

Tualatin Valley Water District



Delivering the Best Water 💧 Service 💧 Value

Budget Committee Workshop Minutes

April 8, 2021

This meeting was held by phone and the internet.

CALL TO ORDER – 6:04 PM

Budget Committee Members Present: Commissioner Bernice Bagnall; Commissioner Jim Doane, PE; Commissioner Jim Duggan, PE; Carl Fisher; Craig Hopkins; Marilyn McWilliams (arrived at 6:19 p.m.); Commissioner Todd Sanders; John Velehradsky, PE (retired); Mike Whiteley, PE

Budget Committee Member Absent: Commissioner Dick Schmidt

Staff Present: Tom Hickmann, PE, Chief Executive Officer; Paul Matthews, Chief Financial Officer/Budget Officer; Joe Healy, Senior Management Analyst; Justin Carlton, Financial Operations Manager; Shital Patel, CPA, Technical Services Accountant; Carrie Pak, PE, Chief Engineer; Joel Cary, Water Resources Division Manager; Matt Oglesby, Asset Management Division Manager; Pete Boone, PE, Water Operation Division Manager; Nick Augustus, PE, Engineering Division Manager; Clark Balfour, General Counsel; Dave Kraska, PE, Water Supply Program Director; Joelle Bennett, PE, Water Supply Program Assistant Director; Lisa Houghton, CPA, WWSP Finance Manager; Andrew Carlstrom, Customer Service Manager; Andrea Watson, Communications and Public Affairs Supervisor; Justin Dyke, Outreach and Engagement Coordinator; Tim Boylan, IT Services Director; Debbie Carper, District Recorder

Other Attendees: Tom Bloomer, PE, Peterson Structural Engineers

AGENDA

- A. Introductions and Budget Committee Orientation – Paul Matthews, Budget Officer

Mr. Matthews reviewed the agenda for the workshop and asked if there were any follow-up questions from the first workshop (see attached presentation). There were none. Next, he reviewed staff's goals for the second workshop.

Mr. Hickmann said the District is at a crucial point as it enters a heavy construction phase and prepares for a regional operations phase. He reminded the Budget Committee of the inherent uncertainty the District faces, including the levels of financial accuracy dependent upon stages of project definition, before briefly mentioning the priorities driving the next budget biennium.

[Recorder's Note: Budget Committee Member Marilyn McWilliams arrived at 6:19 p.m.]

B. Presentation of District's Financial Performance

Mr. Matthews reviewed the District's financial management process. He said the District's financial performance revolves around expenditures, revenue and cash flow, with the addition of debt in future biennia. He provided data on all three, covering cumulative operating expenditures, cumulative capital expenditures, water sales revenue, system development charge revenue and the District's cash position.

Next, Mr. Matthews outlined regional unemployment data before describing the number of customers in shutoff status and what that translates to in dollar value and average length of time bills are outstanding. The District maintains GIS-based maps which present the locations within the District where customers are struggling the most in paying their bills. All this information culminates in key findings that will shape the next biennial budget.

Finally, he described the Board-approved financial strategy, including projected water rate increases. The rate setting process will occur this summer.

In response to questions, Mr. Matthews said staff hypothesizes the decrease in water sales revenue is due to a combination of the pandemic, a reaction to increased water rates, recent weather and what is happening in the regional economy. He also said revenue forecasts include projected higher density development with the accompanying trend of newer construction using more water efficient fixtures.

Mr. Matthews reviewed the Oregon local budget process, explained the inherent appropriations categories and described how joint ventures have modified the District's budget hierarchy. At the next workshop, staff will present more information on how money moves between these funds. He concluded his presentation with overall personnel services trends that have affected the budget.

C. Presentations by Departments/Divisions:

- Customer Services – Andrew Carlstrom, Customer Service Manager

Mr. Carlstrom reviewed the divisions within his department and listed the goals for Customer Services in the coming biennium: modernization, increasing feedback through surveys and staff development.

He reviewed the personnel services budget request and said the changes relate to turnover in three divisions with the increase in general services attributed to benefits assumptions related to the Business Analyst vacancy prior to filling the position. One of the limited duration positions for the Customer Information System (CIS) project was eliminated by hiring a consultant instead.

Next, Mr. Carlstrom reviewed the materials and services budget request and said the increases in general services reflect the anticipated advanced metering infrastructure (AMI) strategy development, additional training and the surveys initiative while also including reductions in

conservation rebates. The reductions in customer service and utility billing reflect increasing numbers of customers using electronic billing, reducing the need for printing and mailing. He noted the leak adjustment budget continues its upward trend. Field customer service is increasing due to meter maintenance resulting from a recent meter box assessment project. Reduction in communications is due to fewer printed materials.

He said there will be no requested capital outlay following the conclusion of the data cap (data capture devices which are the meter reading handheld electronic devices) replacement budgeted in the current biennium. The CIS is listed in the District's Capital Improvement Program (CIP) rather than in capital outlay.

In response to a question, Mr. Carlstrom said the budget request for leak adjustments is \$787,000. Mr. Matthews said he will provide the current budgeted amount at the next workshop; as water bills have increased, corresponding leak adjustment costs have risen as well.

Mr. Carlstrom provided an update on the CIS project, which is designed to better facilitate the meter to cash cycle. He summarized the project and provided a cost estimate. Mr. Carlstrom said additional resources were needed to meet the aggressive implementation schedule. He reviewed the project lifecycle, briefly touched on objectives of the project and emphasized the constraints that accompany the project scope, schedule and budget.

In response to a question, he said the temporary, project meeting space is still onsite and will be used again once District staff can return to the office.

Mr. Carlstrom described AMI and listed its benefits. Mr. Hickmann said the City of Bend fully implemented AMI in 2012 and since that time, Bend staff has notified more than 14,000 customers of leaks. Leaks can often be detected, and customers notified, on the same day they occur. AMI provides a repository of data valuable to both staff and customers. Mr. Carlstrom said AMI is integral to the modernization of the District's meter to cash cycle.

Finally, he described the surveys initiative to be led by communications staff.

- Engineering and Operations – Carrie Pak, PE, Chief Engineer

Ms. Pak noted in renewing the lease for the CIS temporary meeting space, staff was able to negotiate a lower rate.

She provided an overview of her department's budget for the next biennium, including the goals of continuing to deliver high-quality water, build an asset management program, prepare for the operation of the Willamette Water Supply System (WWSS) and increase staff by two positions.

Ms. Pak said additional staff requests do not significantly change the personnel services budget.

The additional requests in materials and services relate to four initiatives: professional services to complete the development of the asset management program, condition assessments for reservoirs and pump stations to support that program, a geographic information system (GIS) master plan update and work needed to meet the latest regulatory requirements resulting in the revision to the Lead and Copper Rule (LCR). Specifically, increases in the Water Resources Division budget result from the need to increase personnel for water quality data management solution implementation to meet the needs of the District and future WWSS operations. Construction and maintenance increases are due to the need to secure contract services as well as demolish the Cornell and Bonny Slope reservoirs to surplus the properties to sell as buildable sites.

The increase in capital outlay is due to \$300,000 for project management software as part of staff project management training.

Budget Committee members expressed appreciation for receiving the hard copy information with more detailed information on the budget requests and CIP.

Ms. Pak described CIP objectives, gave an overview of District water distribution system assets and said CIP projects have several drivers: the Water Master Plan, Supervisory Control and Data Acquisition (SCADA) Master Plan, Asset Management Plan as well as the needs of staff and other agencies and developers.

In response to a question, staff said the 158th Avenue (near Highway 26) electricity generating station is still in service, providing energy for onsite SCADA. The other electricity generating station at the Center Street facility still generates electricity that is sold to PGE for use in the electrical grid.

Ms. Pak reviewed the main information covered in CIP fact sheets that were provided to the Budget Committee and said if additional federal funding sources are secured, that information would be added to the fact sheets. She described how projects are prioritized and tied to criticality ratings before listing the infrastructure needs under each level of criticality. Next, Ms. Pak gave an overview of some of the necessary and completed CIP projects. Finally, she reviewed CIP project categories and the funding requests for each category and noted the fact sheet page number references for applicable project. She said the development of the asset management program will heavily shape future CIP requests.

- Water Supply – David Kraska, PE, Water Supply Program Director

Mr. Kraska gave an overview of his department's budget. He explained that the decrease in personnel services relates to deferring filling three positions.

His presentation shifted to the Willamette Intake Facilities (WIF) and WWSS funds. He reiterated the Willamette Water Supply Program (WWSP) mission and provided an overview of the WIF and how it interrelates with the WWSS. Capital spending on both will dramatically increase in the near-term, as influenced by a variety of external factors.

In response to a question, Mr. Kraska said costs outlined in this portion of his presentation are shared by all involved partners. TVWD is the managing agency who appropriates all the funds and is in turn reimbursed by partners.

Mr. Kraska explained the annual costs and schedule update process to develop the WWSP “baseline” for the year. He described how costs and schedule risks were managed in producing the latest baseline, which included a few WWSS project and staffing deferrals.

He provided a reminder of what is involved in completion of the WIF and gave an update on the construction cost estimate and project schedule before showing photos of some of the completed and current project elements. Next, he provided a similar overview of the WWSS, including a map of the system, a chart of project delivery progress, the construction schedule, work planned for the upcoming biennium and cost shares between TVWD and its partners. Mr. Kraska concluded his presentation with information on the benefits WWSP has had on the regional economy.

D. Closing Remarks – Paul Matthews, Budget Officer

Mr. Matthews provided a reminder of upcoming Budget Committee meetings.

ADJOURNMENT

There being no further business, President Bagnall adjourned the workshop at 8:39 p.m.

