such as utility trucks, dump trucks, and excavators required to equip new and expanded maintenance crews.

The tables below summarize the total identified funding and staffing additions across these three categories both as uninflated (provided as 2026 dollars) needs and inflated to nominal dollars per the assumptions described in Table 7-1. Significant fleet needs are concentrated in FY 2029 as vehicle and equipment are planned to support additional FTEs.

Table 7-16: Storm Drainage Fund Additional Operational Needs by Category (in thousands), Level of Service Scenario (uninflated)

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	O&M	\$0	\$0	\$0	\$420	\$1,288	\$1,288
2	O&M FTE	\$0	\$0	\$0	\$5,154	\$5,829	\$5,829
3	Fleet	\$0	\$0	\$0	\$11,209	\$617	\$321
4	Total	\$0	\$0	\$0	\$16,783	\$7,734	\$7,438

Table 7-17: Storm Drainage Fund Additional Operational Needs by Category (in thousands), Level of Service Scenario (inflated)

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	O&M	\$0	\$0	\$0	\$452	\$1,422	\$1,458
2	O&M FTE	\$0	\$0	\$0	\$5,470	\$6,310	\$6,436
3	Fleet	\$0	\$0	\$0	\$14,919	\$903	\$516
4	Total	\$0	\$0	\$0	\$20,841	\$8,635	\$8,410

7.7.2.3. Projected Expenditures

Using these adjustments, Raftelis calculated the total annual expenditures for both Fund 6011 and Fund 6021 under the Level of Service Scenario. The results are shown in the tables below.

Table 7-18: Projected Fund 6011 Expenses (in thousands), Level of Service Scenario⁵¹

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Operating Expenses	\$36,768	\$47,085	\$50,351	\$72,043	\$59,304	\$61,326
2	Debt Service	\$232	\$226	\$270	\$270	\$269	\$269
3	Total Expenses	\$37,000	\$47,312	\$50,621	\$72,313	\$59,573	\$61,595
4	Target Operating Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$22,173</i>	<i>\$17,973</i>	<i>\$18,626</i>

For Fund 6011, the projected expenses grow from approximately \$37.0 million in FY 2026 to \$61.6 million by FY 2031. Higher expenses are also anticipated in FY 2029, driven by significant fleet needs. Target operating reserves increase in proportion to the operating expenses.

Table 7-19: Projected Fund 6021 Expenses (in thousands), Level of Service Scenario⁵²

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Operating Expenses	\$10,978	\$7,295	\$9,392	\$9,531	\$9,741	\$9,956
2	Capital	\$12,668	\$12,738	\$15,072	\$23,805	\$28,794	\$34,158
3	Total Expenses	\$23,646	\$20,034	\$24,464	\$33,336	\$38,534	\$44,114
4	Target Operating Reserves	<i>\$2,893</i>	<i>\$1,683</i>	<i>\$2,359</i>	<i>\$2,399</i>	<i>\$2,462</i>	<i>\$2,526</i>
5	Target Capital Reserves	<i>\$12,738</i>	<i>\$15,072</i>	<i>\$23,805</i>	<i>\$28,794</i>	<i>\$34,158</i>	<i>\$56,051</i>

For Fund 6021, operating expenses remain the same as the status quo scenario, but the increased capital program drives higher overall costs beginning in FY 2029. Target capital reserves change as cash-funded capital needs change year to year.

7.7.2.4. Fund Summaries

⁵¹ Sources: Budget to Actuals FY 22-FY 26 - eCAPS - 6011 Fund; 1 – FY 27 Approved Budget Load – Using Final BC Download (for MYOP and FY 2027 Fleet); DOU Fleet Replacement Need FY 28-FY31; FY 26 Debt Budget – DOU; and Storm Drainage Fund Additional Operational Needs.

⁵² Sources: Budget to Actuals FY 23-FY 26 - eCAPS - 6021 Fund; 1 – FY 27 Approved Budget Load – Using Final BC Download (for MYOP and FY 2027 Fleet); DOU Fleet Replacement Need FY 28-FY31; 30-year CIP_2.NeedsBased.

Under current rates and a Level of Service spending scenario, Fund 6011 is nearly depleted by the end of FY 2029, after which the fund balance is overdrawn. The established operating reserve target is met until FY 2030. As discussed above, operating reserves are modeled outside of the available balance, but are only supplemented to meet the required policy if sufficient revenue, above and beyond the operating expense, exists to do so. This transfer to the reserve is accounted for as a “Use of Funds.” The summary for FY 2032 and beyond can be found in Table A-3 in Appendix B.

**Table 7-20: Projected Fund 6011 Summary Under Current Rates (in thousands),
Level of Service Scenario**

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Beginning Balance	\$25,649	\$33,208	\$31,374	\$26,446	\$56	(\$13,350)
2	Sources of Funds	\$44,560	\$45,477	\$45,693	\$45,923	\$46,167	\$46,421
3	Use of Funds	\$37,000	\$47,312	\$50,621	\$72,313	\$59,573	\$61,595
4	Ending Balances ⁵³	\$33,208	\$31,374	\$26,446	\$56	(\$13,350)	(\$28,524)
5	Target Operating Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$22,173</i>	<i>\$17,973</i>	<i>\$18,626</i>

For Fund 6021, projected expenses vary, with an average of \$31.1 million. Capital expenses are the largest cost component and are detailed in Table 7-15, reflecting the expanded investment in system infrastructure, rehabilitation and replacement, regulatory requirements, and other capital expenses under this scenario. Target operating reserves average \$2.4 million from FY 2026 through FY 2031 and are met throughout FY 2030, at which point revenue is insufficient to contribute to reserves. Target capital reserves (driven by capital that is not debt-funded) are variable, ranging from \$12.7 million to \$56.1 million. This reserve is met through FY 2030, when the uses of funds exceed sources of funds, drawing the ending fund balance down below the target. Ending fund balance reflects available funds only. The ending fund balance goes below \$0 in FY 2031, at which point the reserves are also impacted. The summary for FY 2032 and beyond can be found in Table A-4 in Appendix B.

⁵³ Ending fund balance reflects available funds only. For Fund 6011, total fund balance meets established policy for operating reserves until FY 2030.