Bernice Bagnall, President

Todd Sanders, Secretary



2021-23 Biennial Budget Committee Workshop

Workshop #1: March 23, 2021

→ Workshop #2: April 8, 2021

Workshop #3: April 22, 2021

Budget Committee Meeting and Public Hearing: May 25, 2021

Budget Committee Workshop #2 Agenda

Opening

- Questions from last workshop
- Review of workshop goals
- Comments from the CEO
- Update on financial performance and strategy

Overview of Department Requests

- Customer Service
- Engineering/Operations
- Water Supply Program

Closing

- Questions
- Next steps and adjournment

Questions from Workshop #1



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Budget Committee Workshop #2 Agenda

Overall Goals

- Discuss assumptions for budget request
- Answer or gather questions from the Budget Committee
- Do not deliberate or make decisions

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TVWD is in Transition

Suburban Water Provider Phase

- Serve customers water purchased under wholesale contracts
- Manage a complex transmission and distribution system
- Prepare for the WWSP Construction Phase

WWSP Construction Phase

- Serve customers water purchased under wholesale contracts
- Manage a complex transmission and distribution system
- Manage the construction of a \$1.3 billion program
- Prepare for the Regional Operations Phase

Regional Operations Phase

- Serve customers water produced by WWSS/WIF
- Manage a complex transmission and distribution system
- Manage the newly created WIF and WWSS

But Uncertainty Persists



Things you know



Things you know you don't know



Things you don't know you don't know



Things you thought you knew but didn't



Construction Risks Exists

Estimate Class	Expected Accuracy Range	Level of Project Definition	Typical Purpose
Class 5	Low: -20% to -50% High: +30% to +100%	0% to 2%	Concept Screening
Class 4	Low: -15% to -30% High: +20% to +50%	1% to 15%	Study or Feasibility
Class 3	Low: -10% to -20% High: +10% to +30%	10% to 40%	Budget, Authorization, or Control
Class 2	Low: -5% to -15% High: +5% to +20%	30% to 70%	Control or Bid/ Tender
Class 1	Low: -3% to -10% High: +3% to +15%	50% to 100%	Check Estimate or Bid/Tender

Source: The Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97.

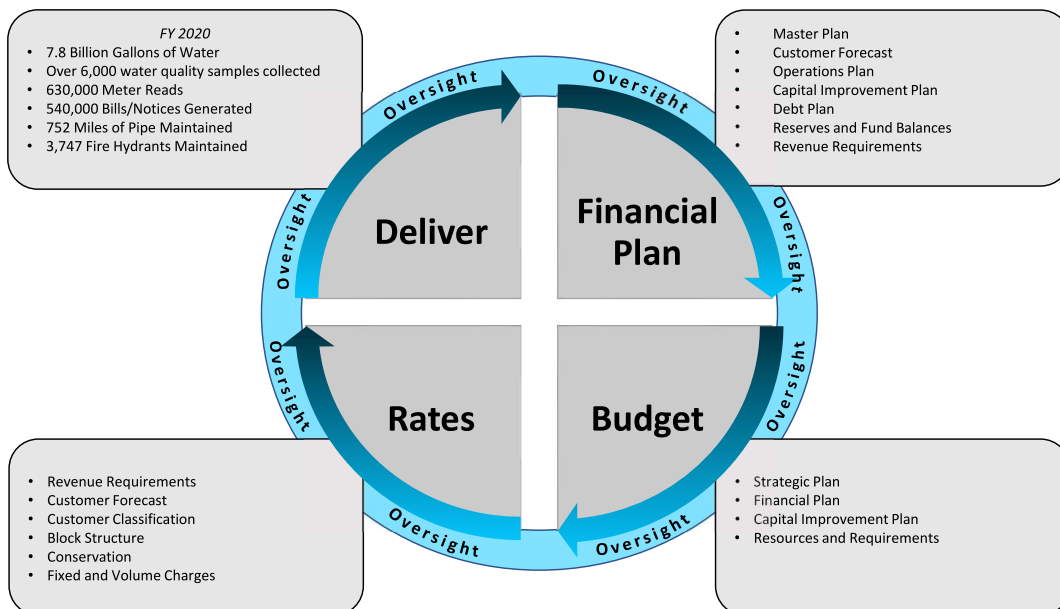
Priorities for the Coming Biennium

Human Investment	Intergovernmental Relations	Business Intelligence	Efficiency Through Modernization	Current Initiatives
<ul style="list-style-type: none"> Prepare employees to be successful in meeting the future requirements of the District. 	<ul style="list-style-type: none"> Improve relationships with local governments and neighboring utilities to solidify TVWD as a necessary and desired regional resource. 	<ul style="list-style-type: none"> Improve planning and the District's ability to respond by developing actionable information from disparate sources of data. 	<ul style="list-style-type: none"> Improve the service levels provided to our customers and find long-term strategies to lower the cost of doing so. 	<ul style="list-style-type: none"> Successfully execute and complete the initiatives currently underway.

Update on Financial Performance and Strategy

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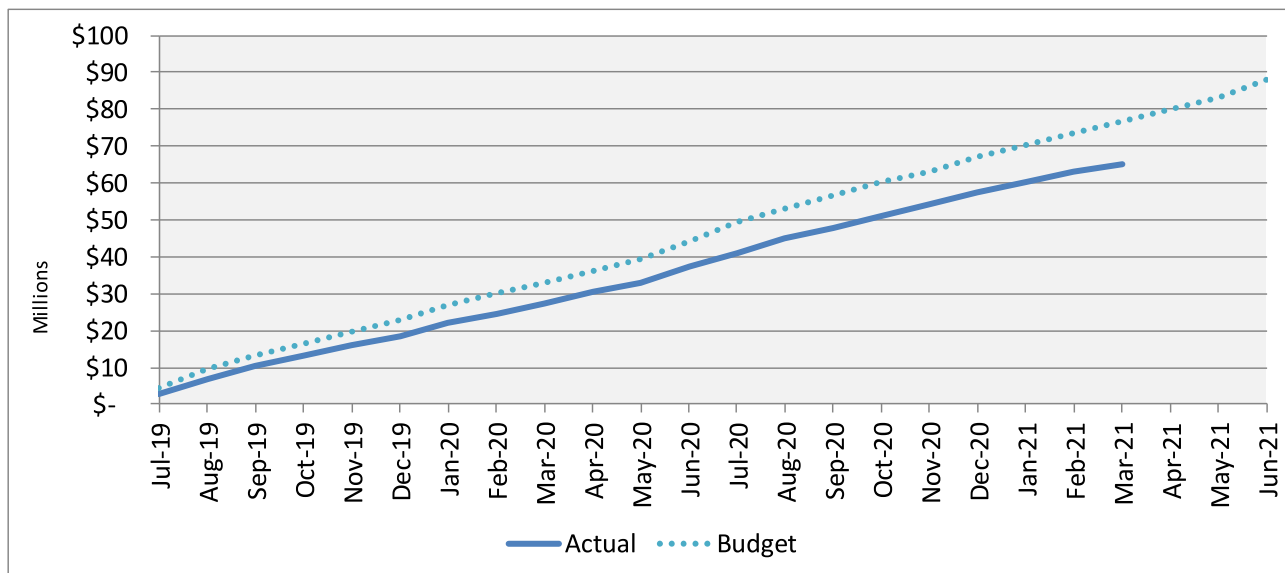
District Financial Management Process



Elements of Financial Performance

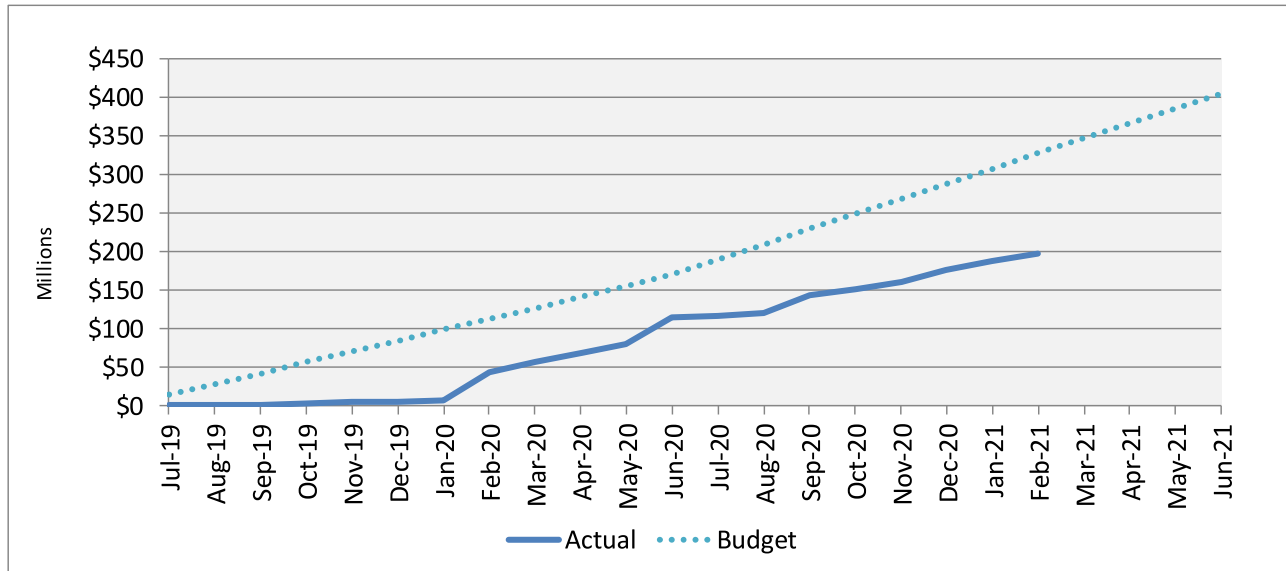
Expenditures	Revenue	Cash Flow
<ul style="list-style-type: none"> • Operating expenditures • Capital expenditures • Debt service 	<ul style="list-style-type: none"> • Water rates and other operating revenue • SDCs 	<ul style="list-style-type: none"> • Collections • Working capital • Capital reserves

Cumulative Operating Expenditures



Note: These graphs are based on unaudited estimates.

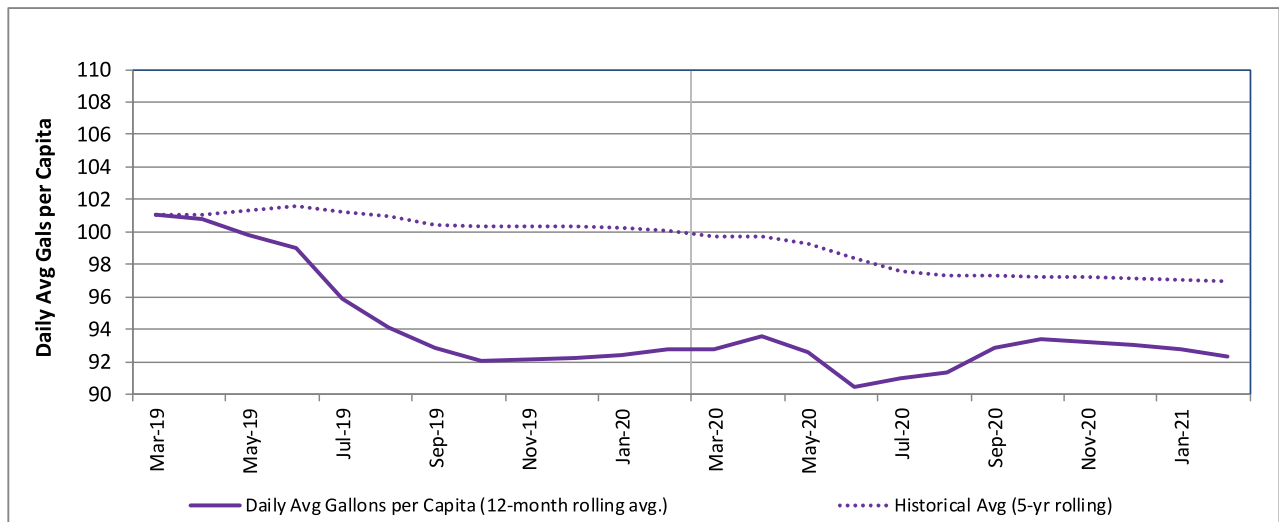
Cumulative Capital Expenditures



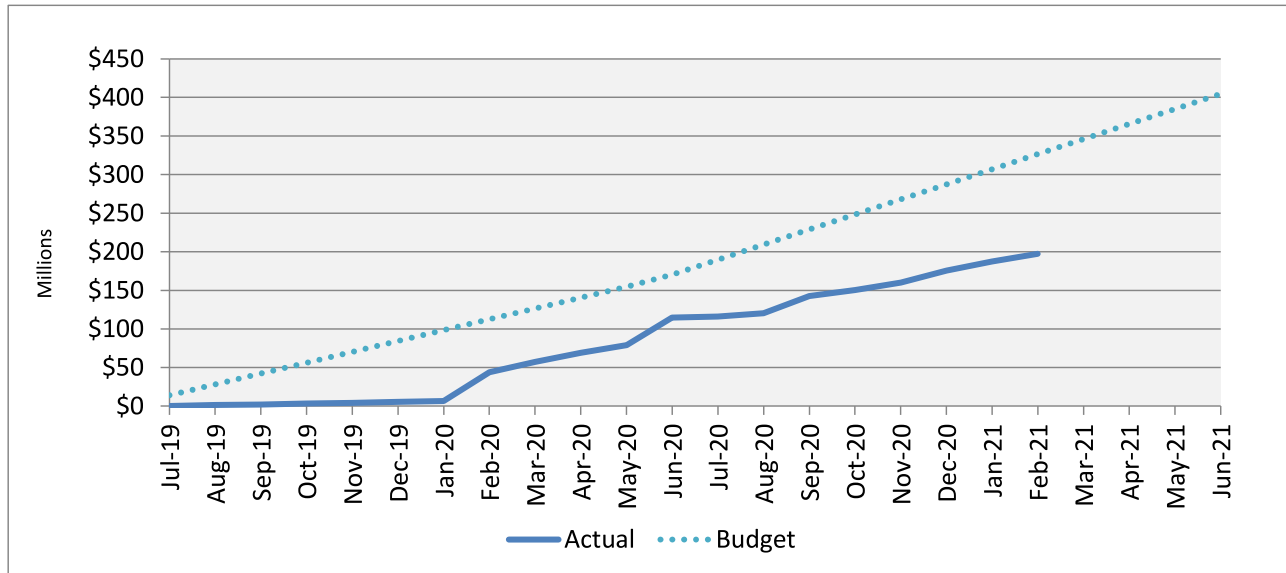
Note: These graphs are based on unaudited estimates.

Customer Demands Remain Soft

Comparison of Gallons Per Capita Per Day

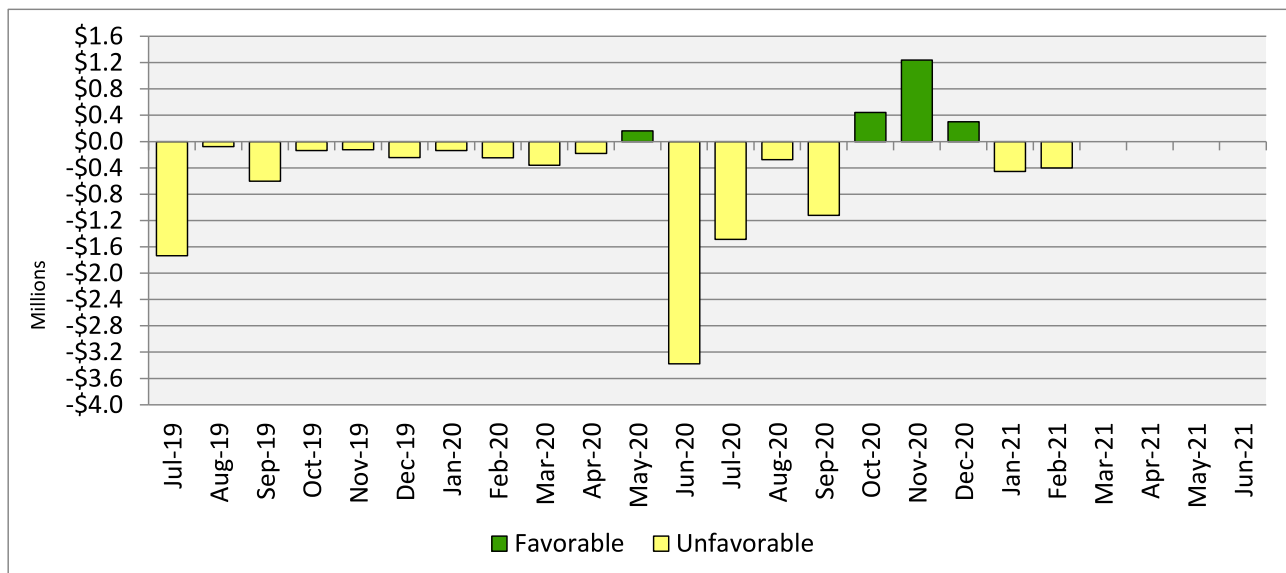


Cumulative Water Sales Revenue



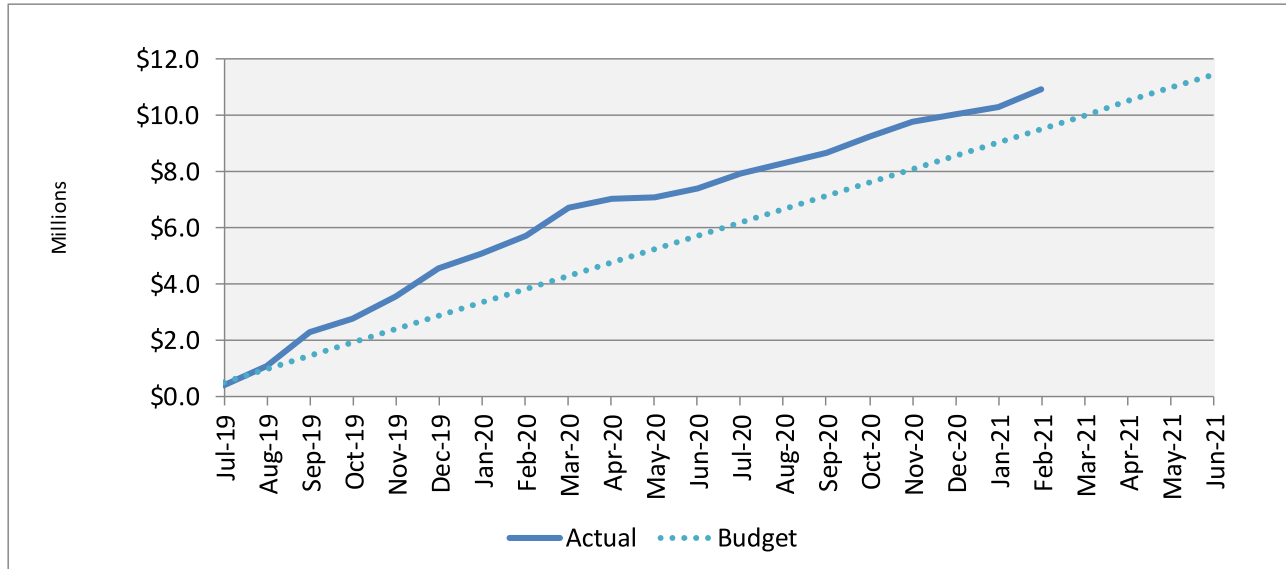
Note: These graphs are based on unaudited estimates.