**Table 7-21: Projected Fund 6021 Summary Under Current Rates (in thousands),
Level of Service Scenario**

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Beginning Balance	\$23,791	\$22,760	\$26,626	\$28,773	\$25,447	\$12,990
2	Sources of Funds	\$22,615	\$23,900	\$28,970	\$30,050	\$26,140	\$26,238
3	Use of Funds	\$23,646	\$20,034	\$26,823	\$33,376	\$38,597	\$44,179
4	Ending Balances ⁵⁴	\$22,760	\$26,626	\$28,773	\$25,447	\$12,990	(\$4,951)
5	Target Operating Reserves	\$2,893	\$1,683	\$2,359	\$2,399	\$2,462	\$2,526
6	Target Capital Reserves	\$12,738	\$15,072	\$23,805	\$28,794	\$34,158	\$56,051

7.7.2.5. Required Rate Adjustments

As with the Status Quo scenario, expenses in the Level of Service scenario are expected to outpace revenue in both funds throughout most of the study period, though the gap is larger. From FY 2026 to FY 2031, anticipated annual revenues are projected to recover an average of \$45.7 million and \$26.3 million for funds 6011 and 6021 respectively, resulting in average annual shortfalls of approximately \$9.0 million and \$4.8 million over that period. The fund balances for both funds decline more rapidly under this scenario, with Fund 6011 drawing below \$0 in FY 2030 and Fund 6021 drawing below \$0 in FY 2031.

Without rate adjustments, the increased investment in staffing, equipment, and capital associated with the Level of Service scenario would accelerate the depletion of available fund reserves. To close this gap and maintain adequate fund balances over the planning period, larger annual revenue adjustments are necessary compared to the Status Quo. Table 7-22 and Table 7-23 below include the modeled schedule of rate adjustments for the Level of Service scenario. For Fund 6011, this includes an initial rate adjustment of 40 percent in FY 2029, followed by two 10 percent rate adjustments in FY 2034 and FY 2039, and a 12 percent adjustment in FY 2044. For Fund 6021, this includes an initial rate adjustment of 205 percent in FY 2031, followed by a rate adjustment of 38 percent in FY 2036. This approach will allow DOU to fund near-term operational and capital needs while building a reserve to reach the target operating and capital reserve amounts in outer years and keeping pace with inflation. While the target capital reserve for 6021 is not projected to be met consistently until FY 2036, the gradual addition to reserve resulting from staggered rate adjustments will limit customer impacts. The summaries for FY 2032 and beyond can be found in Table A-7 and A-8 in Appendix B.

⁵⁴ Ending fund balance reflects available funds only. For Fund 6021, the capital reserve target is not met in this scenario at current rates.

Table 7-22: Projected Fund 6011 Summary Under Modeled Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Annual Rate Revenue Adjustment	0%	0%	0%	40%	0%	0%
2	Beginning Balance	\$25,649	\$33,208	\$31,374	\$26,446	\$16,780	\$16,510
3	Sources of Funds	\$44,560	\$45,477	\$45,693	\$62,647	\$63,024	\$63,413
4	Use of Funds	\$37,000	\$47,312	\$50,621	\$72,313	\$63,293	\$63,682
5	Ending Balances ⁵⁵	\$33,208	\$31,374	\$26,446	\$16,780	\$16,510	\$16,241
6	Target Reserves	<i>\$10,556</i>	<i>\$13,974</i>	<i>\$15,054</i>	<i>\$22,173</i>	<i>\$17,973</i>	<i>\$18,626</i>

Table 7-23: Projected Fund 6021 Summary Under Modeled Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
1	Annual Rate Revenue Adjustment	0%	0%	0%	0%	0%	205%
2	Beginning Balance	\$23,791	\$22,760	\$26,626	\$28,773	\$25,447	\$12,990
3	Sources of Funds	\$22,615	\$23,900	\$28,970	\$30,050	\$26,140	\$68,566
4	Use of Funds	\$23,646	\$20,034	\$26,823	\$33,376	\$38,597	\$44,179
5	Ending Balances ⁵⁶	\$22,760	\$26,626	\$28,773	\$25,447	\$12,990	\$37,337
6	Target Operating Reserves	<i>\$2,893</i>	<i>\$1,683</i>	<i>\$2,359</i>	<i>\$2,399</i>	<i>\$2,462</i>	<i>\$2,526</i>
7	Target Capital Reserves	<i>\$12,738</i>	<i>\$15,072</i>	<i>\$23,805</i>	<i>\$28,794</i>	<i>\$34,158</i>	<i>\$56,051</i>

⁵⁵ Ending fund balance reflects available funds only. For Fund 6011, total fund balance meets established policy for operating reserves throughout the study under modeled rates.

⁵⁶ Ending fund balance reflects available funds only. For Fund 6021, capital reserve targets are variable, and are met inconsistently under modeled rates until FY 2036. Beginning in FY 2026, capital reserve targets are met consistently.

Figure 7-5: Annual Expenses and Ending Fund 6011 Balances Under Modeled Rates (in thousands), Level of Service Scenario