Water Sales Revenue



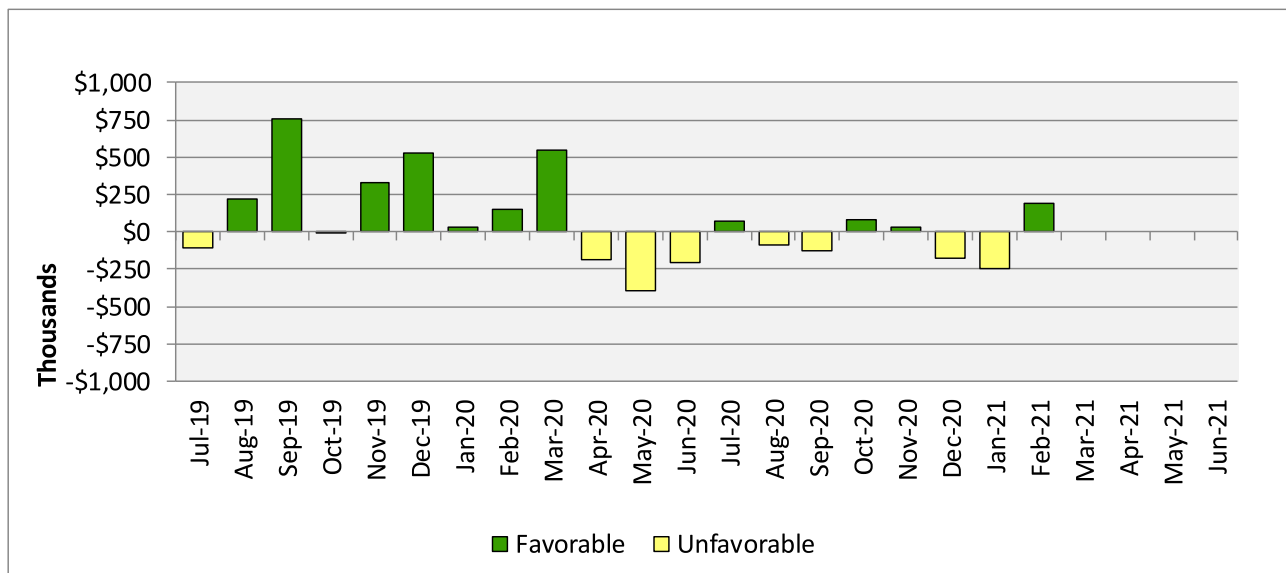
Note: These graphs are based on unaudited estimates.

System Development Charge Revenue



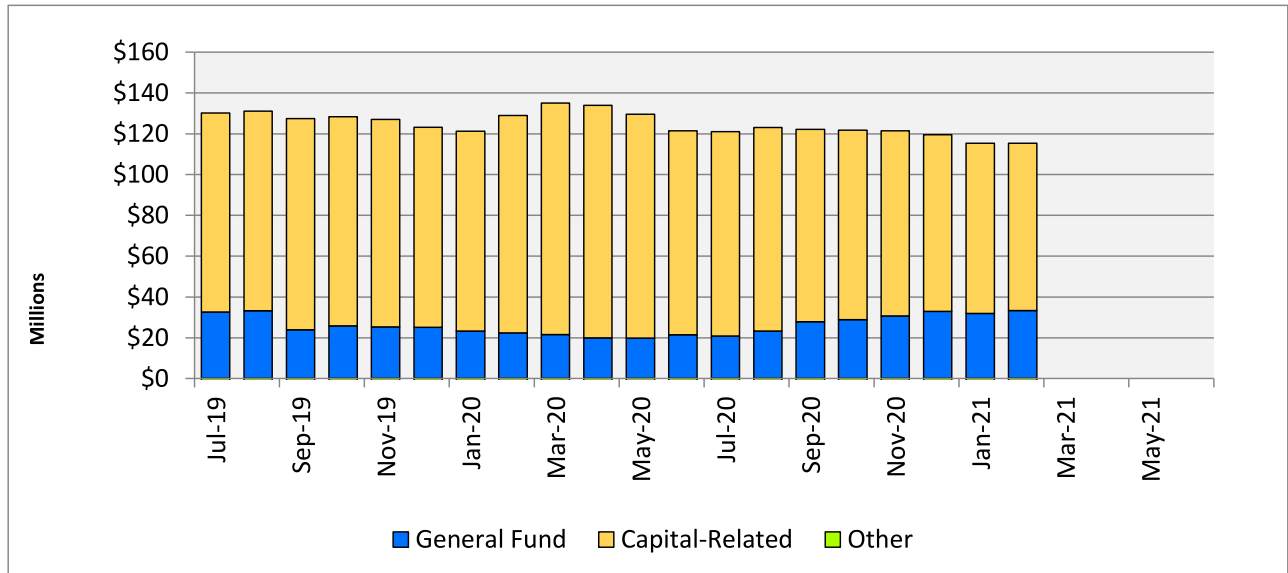
Note: These graphs are based on unaudited estimates.

System Development Charge Revenue



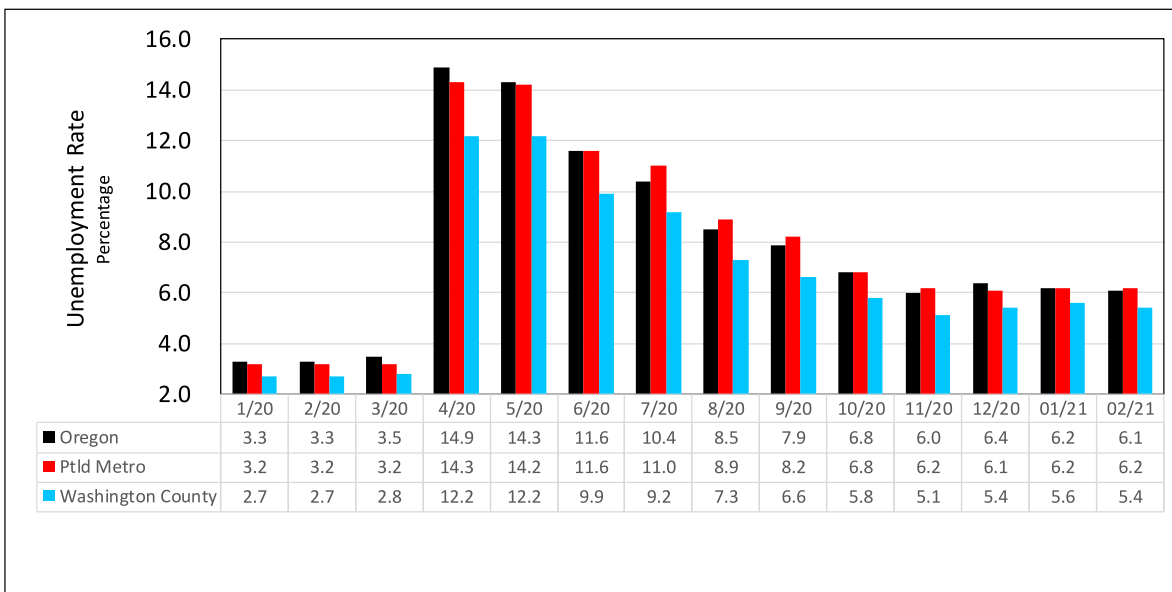
Note: These graphs are based on unaudited estimates.

District's Cash Position

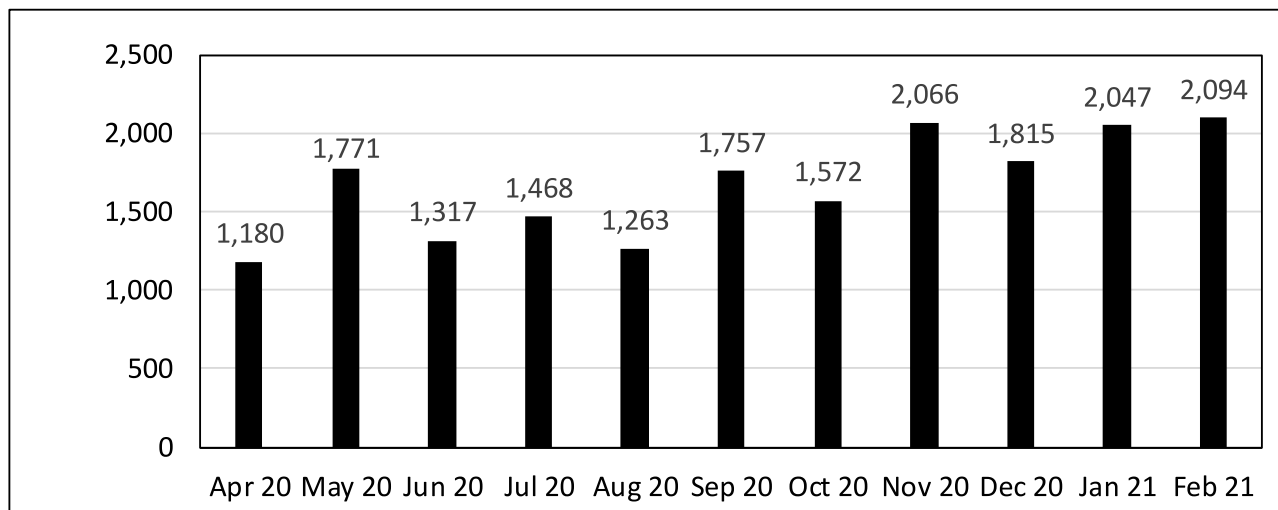


Note: These graphs are based on unaudited estimates.

Improvements in Labor Market Slows

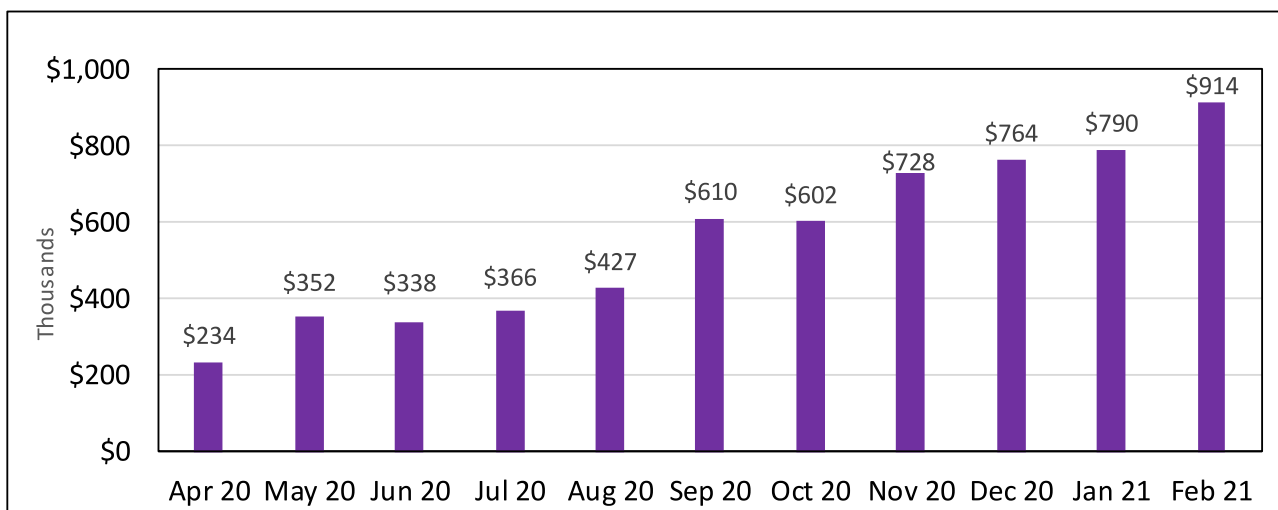


Number of Customers in "Shutoff" Status



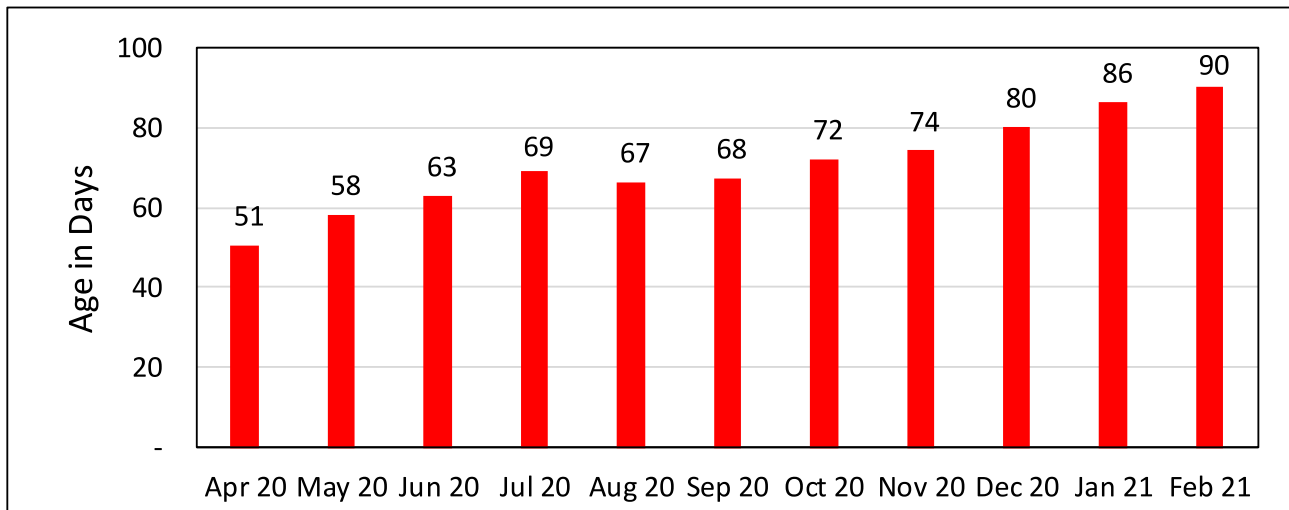
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Accounts Receivable of Customers in "Shutoff" Status



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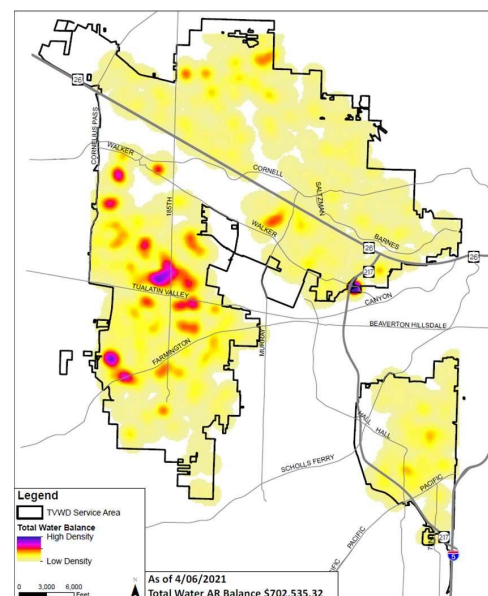
Age of Accounts Receivable of Customers in "Shutoff" Status



Locations of Struggling Customers

Heat Map

- Based on District's GIS
- Shows density of dollar balances of bills by location
- Areas of most concern are bluer in color



District's Financial Performance 2021-23 Biennium

Key Findings

- Operating expenditures below budget
- Capital expenditures below budget
- Water sales revenue below projections
- System development charges exceed plan, but slowing
- Projected ending fund balances higher than forecast
- Remain debt free -- \$50 million in WIFIA Loan available
- Starting 2021-23 biennium with manageable challenges

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Water Rate Forecast

Financial Strategy

- Board considered several financial strategies with various levels of financial risk
- Board approved financial strategy that lowered overall financial risk and overall costs to customers
- Financial plan will be published in May

Effective Date	Typical Monthly Bill ¹		
	Typical Bill	Change	Percent Change
Current (Nov 2020)	\$56.33		
Nov 2021	\$61.65	\$5.32	9.4%
Nov 2022	\$67.48	\$5.83	9.5%

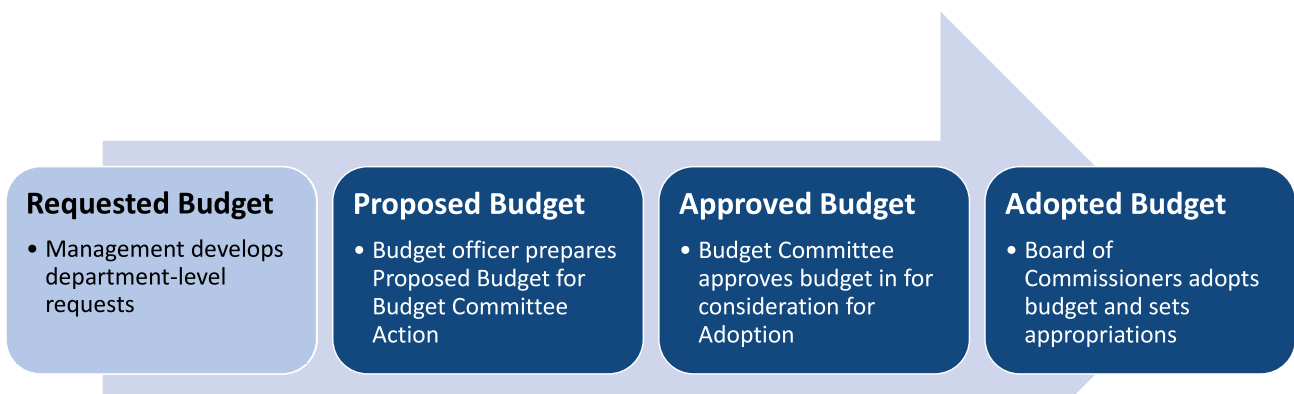
¹Single-family residential customer with 5/8-inch meter using 7 CCF per month

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Budget Process and Highlights

Andrew Carlstrom
Manager, Customer Service

Oregon Local Budget Process



Oregon Local Budget Appropriations Categories

Types of Appropriations

- Personnel Services
- Materials & Services
- Capital Outlay
- Special Payments
- Debt Service
- Interfund Transfers
- General Operating Contingency