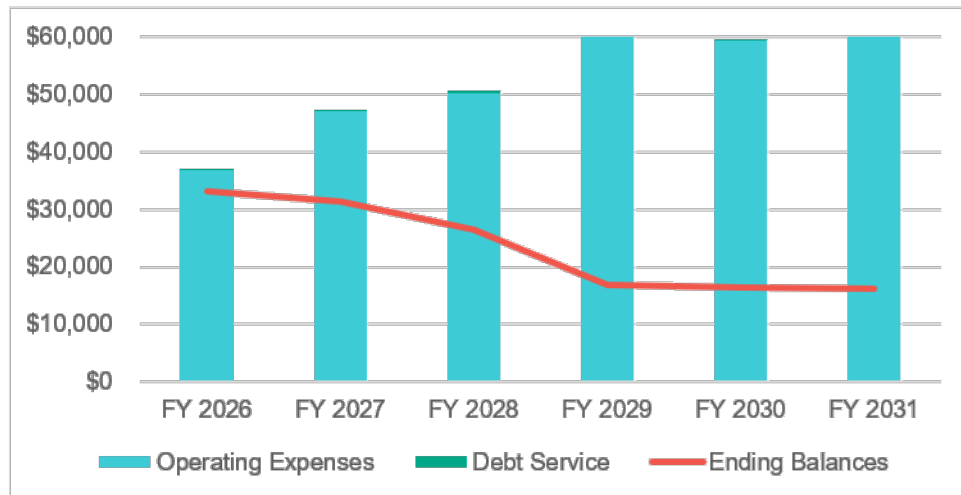
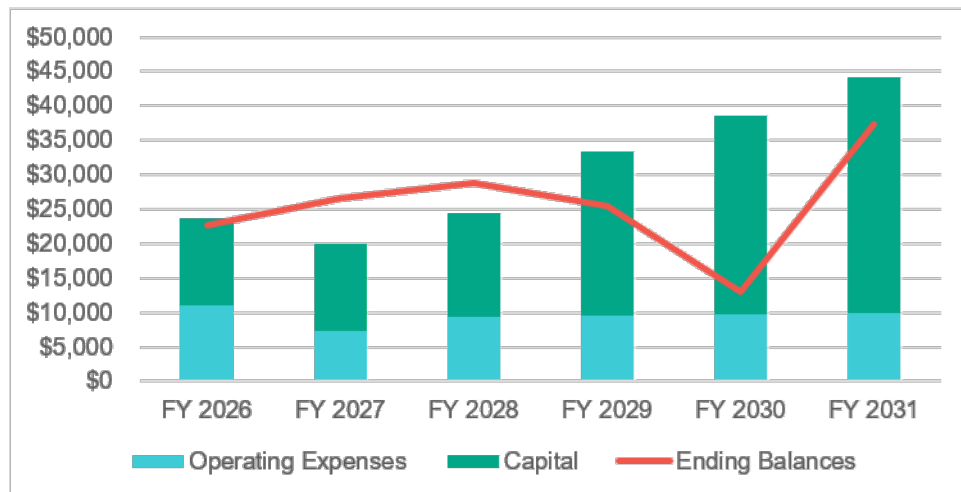


Figure 7-6: Annual Expenses and Ending Fund 6021 Balances Under Modeled Rates (in thousands), Level of Service Scenario



7.8. Conclusion

DOU faces a gap between current revenues and the cost of maintaining and improving the storm drainage and flood control systems. Under both financial plan scenarios, existing rates are insufficient to meet projected expenditures throughout the study period, particularly as DOU adds more expenses associated with expanded responsibility. Without corrective action, fund balances will be depleted within eight years under the Status Quo scenario, and within five to six years under the Level of Service scenario.

The Status Quo scenario demonstrates that even with no changes to the current level of service, a revenue adjustment is needed to maintain financial stability. The Level of Service scenario, which addresses critical infrastructure and regulatory compliance needs, requires larger initial adjustments to address the accumulated gap between current rates and the cost of providing service. The modeled initial adjustments are staggered between Fund 6011 and 6021. Modeled rate adjustments begin in FY 2029 for Fund 6011, with an increase of 40 percent. For Fund 6021, modeled rate adjustments begin in FY 2031 with an

increase of 205 percent. These adjustments will fund all expenses and achieve and maintain the minimum operating reserve target of 120 days of O&M expenses for each Fund.

For each Fund, action is necessary to restore DOU's financial position, meet reserve targets, and fund the capital investments needed to protect public health and safety. Raftelis recommends that DOU evaluate these modeled scenarios against its service priorities, affordability considerations, and long-term infrastructure goals as it embarks on the formal rate-making process in the coming years and proceed with a Proposition 218 process to implement rate adjustments to more fully support the program.

8. Conclusion

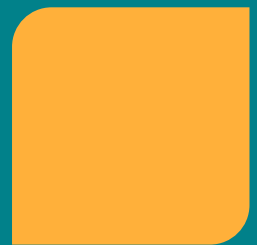
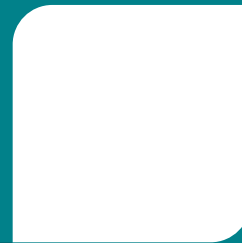
The City of Sacramento's DOU operates a complex drainage system, with a combined sewer area, significant pumping requirements, and aging infrastructure. Benchmarking against peer agencies shows that the City's O&M costs and residential fees rank above the 75th percentile of comparable utilities, while its cash position is leaner than that of most peers. Rates for both the 1996 and 2022 fees have not increased since implementation, and revenue growth has not kept pace with inflation or with the cost of expanded regulatory and operational responsibilities like trash capture requirements and levee maintenance obligations. For Fund 6011, expenses are expected to outpace revenue throughout the study period. Under the Status Quo scenario, anticipated revenues under current rates are projected to recover an average of \$45.9 million from FY 2027 to FY 2031, compared to average expenses of \$50.7 million, resulting in an average annual shortfall of approximately \$4.8 million. The system assessment identifies aging infrastructure, deferred maintenance, and a renewal-and-replacement rate below one percent, indicating that current capital investment is not keeping pace with the needs of a system whose assets carry an estimated replacement cost new of approximately \$4.30 billion and a replacement cost new less depreciation of approximately \$1.26 billion.

These structural pressures are compounded by California Proposition 218, which constrains DOU's ability to adjust rates and represents an enterprise risk that can weigh on the utility's credit profile and future bond ratings. The 5-year fiscal forecast confirms that, under both financial plan scenarios, existing rates are insufficient to meet projected expenditures and that fund balances are projected to be depleted within eight years under the Status Quo scenario, or five to six years under the Level of Service scenario absent adjustments. Each scenario requires a revenue adjustment to restore stability, with larger adjustments needed under the Level of Service scenario to address critical infrastructure, regulatory compliance, and levee maintenance obligations.

Raftelis recommends that the City evaluate these scenarios against its service priorities, affordability considerations, and long-term infrastructure goals as it embarks on the formal rate-making process in the coming years. Pairing the selected adjustment with an automatic annual escalation tied to CPI would provide reliable, sustainable revenue growth and reduce the frequency of Proposition 218 proceedings. Taking deliberate action now to align revenues with the cost of service will position DOU to maintain adequate reserves, fund necessary reinvestment, and protect the public health, safety, and flood-protection functions that the storm drainage system provides.