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Historical Budget Hierarchy

TVWD

Funds

Appropriations Categories

Personnel
Services

Materials &
Services

Capital Outlay

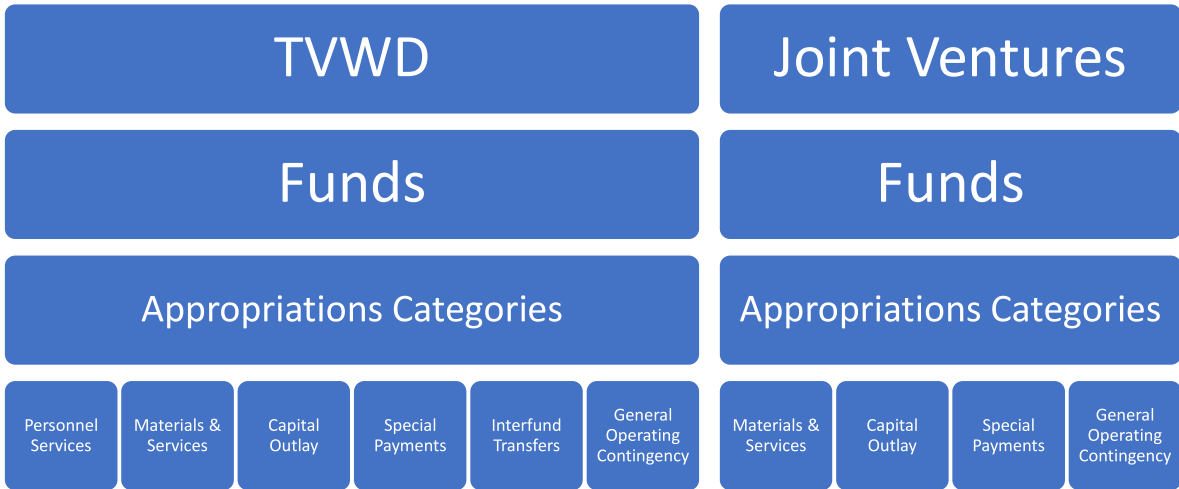
Special
Payments

Interfund
Transfers

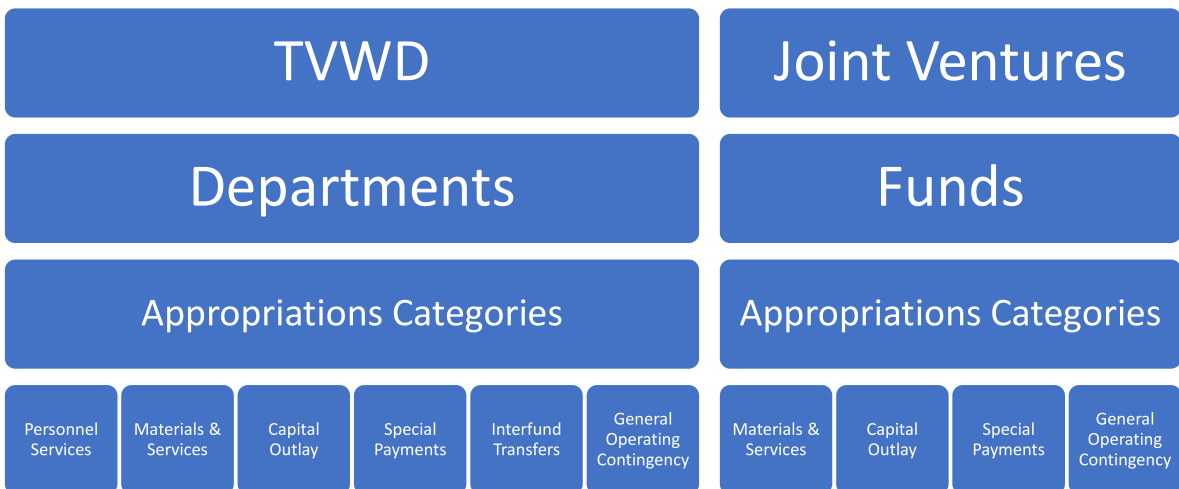
General
Operating
Contingency

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New Budget Hierarchy



Budget Preparation Hierarchy



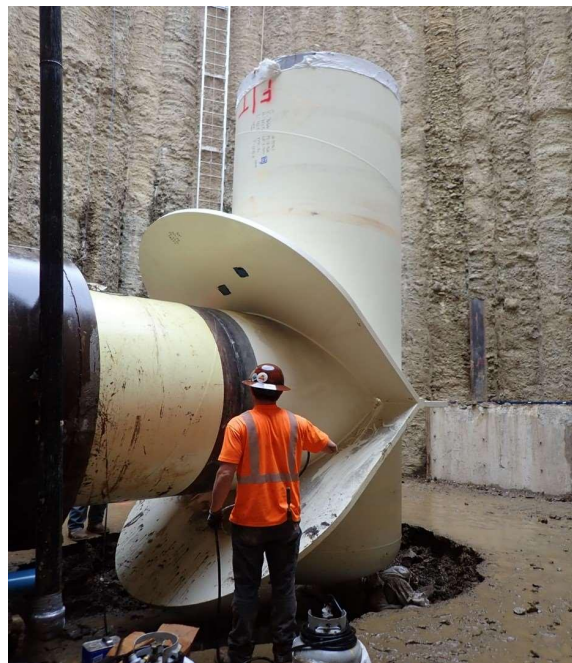
Budget Updates

Personnel Services

- Increases in benefits costs have slowed
 - Health insurance rates declined by 2.3% at last renewal
 - PERS costs have been offset by:
 - Side account and match from Employer Incentive Fund
 - PERS reforms
 - Changing demographics
- Retirements
 - Newer employees generally cost less than those retiring
 - Often lower benefits costs
- Continue to verify assumptions

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Questions and Answers



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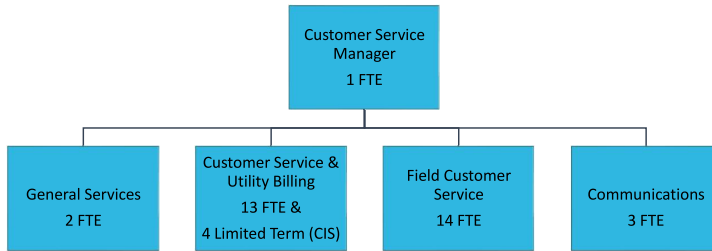
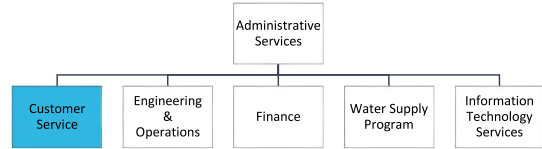
Customer Services



Customer Service Department

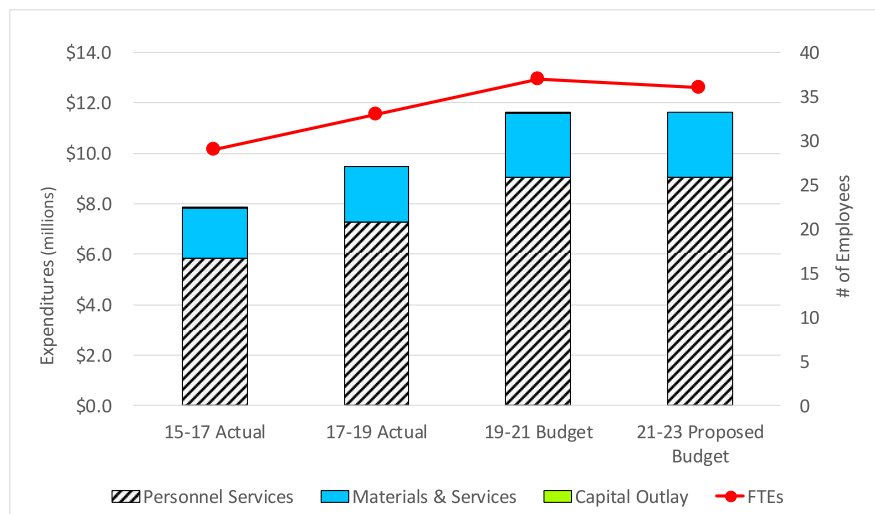
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Customer Service



Customer Service Operating Budget

- Modernization**
 - Meter to cash transformation
 - CIS implementation
 - AMI strategy
- Feedback**
 - Surveys initiative
 - Customer and employee feedback to inform decision making
- Develop Staff**
 - Skills for transformation
 - Internal training capacity



Requested Personnel Services

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$1,005,351	\$1,085,748	\$80,397	8.0%	3.9%
Customer Service & Utility Billing	3,435,492	3,389,110	(46,382)	-1.4%	-0.7%
Field Customer Service	3,618,604	3,567,646	(50,958)	-1.4%	-0.7%
Communications	986,237	996,059	9,822	1.0%	0.5%
Department Totals	\$9,045,684	\$9,038,562	(\$7,122)	-0.1%	0.0%

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Requested Materials & Services

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$511,000	\$586,591	\$75,591	14.8%	7.1%
Customer Service & Utility Billing	1,521,624	1,497,452	(24,172)	-1.6%	-0.8%
Field Customer Service	233,660	262,647	28,987	12.4%	6.0%
Communications	267,340	221,100	(46,240)	-17.3%	-9.1%
Department Totals	\$2,533,624	\$2,567,790	\$34,166	1.3%	0.7%

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No Capital Outlay Requested

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$40,500	\$0	(\$40,500)	-100.0%	-100.0%
Department Totals	\$40,500	\$0	(\$40,500)	-100.0%	-100.0%

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Customer Service Department Summary by Division

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$1,556,851	\$1,672,339	\$115,488	7.4%	3.6%
Customer Service & Utility Billing	4,957,116	4,886,562	(70,554)	-1.4%	-0.7%
Field Customer Service	3,852,264	3,830,293	(21,971)	-0.6%	-0.3%
Communications	1,253,577	1,217,159	(36,418)	-2.9%	-1.5%
Department Totals	\$11,619,808	\$11,606,352	(\$13,456)	-0.1%	-0.1%

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Customer Service Department Summary by Appropriation Category

Appropriations Category	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
Personnel Services	\$9,045,684	\$9,038,562	(\$7,122)	-0.1%	0.0%
Materials & Services	2,533,624	2,567,790	34,166	1.3%	0.7%
Capital Outlay	40,500	0	(40,500)	-100.0%	-100.0%
Department Totals	\$11,619,808	\$11,606,352	(\$13,456)	-0.1%	-0.1%

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Update on Customer Information System Project

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CIS & the Water Utility Meter to Cash Cycle

A CIS is an application providing utilities an integrated environment to perform functions of the meter to cash cycle.