APPENDIX A: RCNLD Supporting Data Tables



Name	In Service Date	Type	Original Cost	Useful Life (Years)	Depreciation (%)
2021 MUNSON- PACKMAN 21' LANDING CRAFT	2/25/2022	BOAT	\$158,564.63	15	30%
2015 FORD E450 CCTV VAN	7/20/2015	CARGO VAN	\$291,457.52	10	100%
2018 FORD E450 MULTI- CONDUTOR TV VAN (CCTV)	12/13/2018	CARGO VAN	\$408,174.92	10	85%
2025 FORD E450 CCTV VAN WITH WECO 16' CARGO BOX W WALKTHROUGH	9/29/2025	CARGO VAN	\$546,542.45	10	15%
2023 MODEL 250XP BRUSH BANDIT	5/1/2024	CHIPPER	\$80,521.65	25	10%
2006 FORD RANGER EXT CAB	6/9/2006	COMPCT TRK	\$17,248.12	15	100%
IR PORTABLE COMPRESSOR	4/14/2011	COMPRESSOR	\$14,951.20	25	62%
INTERNATIONAL 7400 W/COOKS 10YD DUMPBODY	2/21/2008	DUMP TRK	\$94,626.96	15	100%
CC2628	6/6/2008	DUMP TRK	\$80,308.11	15	100%
2017 2017 FREIGHTLINER 108SD 14YD DUMP T	8/21/2017	DUMP TRK	\$132,410.53	15	63%
2020 FREIGHTLNR M2 WITH ENOVEN DUMP BODY	7/17/2020	DUMP TRK	\$141,735.13	15	43%

2020 FREIGHTLINR M2 WITH ENOVEN 14YD DUMP BODY	10/9/2020	DUMP TRK	\$141,720.79	15	43%
2021 FREIGHTLINER M2 WITH ENOVEN 14YD DUMP BODY	10/16/2020	DUMP TRK	\$141,426.88	15	43%
2021 FREIGHTLINER M2 106 WITH ENOVEN 14YD DUMP BODY	12/4/2020	DUMP TRK	\$141,095.19	15	43%
2022 FREIGHTLINER M2-106, ENOVEN 14 YD DUMP	8/5/2022	DUMP TRK	\$144,373.52	15	30%
2022 FREIGHTLINER M2-106, ENOVEN 14 YD DUMP	7/21/2022	DUMP TRK	\$144,169.05	15	30%
[null]	7/10/1998	FORKLIFT	\$25,252.41	15	100%
[null]	1/16/2007	FORKLIFT	\$30,754.96	15	100%
2015 CLARK C35L TRIPLE FORKLIFT	2/8/2016	FORKLIFT	\$37,968.18	15	70%
2020 DOOSAN G30N-7 LP, FORKLIFT, INDUSTRIAL	6/18/2020	FORKLIFT	\$33,581.64	15	43%
FORD F250	3/29/2007	FULL TRK	\$29,365.07	15	100%
2211	5/6/2008	FULL TRK	\$31,738.85	15	100%
1 TON SPRAY TRUCK	10/26/2011	FULL TRK	\$47,252.69	15	100%
TRK,UTILITY	8/3/2011	FULL TRK	\$44,086.56	15	100%
TRK,UTILITY	7/22/2011	FULL TRK	\$45,803.80	15	100%
2014 FORD F150 SUPERCAB 4X4	9/15/2014	FULL TRK	\$39,508.67	15	83%

2015 F350 4X2 UTILITY	12/2/2014	FULL TRK	\$27,287.17	15	83%
2008 FORD F550 BUCKET TRUCK - USED	4/10/2015	FULL TRK	\$43,182.36	15	77%
2014 F350 REG CAB 4X4	5/7/2015	FULL TRK	\$29,790.22	15	77%
2015 FORD F350 4X2	1/2/2015	FULL TRK	\$55,210.73	15	77%
2016 F450 4X4 REG CC 141 WB	3/10/2016	FULL TRK	\$70,658.79	15	70%
2016 FORD F150 4X2 REGULAR CAB	10/6/2016	FULL TRK	\$28,848.41	15	70%
2016 FORD F150 REGULAR CAB	7/22/2016	FULL TRK	\$27,296.57	15	70%
2016 FORD F150 4X2 REGULAR CAB	7/19/2016	FULL TRK	\$30,319.90	15	70%
2016 FORD F150 SUPERCAB 4X2	10/4/2016	FULL TRK	\$28,947.04	15	70%
2017 FORD F350 4X2 REG CAB W/UTILITYBODY	9/25/2017	FULL TRK	\$59,676.05	15	63%
2017 FORD F350 SRW 4X2 REG CAB W/ CRANE	5/23/2018	FULL TRK	\$73,493.44	15	57%
2018 F150 4X2 SUPERCAB	7/23/2018	FULL TRK	\$33,225.82	15	57%
2019 F250 SUPERCAB, 4X4, KNAPHEIDE SERVICE BODY	4/4/2019	FULL TRK	\$60,565.42	15	50%
[null]	6/5/2019	FULL TRK	\$35,432.66	15	50%
2019 F350 REG CAB CHASSIS, 4X4, DRW, STAKEBED SPRAY TRUCK	10/25/2019	FULL TRK	\$72,129.28	15	50%

2019 FORD F350 SRW 4X2 REGULAR CAB W/UTILITY BODY AND CRANE	6/28/2019	FULL TRK	\$54,775.39	15	50%
2019 FORD F350 SRW 4X2 REGULAR CAB W/UTILITY BODY AND CRANE	11/13/2019	FULL TRK	\$72,216.48	15	50%
2019 F350, SRW, 4X2, REG CAB, KNAPHEIDE SERVICE BODY	10/31/2019	FULL TRK	\$47,177.31	15	50%
FORD F350 REGULAR CAB SRW 4X2 W/UTILITY BODY	5/29/2019	FULL TRK	\$67,671.02	15	50%
2019 FORD F250 4X4 WITH HARBOR SERVICE BODY	9/4/2019	FULL TRK	\$54,425.83	15	50%
2019 FORD F450 4X2 WITH UTILITY BODY	5/11/2020	FULL TRK	\$76,584.74	15	43%
2019 F250, SRW, 4X2, KNAPHEIDE SERVICE BODY	3/17/2020	FULL TRK	\$46,716.43	15	43%
2020 F250, 4X2, REG CAB PICKUP, MATERIAL RACK & LIFTGATE	7/14/2020	FULL TRK	\$36,344.61	15	43%
2020 FORD F350 REGULAR CAB WITH VENTURO CRANE & KNAPHEIDE UTILITY BODY	1/5/2021	FULL TRK	\$74,953.77	15	37%
2020 FORD F350 REG CAB W/ STILES KNAPHEIDE UTILITY BODY	7/7/2021	FULL TRK	\$50,103.00	15	37%

2020 FORD F250 WITH STILE UTILITY BODY	11/8/2021	FULL TRK	\$49,581.25	15	37%
2021 FORD F150 EXT	2/2/2022	FULL TRK	\$37,462.51	15	30%
2021 FORD F150 EXT 4X4	2/2/2022	FULL TRK	\$37,610.71	15	30%
2021 FORD F250 SUPERCAB W/ KNAPHEIDE SERVICE BODY	3/15/2022	FULL TRK	\$47,071.17	15	30%
2022 FORD F350 WITH UTILITY	4/13/2022	FULL TRK	\$68,520.83	15	30%
2022 FORD F150 SUPERCAB 4X4	5/5/2023	FULL TRK	\$38,962.60	15	23%
2022 FORD F150 EXT TRUCK 4WD (AT TIRES)	8/14/2023	FULL TRK	\$42,481.10	15	23%
2022 FORD F150 4X4	5/8/2023	FULL TRK	\$37,570.77	15	23%
2022 FORD F250 SUPER CAB WITH KNAPHEIDE SERVICE BODY	10/19/2023	FULL TRK	\$74,708.92	15	23%
2022 INTERNATIONAL CV	12/6/2024	FULL TRK	\$251,039.03	15	17%
2023 FORD F350 W/KNAPHEIDE FLAT BODY & TARGET SPECIALTY SPRAY KIT	10/22/2024	FULL TRK	\$115,875.70	15	17%
2023 FORD F250 SRW 4X4 SUPER CAB PICKUP	5/21/2024	FULL TRK	\$92,504.31	15	17%
2023 FORD F-150 4X2 SUPER CAB	5/6/2024	FULL TRK	\$44,189.60	15	17%
2023 FORD F350 REG CAB W KNAPHEIDE MACHIST BODY	8/8/2024	FULL TRK	\$115,089.58	15	17%

2023 FORD F550 SUPER CAB DIESEL W/ALTEC CRANE BODY1	5/1/2024	FULL TRK	\$220,215.23	15	17%
2023 FORD F250 SRW 4X2 REG CAB W/KNAPHEIDE UTILITY BODY	5/30/2024	FULL TRK	\$77,871.13	15	17%
2024 FORD F-150 SUPER CAB 4X2 6.5 BOX	10/10/2024	FULL TRK	\$56,638.49	15	17%
2022 INTERNATIONAL CV515	3/3/2025	FULL TRK	\$253,691.96	15	10%
2023 FORD F-150 4X2 CREW CAB	11/20/2025	FULL TRK	\$60,003.24	15	10%
2023 FORD F-150 4X2 CREW CAB	11/20/2025	FULL TRK	\$59,904.58	15	10%
2023 F350 REGULAR CAB W/KNAPHEIDE BODY & CRANE	4/23/2025	FULL TRK	\$114,560.18	15	10%
2023 FORD F350 SUPERCAB W KNAPHEIDE SERVICE BODY	3/17/2025	FULL TRK	\$130,628.61	15	10%
2024 FORD F150 LIGHTNING 4X4 SUPERCREW	6/4/2025	FULL TRK	\$73,686.73	15	10%
GENERATOR LOCATED AT BUILDING 19	3/21/1996	GENERATOR	\$30,899.76	25	100%
[null]	3/11/1997	GENERATOR	\$28,176.29	25	100%
[null]	3/11/1997	GENERATOR	\$28,173.31	25	100%
[null]	3/11/1997	GENERATOR	\$28,217.26	25	100%
[null]	3/11/1997	GENERATOR	\$28,156.78	25	100%

[null]	3/11/1997	GENERATOR	\$28,179.83	25	100%
[null]	3/11/1997	GENERATOR	\$28,139.03	25	100%
[null]	3/11/1997	GENERATOR	\$28,162.03	25	100%
KATOLIGHT 800KW PORTABLE GENERATOR	6/10/2004	GENERATOR	\$142,911.30	25	90%
79121262	6/10/2004	GENERATOR	\$140,016.85	25	90%
TRK,FLBD W CRANE	10/11/2016	HVY TRK	\$396,551.64	15	70%
4 DR UTILITY TRUCK W/COMPRESSOR	4/21/2008	MED TRK	\$117,356.83	15	100%
CC2542 1/2" RODDER	2/3/2010	MED TRK	\$126,232.69	15	100%
2012 FORD F550	4/29/2013	MED TRK	\$47,906.46	15	90%
2017 FREIGHTLINER (4K WATER TRUCK)	8/21/2017	MED TRK	\$143,441.51	15	63%
2022 INTERNATIONAL CV515 W/CONTRACTOR BODY & COMPRESSOR	1/22/2024	MED TRK	\$107,652.85	15	17%
2024 FREIGHTLINER M2 106 MED DUTY KNAPHEIDE CRANE BODY	3/5/2025	MED TRK	\$277,868.95	15	10%
2017 JOHN DEERE 670G MOTOR GRADER	1/9/2017	MISC	\$203,936.92	25	38%
2019 JOHN DEERE 135G EXCAVATOR	12/30/2019	MISC	\$232,414.07	25	30%
2021 CHEVROLET BOLT EV	12/13/2021	PASSENGER	\$35,244.77	10	55%
2015 POLARIS GEM EV	3/3/2015	SCOOTER	\$15,220.44	10	100%

2016 FREIGHTLINR 114SD 4X2 V350LXHA-O	5/20/2016	SEWERCLEAN	\$453,622.50	15	70%
2016 KENWORTH T440 VACTOR 2100 PD	1/4/2017	SEWERCLEAN	\$439,621.49	15	63%
FREIGHTLINER VACCON VX3312LHE	2/28/2017	SEWERCLEAN	\$443,326.06	15	63%
2018 KENTWORTH T440 VACTOR 2100 16" PD	3/12/2018	SEWERCLEAN	\$450,855.91	15	57%
2024 FREIGHTLINER 114SD VAC CON RECYCLER.	9/4/2024	SEWERCLEAN	\$781,404.21	15	17%
2024 FREIGHTLINER VAC CON RECYCLER	3/11/2025	SEWERCLEAN	\$739,576.71	15	10%
2017 FORD ESCAPE	1/12/2017	SUV	\$27,076.48	10	95%
2021 ESCAPE SE HYBRID	12/7/2021	SUV	\$30,629.29	10	55%
2023 FORD ESCAPE	3/13/2024	SUV	\$30,548.23	10	25%
BACKHOE 410G	10/25/2006	TRAC/MOW	\$77,732.02	15	100%
JD410J WITH CAB	2/1/2008	TRAC/MOW	\$89,534.41	15	100%
2012 TERRA TRAC T270	8/2/2012	TRAC/MOW	\$182,015.94	15	97%
CASE TR320 TRACK LOADER	7/9/2013	TRAC/MOW	\$69,537.93	15	90%
2014 TERRATRAC TT270 W/ALAMO FRONT FLAIL	1/24/2014	TRAC/MOW	\$178,026.67	15	83%
BOBCAT COMPACT EXCAVATOR	9/24/2014	TRAC/MOW	\$63,541.15	15	83%
2015 T590 BOBCAT TRACK LOADER	9/17/2015	TRAC/MOW	\$47,859.29	15	77%