Source: Water Research Foundation, Report #4583

Meter to Cash

- Manage Customer Account Data
- Read Meters
- Calculate Consumption & Manage Rates
- Prepare and Deliver Bills
- Process & Record Payments
- Manage Credit & Collections
- Conduct General Ledger & Revenue Analysis

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CIS Project Summary

- **Partnership project between District and Clean Water Services**
 - “The Partners” are sharing CIS costs, decision-making, and ownership
 - Foundation of modernizing meter-to-cash operations
 - Essential for future improvements including AMI
- **The Partners completed a rigorous CIS selection/contracting processes**
 - The new CIS provider is Open International
 - Open’s product is called “SmartFlex”
 - Go-live scope includes CIS, batch processing, customer portal
- **The Partners are now implementing the solution**
 - The implementation schedule is fast – aggressive schedule
 - Go-live is currently projected for Q1 2022
- **Configuration, not customization!**
 - The Partners are committed to changing processes, not the system

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CIS Project Cost Estimate

Component	Total
<u>Phase 1: Selection</u> - Professional services: requirements development, needs assessment, CIS vendor/product selection, contract negotiation, legal	\$9.5 million
<u>Phase 2: Implementation</u> - Software, professional services - Professional services: project management, implementation, data conversion and integration, testing, training - Internal project Labor - Contingency	

CIS Project Lifecycle: 2018 - 2022

1. Initiation ✓

- Needs assessment
- TVWD/CWS partnership
- Budget resources

2. Selection Phase ✓

- CIS vendor selection
- Contract negotiation
- Transition to implementation

4. Ongoing Operations & Continuous Improvement

- Operations under new CIS
- Continue implementing improvement roadmap

3. Implementation Phase

- Planning, design, construction, testing, training, go-live, stabilization



Why CIS? Key Project Objectives

1. **Address current and projected business needs**
2. **Provide improved system reliability**
3. **Increase customer satisfaction**
4. **Improve supportability through:**
 - ✓ Minimizing new system customization
 - ✓ Regular, vendor-provided technology updates
 - ✓ Complete legacy platform retirement
5. **Provide greater integration with key business systems**
6. **Manage risk through:**
 - ✓ Better controls
 - ✓ Data management, including customer information
 - ✓ Vendor support
7. **Provide a sustainable, predictable support cost model**



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CIS Triple Constraint: Scope-Schedule-Budget

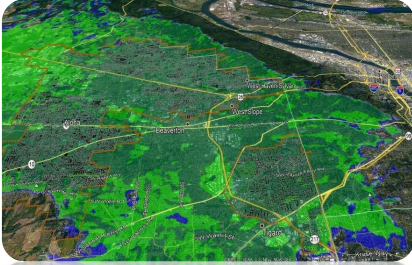
- **Established Project Go-Live Scope**
 - CIS, batch processing, customer self-service portal
 - Foundation of modernizing meter-to-cash operations
- **Established Project Schedule**
 - 14.5-month implementation to go-live
 - 4-month post go-live stabilization period
- **Established Project Budget**
 - \$9.5 million: implementation, third-party services, staff labor
 - Costs shared between Partners per intergovernmental agreement



Due to COVID-19, CIS project implementation phase activity to date has been conducted entirely in a virtual environment.

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Advanced Metering Infrastructure (AMI)



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What is Advanced Metering Infrastructure, or AMI?

- **AMI is a system that collects time-differentiated consumption information.**
- **Rather than collecting one/two readings per month, an AMI system (with “smart meters”) is configurable to take meter data multiple times per day.**
- **Some of the benefits of an AMI system include:**
 - Improved consumption information to customers
 - Automating the meter reading process
 - Reduced estimated reads
 - Reduced truck rolls to investigate reads
 - Improved leak detection
 - Reduced theft
 - System water loss and distribution information



Sources: Water Research Foundation, Report #4583, TVWD AMI Business Case

TVWD AMI Initiative

- **AMI will be an integral component of modernizing TVWD's meter to cash cycle.**
 - The purpose of the AMI initiative is to provide innovative AMI technologies that support the needs and expectations of TVWD customers and operations.
 - The new CIS is an integrated solution with AMI-required meter data management functionality built into the product.
 - AMI is one path for TVWD to achieve implementation of monthly billing, a key recommendation of the Rate Advisory Committee.

TVWD AMI Initiative (continued)

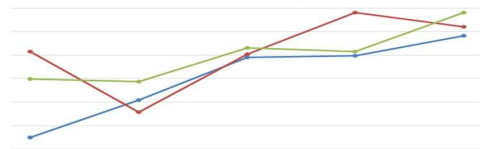
- **An AMI implementation is a large project and a multiyear effort.**
 - The 2021 – 2023 includes funds for starting the project through development of the District's AMI strategy: \$200,000
 - Total project implementation cost estimate to be presented to Board after strategy development.
 - TVWD will pursue partnerships and external funding opportunities for AMI.
 - Like CIS, the AMI initiative will be a multidisciplinary effort within TVWD.

Surveys

2021-23 Biennial Budget
Committee Workshop

The TVWD Surveys Initiative

- **Useful feedback is necessary to:**
 - Measure and understand the TVWD customer experience (Cx).
 - Measure and understand the TVWD employee experience (Ex).
 - Provide trend data for District decision making.
- **The surveys initiative in the 2021 – 2023 budget:**
 - Includes funds to be used for consultant and software in designing, delivering, and interpreting external and internal surveys.
- **TVWD will use external expertise as well as develop internal staff capacity.**
 - The Communications division will lead the surveys initiative, working with other District departments.



Questions and Answers



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Engineering and Operations



TVWD crews working on a main replacement project.

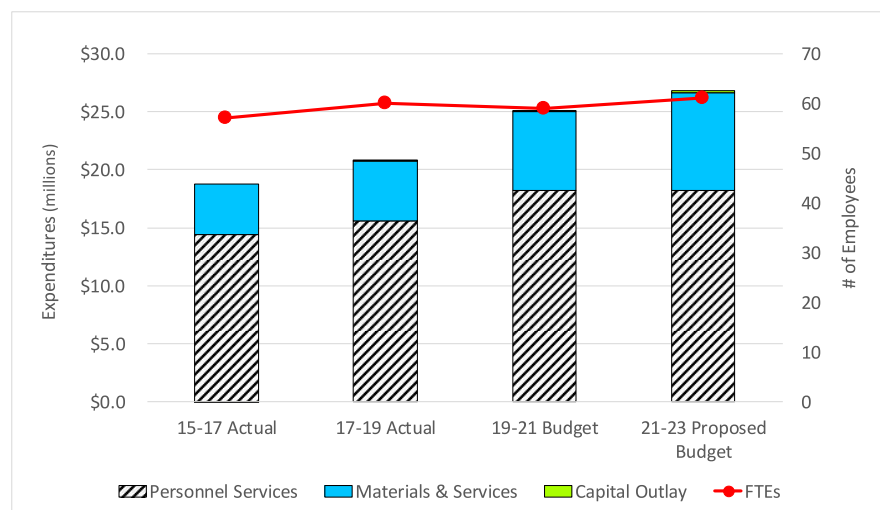
58

Engineering and Operations Department

Carrie Pak, P.E.
Chief Engineer

Engineering and Operations Operating Budget

- Continue delivering high-quality water
- Asset Management Program
- WWSS Readiness
- Staff Development
 - Two new staff
 - SCADA Staff
 - Water Works Operator



Requested Personnel Services

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$558,748	\$572,291	\$13,543	2.4%	1.2%
System Operations	5,272,462	5,789,431	516,969	9.8%	4.8%
Engineering	3,543,785	3,142,702	(401,083)	-11.3%	-5.8%
Water Resources	1,648,222	1,519,250	(128,972)	-7.8%	-4.0%
Asset Management	2,488,632	2,504,878	16,246	0.7%	0.3%
Water Operations	535,207	573,517	38,310	7.2%	3.5%
Construction & Maint.	4,160,366	4,156,152	(4,214)	-0.1%	-0.1%
Department Totals	\$18,207,422	\$18,258,221	\$50,799	0.3%	0.1%

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Requested Materials & Services

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$1,117,970	\$2,029,246	\$911,276	81.5%	34.7%
System Operations	990,900	965,150	(25,750)	-2.6%	-1.3%
Engineering	9,500	15,500	6,000	63.2%	27.7%
Water Resources	1,117,323	1,363,301	245,978	22.0%	10.5%
Asset Management	2,287,080	2,372,248	85,168	3.7%	1.8%
Water Operations	191,000	181,500	(9,500)	-5.0%	-2.5%
Construction & Maint.	1,062,800	1,421,000	358,200	33.7%	15.6%
Department Totals	\$6,776,573	\$8,347,945	\$1,571,372	23.2%	11.0%

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Requested Capital Outlay

Division	Budget	Budget	Change	Change	Percent
General Services	\$40,600	\$73,500	\$32,900	81.0%	34.5%
Department Totals	\$40,600	\$73,500	\$32,900	81.0%	34.5%

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Engineering and Operations Department Summary by Division

Division	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
General Services	\$1,717,318	\$2,734,872	\$1,017,554	59.3%	26.2%
System Operations	6,263,362	6,744,581	481,219	7.7%	3.8%
Engineering	3,553,285	3,158,202	(395,083)	-11.1%	-5.7%
Water Resources	2,765,545	2,882,551	117,006	4.2%	2.1%
Asset Management	4,775,712	4,929,124	153,412	3.2%	1.6%
Water Operations	726,207	755,017	28,810	4.0%	2.0%
Construction & Maint.	5,223,166	5,577,152	353,986	6.8%	3.3%
Department Totals	\$25,024,595	\$26,781,499	\$1,756,904	7.0%	3.5%