2016 TERRATRAC TT280	6/10/2016	TRAC/MOW	\$233,148.16	15	70%
JOHN DEERE BACKHOE LOADER 310SL-HL	8/2/2016	TRAC/MOW	\$124,201.71	15	70%
JOHN DEERE 6110M CAB TRACTOR	4/20/2017	TRAC/MOW	\$172,706.35	15	63%
2017 JOHN DEERE 310SL BACKHOE	9/6/2017	TRAC/MOW	\$117,132.00	15	63%
2020 JOHN DEERE 6145M TRACTOR WITH 24' BOOM MOWER AND FLAIL	11/20/2020	TRAC/MOW	\$209,668.99	15	43%
2021210L TRACTOR LOADER	6/7/2021	TRAC/MOW	\$139,520.44	15	37%
2023 JOHN DEERE 310SL BACKHOE	1/10/2023	TRAC/MOW	\$135,854.55	15	23%
[null]	10/13/1995	TRAILER	\$711.15	15	100%
[null]	12/23/1997	TRAILER	\$5,066.79	15	100%
[null]	9/13/1999	TRAILER	\$5,087.46	15	100%
[null]	6/15/1999	TRAILER	\$5,358.55	15	100%
[null]	4/15/1999	TRAILER	\$5,410.26	15	100%
[null]	2/9/1999	TRAILER	\$5,560.30	15	100%
[null]	4/1/2003	TRAILER	\$5,686.75	15	100%
[null]	4/1/2003	TRAILER	\$5,686.75	15	100%
[null]	5/19/2003	TRAILER	\$6,186.22	15	100%
SUMP TRAILER	5/1/2003	TRAILER	\$6,131.33	15	100%
TILT BED TRAILER	9/15/2003	TRAILER	\$20,850.62	15	100%

TILT BED TRAILER	8/12/2003	TRAILER	\$20,466.00	15	100%
TILT BED TRAILER	8/27/2003	TRAILER	\$19,815.63	15	100%
Tilt Bed Trailer	8/27/2003	TRAILER	\$20,462.64	15	100%
[null]	5/9/2003	TRAILER	\$11,983.28	15	100%
UTILITIES SUMP TRAILER	2/2/2004	TRAILER	\$6,404.72	15	100%
Light Tower	2/3/2006	TRAILER	\$8,498.12	15	100%
Magnum Light Tower	11/6/2006	TRAILER	\$8,739.55	15	100%
2 AXLE TILT TRAILER	6/14/2006	TRAILER	\$7,756.79	15	100%
Arrow Board, Solar	11/9/2006	TRAILER	\$5,209.12	15	100%
ZIEMAN 24FT TILT BED TRAILER	2/15/2008	TRAILER	\$25,294.77	15	100%
2010 GODWIN DRI-PRIME 1500M DIESEL PUMP	12/17/2010	TRAILER	\$38,022.42	15	100%
2012 TERRA TRAC TRAILER	8/2/2012	TRAILER	\$7,369.48	15	97%
TRL,EQUIP, 1AX	10/12/2012	TRAILER	\$6,804.27	15	97%
2014 SNAKE RIVER TRAILER	4/14/2014	TRAILER	\$10,184.19	15	83%
2014 FELLING FT-6 DT 13 FT	9/11/2014	TRAILER	\$7,494.89	15	83%
2015 FELLING FT-20 EQUIP 2 AXLE TRAILER	10/3/2014	TRAILER	\$17,749.48	15	83%
2015 ZIEMAN HEAVY DUTY TAG ALONG TRAILER	6/11/2015	TRAILER	\$30,880.10	15	77%

2016 ZIEMAN HEAVY DUTY TAG ALONG TRAILER	8/23/2016	TRAILER	\$31,753.29	15	70%
2016 SNAKERIVER DOEQ22-14K	6/10/2016	TRAILER	\$10,386.13	15	70%
2016 ZIEMAN HEAVY DUTY TAG ALONG TRAILER	8/23/2016	TRAILER	\$31,689.23	15	70%
2017 GODWIN 6' PUMPSET ON GL6 TRAILER	9/27/2017	TRAILER	\$60,808.67	15	63%
2019 TRAIL KING TKT50LP	12/30/2019	TRAILER	\$42,020.52	15	50%
F20 2020 AMERICAN SIG T-825 TRAILER, ARROW BOARD	1/10/2020	TRAILER	\$6,732.45	15	43%
2021 FELLING TR FT-14 - DUMP TRAILER	9/25/2020	TRAILER	\$15,022.00	15	43%
2021 FELLING FT-12 DUMP TRAILER	1/29/2021	TRAILER	\$14,511.59	15	37%
2021 MULTQUIP 500 GALLON WATER TRAILER	3/29/2022	TRAILER	\$9,392.48	15	30%
2021 MULTQUIP 500 GALLON WATER TRAILER	3/29/2022	TRAILER	\$9,432.14	15	30%
2022 BIG TEX 140A 16' EQUIPMENT TRAILER - GROUT PUMP TRAILER	12/14/2022	TRAILER	\$22,348.48	15	30%
2022 EZ LOADER BOAT TRAILER (DOU LANDING CRAFT TRAILER)	2/24/2022	TRAILER	\$266.15	15	30%



APPENDIX B:

Long Term Fiscal Forecast Tables



Table A-1

Projected Fund 6011 Summary Under Current Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
1	Annual Revenue Adjustment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	Beginning Balance	\$9,362	\$1,530	(\$7,410)	(\$17,505)	(\$28,695)	(\$41,144)	(\$54,909)	(\$70,053)	(\$86,488)	(\$104,447)	(\$124,014)	(\$145,275)	(\$168,326)	(\$193,272)	(\$220,225)
3	Sources of Funds	\$46,687	\$46,962	\$47,248	\$47,542	\$47,843	\$48,153	\$48,471	\$48,795	\$49,125	\$49,461	\$49,803	\$50,151	\$50,504	\$50,862	\$51,225
4	Use of Funds (1)	\$54,518	\$55,903	\$57,342	\$58,732	\$60,292	\$61,918	\$63,615	\$65,230	\$67,085	\$69,027	\$71,064	\$73,203	\$75,450	\$77,815	\$80,307
5	Ending Balance (2)	\$1,530	(\$7,410)	(\$17,505)	(\$28,695)	(\$41,144)	(\$54,909)	(\$70,053)	(\$86,488)	(\$104,447)	(\$124,014)	(\$145,275)	(\$168,326)	(\$193,272)	(\$220,225)	(\$249,307)
6	Target Operating Reserves	\$16,287	\$16,730	\$17,191	\$17,671	\$18,171	\$18,693	\$19,238	\$19,808	\$20,405	\$21,030	\$21,687	\$22,376	\$23,102	\$23,865	\$24,671

Table A-2

Projected Fund 6021 Summary Under Current Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
7	Annual Revenue Adjustment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	Beginning Balance	\$29,976	\$5,256	(\$21,944)	(\$50,005)	(\$80,844)	(\$111,697)	(\$148,415)	(\$182,323)	(\$216,094)	(\$246,063)	(\$275,846)	(\$308,504)	(\$337,510)	(\$368,093)	(\$399,810)
9	Sources of Funds	\$26,344	\$26,457	\$26,577	\$26,703	\$26,835	\$26,972	\$27,114	\$27,261	\$27,412	\$27,566	\$27,724	\$27,886	\$28,051	\$28,219	\$28,391
10	Use of Funds (1)	\$51,064	\$53,657	\$54,639	\$57,543	\$57,688	\$63,689	\$61,023	\$61,031	\$57,381	\$57,350	\$60,382	\$56,892	\$58,635	\$59,936	\$62,162
11	Ending Balance (2)	\$5,256	(\$21,944)	(\$50,005)	(\$80,844)	(\$111,697)	(\$148,415)	(\$182,323)	(\$216,094)	(\$246,063)	(\$275,846)	(\$308,504)	(\$337,510)	(\$368,093)	(\$399,810)	(\$433,580)
12	Target Operating Reserves	\$2,597	\$2,669	\$2,744	\$2,821	\$2,900	\$2,981	\$3,065	\$3,151	\$3,240	\$3,332	\$3,426	\$3,523	\$3,623	\$3,726	\$3,831
13	Target Capital Reserves	\$43,157	\$43,891	\$46,541	\$46,425	\$52,157	\$49,214	\$48,938	\$44,996	\$44,665	\$47,388	\$43,580	\$44,997	\$45,962	\$47,842	\$48,995

Table A-3

Projected Fund 6011 Summary Under Current Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
14	Annual Revenue Adjustment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	Beginning Balance	(\$28,524)	(\$44,982)	(\$62,775)	(\$81,957)	(\$102,479)	(\$124,514)	(\$148,132)	(\$173,408)	(\$200,266)	(\$228,955)	(\$259,572)	(\$292,221)	(\$327,016)	(\$364,079)	(\$403,545)
16	Sources of Funds	\$46,687	\$46,962	\$47,248	\$47,542	\$47,843	\$48,153	\$48,471	\$48,795	\$49,125	\$49,461	\$49,803	\$50,151	\$50,504	\$50,862	\$51,225
17	Use of Funds (1)	\$63,145	\$64,755	\$66,429	\$68,064	\$69,878	\$71,771	\$73,747	\$75,653	\$77,814	\$80,078	\$82,452	\$84,946	\$87,568	\$90,328	\$93,237
18	Ending Balance (2)	(\$44,982)	(\$62,775)	(\$81,957)	(\$102,479)	(\$124,514)	(\$148,132)	(\$173,408)	(\$200,266)	(\$228,955)	(\$259,572)	(\$292,221)	(\$327,016)	(\$364,079)	(\$403,545)	(\$445,557)
19	Target Operating Reserves	\$19,123	\$19,640	\$20,178	\$20,738	\$21,322	\$21,932	\$22,569	\$23,235	\$23,932	\$24,663	\$25,431	\$26,237	\$27,085	\$27,979	\$28,922

Table A-4

Projected Fund 6021 Summary Under Current Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
20	Annual Revenue Adjustment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
21	Beginning Balance	(\$4,951)	(\$44,917)	(\$87,370)	(\$129,936)	(\$177,176)	(\$218,631)	(\$267,380)	(\$314,119)	(\$360,389)	(\$401,890)	(\$443,788)	(\$488,901)	(\$529,499)	(\$571,774)	(\$615,769)
22	Sources of Funds	\$26,344	\$26,457	\$26,577	\$26,703	\$26,835	\$26,972	\$27,114	\$27,261	\$27,412	\$27,566	\$27,724	\$27,886	\$28,051	\$28,219	\$28,391
23	Use of Funds (1)	\$66,310	\$68,911	\$69,143	\$73,943	\$68,290	\$75,721	\$73,853	\$73,530	\$68,913	\$69,464	\$72,837	\$68,485	\$70,326	\$72,214	\$74,884
24	Ending Balance (2)	(\$44,917)	(\$87,370)	(\$129,936)	(\$177,176)	(\$218,631)	(\$267,380)	(\$314,119)	(\$360,389)	(\$401,890)	(\$443,788)	(\$488,901)	(\$529,499)	(\$571,774)	(\$615,769)	(\$662,261)
25	Target Operating Reserves	\$2,597	\$2,669	\$2,744	\$2,821	\$2,900	\$2,981	\$3,065	\$3,151	\$3,240	\$3,332	\$3,426	\$3,523	\$3,623	\$3,726	\$3,831
26	Target Capital Reserves	\$58,411	\$58,396	\$62,942	\$57,027	\$64,189	\$62,045	\$61,438	\$56,529	\$56,779	\$59,843	\$55,174	\$56,688	\$58,240	\$60,564	\$61,997

Table A-5

Projected Fund 6011 Summary Under Modeled Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
27	Annual Revenue Adjustment	0%	0%	10%	0%	0%	0%	0%	10%	0%	0%	0%	0%	10%	0%	0%
28	Beginning Balance	\$28,627	\$28,922	\$28,613	\$31,513	\$33,899	\$35,084	\$35,044	\$34,272	\$38,303	\$40,971	\$42,199	\$41,897	\$39,973	\$43,165	\$44,575
29	Sources of Funds	\$55,251	\$55,595	\$61,170	\$61,575	\$61,989	\$62,412	\$62,844	\$69,260	\$69,754	\$70,255	\$70,763	\$71,279	\$78,642	\$79,225	\$79,815
30	Use of Funds (1)	\$54,956	\$55,903	\$58,271	\$59,189	\$60,805	\$62,453	\$63,615	\$65,230	\$67,085	\$69,027	\$71,064	\$73,203	\$75,450	\$77,815	\$80,307
31	Ending Balance (2)	\$28,922	\$28,613	\$31,513	\$33,899	\$35,084	\$35,044	\$34,272	\$38,303	\$40,971	\$42,199	\$41,897	\$39,973	\$43,165	\$44,575	\$44,083
32	Target Operating Reserves	\$16,287	\$16,730	\$17,191	\$17,671	\$18,171	\$18,693	\$19,238	\$19,808	\$20,405	\$21,030	\$21,687	\$22,376	\$23,102	\$23,865	\$24,671

Table A-6

Projected Fund 6021 Summary Under Modeled Rates (in thousands), Status Quo Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
33	Annual Revenue Adjustment	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
34	Beginning Balance	\$54,753	\$55,009	\$52,984	\$50,300	\$45,040	\$54,153	\$57,721	\$64,420	\$71,582	\$82,873	\$94,680	\$103,945	\$117,198	\$129,210	\$140,431
35	Sources of Funds	\$51,319	\$51,633	\$51,954	\$52,283	\$66,801	\$67,257	\$67,722	\$68,193	\$68,672	\$69,156	\$69,647	\$70,145	\$70,648	\$71,157	\$71,672
36	Use of Funds (1)	\$51,064	\$53,657	\$54,639	\$57,543	\$57,688	\$63,689	\$61,023	\$61,031	\$57,381	\$57,350	\$60,382	\$56,892	\$58,635	\$59,936	\$62,162
37	Ending Balance (2)	\$55,009	\$52,984	\$50,300	\$45,040	\$54,153	\$57,721	\$64,420	\$71,582	\$82,873	\$94,680	\$103,945	\$117,198	\$129,210	\$140,431	\$149,941
38	Target Operating Reserves	\$2,597	\$2,669	\$2,744	\$2,821	\$2,900	\$2,981	\$3,065	\$3,151	\$3,240	\$3,332	\$3,426	\$3,523	\$3,623	\$3,726	\$3,831
39	Target Capital Reserves	\$43,157	\$43,891	\$46,541	\$46,425	\$52,157	\$49,214	\$48,938	\$44,996	\$44,665	\$47,388	\$43,580	\$44,997	\$45,962	\$47,842	\$48,995

Table A-7

Projected Fund 6011 Summary Under Modeled Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
40	Annual Revenue Adjustment	0%	0%	10%	0%	0%	0%	0%	10%	0%	0%	0%	0%	12%	0%	0%
41	Beginning Balance	\$16,241	\$15,972	\$15,445	\$16,128	\$18,750	\$19,990	\$19,831	\$18,809	\$23,372	\$26,356	\$27,666	\$27,198	\$24,842	\$30,055	\$33,205
42	Sources of Funds	\$63,815	\$64,227	\$70,742	\$71,224	\$71,715	\$72,216	\$72,725	\$80,216	\$80,798	\$81,387	\$81,985	\$82,590	\$92,781	\$93,477	\$94,181
43	Use of Funds (1)	\$64,083	\$64,755	\$70,058	\$68,601	\$70,475	\$72,375	\$73,747	\$75,653	\$77,814	\$80,078	\$82,452	\$84,946	\$87,568	\$90,328	\$93,237
44	Ending Balance (2)	\$15,972	\$15,445	\$16,128	\$18,750	\$19,990	\$19,831	\$18,809	\$23,372	\$26,356	\$27,666	\$27,198	\$24,842	\$30,055	\$33,205	\$34,148
45	Target Operating Reserves	\$19,123	\$19,640	\$20,178	\$20,738	\$21,322	\$21,932	\$22,569	\$23,235	\$23,932	\$24,663	\$25,431	\$26,237	\$27,085	\$27,979	\$28,922

Table A-8

Projected Fund 6021 Summary Under Modeled Rates (in thousands), Level of Service Scenario

Line No.	Description	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043	FY 2044	FY 2045	FY 2046
46	Annual Revenue Adjustment	0%	0%	0%	0%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
47	Beginning Balance	\$37,377	\$40,077	\$40,632	\$41,418	\$37,877	\$65,373	\$86,127	\$109,448	\$133,798	\$163,481	\$193,337	\$220,553	\$252,861	\$284,076	\$314,159
48	Sources of Funds	\$69,010	\$69,465	\$69,929	\$70,402	\$95,787	\$96,475	\$97,173	\$97,881	\$98,597	\$99,320	\$100,052	\$100,793	\$101,541	\$102,297	\$103,062
49	Use of Funds (1)	\$66,310	\$68,911	\$69,143	\$73,943	\$68,290	\$75,721	\$73,853	\$73,530	\$68,913	\$69,464	\$72,837	\$68,485	\$70,326	\$72,214	\$74,884
50	Ending Balance (2)	\$40,077	\$40,632	\$41,418	\$37,877	\$65,373	\$86,127	\$109,448	\$133,798	\$163,481	\$193,337	\$220,553	\$252,861	\$284,076	\$314,159	\$342,338
51	Target Operating Reserves	\$2,597	\$2,669	\$2,744	\$2,821	\$2,900	\$2,981	\$3,065	\$3,151	\$3,240	\$3,332	\$3,426	\$3,523	\$3,623	\$3,726	\$3,831
52	Target Capital Reserves	\$58,411	\$58,396	\$62,942	\$57,027	\$64,189	\$62,045	\$61,438	\$56,529	\$56,779	\$59,843	\$55,174	\$56,688	\$58,240	\$60,564	\$61,997

(1) Use of Funds includes transfers to meet reserve policy goal.

(2) Ending fund balance reflects available (unreserved) funds only.