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Engineering and Operations Department Summary by Appropriation Category

Appropriations Category	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
Personnel Services	\$18,207,422	\$18,258,221	\$50,799	0.3%	0.1%
Materials & Services	6,776,573	8,399,778	1,623,205	24.0%	11.3%
Capital Outlay	40,600	123,500	82,900	204.2%	74.4%
Department Totals	\$25,024,595	\$26,781,499	\$1,756,904	7.0%	3.5%



Ridgewood View Park Pump Station

Capital Improvement Program

Objectives:

- Capacity improvements
- Replacement
 - Condition assessment
 - Age
 - Resiliency
- Relocation – Agency Driven



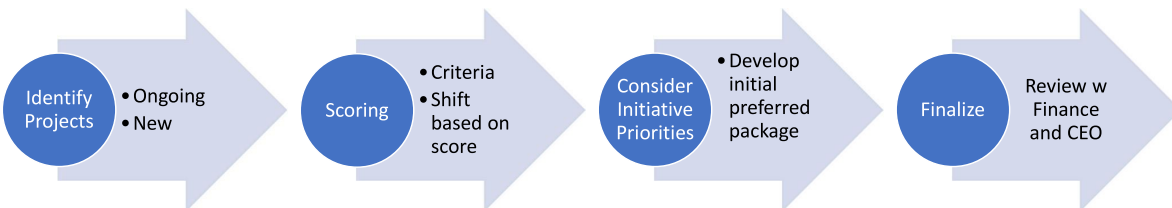
TVWD crews working on the St. Vincent meter replacement

Water Distribution System Assets

- 752 miles of pipe (2 to 54 inches)
- 41 pressure zones serving elevations from 150 ft. to 990 ft.
- 12 pump stations, over 55 pressure regulating facilities
- 23 active storage reservoirs
- 1 aquifer storage and recovery (ASR) facility with capacity of 300 MG
- 1 electrical generator station
- Over 150 water quality sampling stations

CIP Process

- Water Master Plan
- SCADA Master Plan
- Asset Management Plan
- Operations and Maintenance Staff
- Other Agencies



CIP Fact Sheet Anatomy

PROJECT INFORMATION		FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category:	Storage	Water Rates: Yes	No anticipated impact on District operating costs. This project replaces existing infrastructure. Near-term operating costs are anticipated to be reduced. Key Drivers
Project Manager:	Andrew Barrett	Service Fees: No	
Work Performed By:	Outside Contract	SDC Improvemt. Fee Elig.: 0%	
Total Priority Score:	30	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS								
FY 17-19 Budget	FY 17-19 Projected	FY 19-20 Budget	FY 20-21 Budget	FY 21-22 Projected	FY 22-23 Projected	FY 24-25 Projected	Six-Year (FY2020-25) Projected	Future Years (FY2026-48) Projected
10,915,898	14,614,782	362,500	-	-	-	-	362,500	-

Site Map

PROJECT TITLE: ST-9 Grabhorn Reservoir Replacement - Tank 1 (5 MG)

KEY DRIVERS FOR CIP PROJECT

1.	Project Urgency	This project is on going and nearing completion. The budget accounts for items associated with final completion of the project.
2.	Asset Condition	The existing reservoir was in disrepair and at the end of its useful life.
3.	Reliability	Improvements required to maintain reliable and seismically resilient facilities.

PROJECT DESCRIPTION

This project involves the demolition of the existing 5 MG concrete reservoir, then design and construction of a 5 MG pre-stressed concrete reservoir within the footprint of the existing reservoir. Onsite piping and valves will also be replaced.

PROJECT INFORMATION

PROJECT INFORMATION	FUNDING SOURCES	FUTURE OPERATING COST IMPACT
Project Category: Storage	Water Rates: Yes	No anticipated impact on District operating costs. This project replaces existing infrastructure. Near-term operating costs are anticipated to be reduced.
Project Manager: Andrew Barrett	Service Fees: No	
Work Performed By: Outside Contract	SDC Improvemt. Fee Elig.: 0%	
Total Priority Score: 30	Partner Cost Percentage: 0%	

BUDGET INFORMATION & PROJECTED COSTS

FY 17-19 Budget	FY 17-19 Projected	FY 19-20 Budget	FY 20-21 Budget	FY 21-22 Projected	FY 22-23 Projected	FY 23-24 Projected	FY 24-25 Projected	Six-Year (FY2020-25) Projected	Future Years (FY2026-48) Projected
10,915,898	14,614,782	362,500	-	-	-	-	-	362,500	-

CIP Prioritization

Timing:	<ul style="list-style-type: none"> • Sensitivity to time commitments • External demands, growth, condition, or other 3rd party • No points assigned, based on year needed
Customer Criticality:	<ul style="list-style-type: none"> • Level of importance based on cost per customer benefit • Points: 1-3, 5
Water Quality:	<ul style="list-style-type: none"> • Adherence to water quality and regulatory requirements • Points: 1-3, 5
Asset Condition & Risk:	<ul style="list-style-type: none"> • Probability of failure, consequence of failure. Related to known condition • Points: 1,3,5,10

CIP Prioritization

Reliability:	<ul style="list-style-type: none">• Seismic resiliency, reliability of service, and redundancy• Points: 1-4
Safety & Security (including fireflow):	<ul style="list-style-type: none">• Fire protection, facility security, worker and public safety• Points: 1-5
Cost Effectiveness / Community Benefit:	<ul style="list-style-type: none">• Delay of other projects, partnership opportunity, other benefits or savings• Points: 1, 3, 5
Environment:	<ul style="list-style-type: none">• Mitigation of impacts to natural environment• Points: 1-4

Criticality Ratings

		
Green <ul style="list-style-type: none">• great structural and mechanical conditions	Yellow <ul style="list-style-type: none">• some repairs needed; seismically and operationally vulnerable	Red <ul style="list-style-type: none">• major help needed now

Rating: Green



Reservoirs:

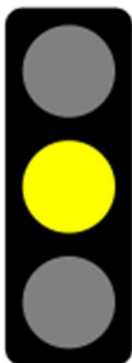
- Springville 1 & 2
- Bonny Slope Park 1 & 2
- Cooper Mountain 1 & 2
- Teufel
- Ridgewood View
- Grabhorn
- Garden Home
- Schell

Pump Stations:

- Teufel
- Bethany
- Thompson
- Ridgewood View
- Grabhorn ASR

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Rating: Yellow



Reservoirs:

- Inglewood
- Sunset
- Thompson
- Florence Lane 1
- Florence Lane 2
- North Road*
- 189th Reservoir*
- Rosander

Pump Stations:

- Sunset
- Cooper Mtn
- Goyak
- 189th
- Florence Lane

*have recovery plan for emergencies

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Rating: Red



Reservoirs:

- Taylors Ferry No 1
- Taylors Ferry No 2
- Goyak*
- Somerset

Pump Stations:

- Viewmont
- Catlin Crest
- Inglewood

*have recovery plan for emergencies



Taylors Ferry Reservoir

- Located in Metzger
- Built in ~1948 and 1975
- Serves 498 pressure zone
- Replace with 2-1.75 MG prestressed tanks
- Storage
- New on-site piping

Farmington Fluoride and Flow Control Facility



- Located in Cooper Mtn Area
- Scope change
- WWSP intertie with a 6.5 MGD initial flow-through capacity; 17 MGD ultimate capacity
- Fluoride injection
- Flow control; future pump station

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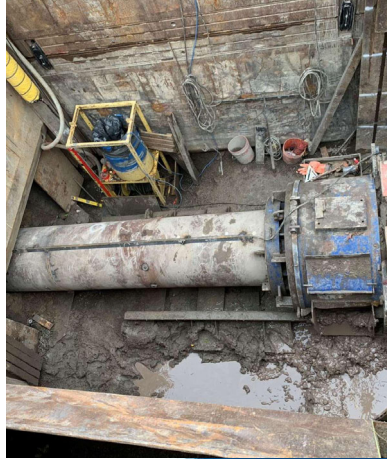


Somerset Reservoir

- Only storage in 1045 pressure zone
- Constructed in 1963
- Needs coating and safety improvements
- Complete seismic failure expected
- Capacity of 0.175 MG
- Additional future storage recommended in the long-term planning horizon

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Metzger N-S Fire Flow Improvement



- Serves Tigard Triangle Area
- Successfully installed 10,000 feet of 12-inch and 16-inch pipe
- Trenchless crossing
- Steep terrain
- Liquefiable soil

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Project Categories

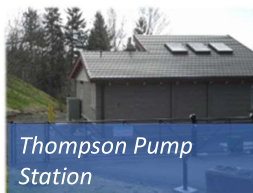
- Source: WWSS, WIF, JWC
- Source: TVWD
- Storage
- Pump Stations
- Pipelines
 - Mains replacements
 - Fireflow improvements
 - Miscellaneous and Agency-driven
- Pipelines – Valves and Vaults
- Facilities, Fleet Replacements, Information Technology
- Meters and Services



Joint Water Commission



Grabhorn Reservoir



Thompson Pump Station



Mainline Installation



PRV Vault

03.11.2019

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2021-23 Biennium CIP Summary

Category/Description	2021-2023 Totals
Source	\$7.8
Storage	8.4
Pump Stations	2.0
Pipelines	
Agency-Driven Pipeline Upgrades & Renewals	7.0
Metzger Pipeline East (WWSP)	82.7
All Other Pipelines	10.0
Valves and Vaults	2.0
Facilities	1.8
Fleet Replacements	1.5
CIS	6.6
Meters & Services	3.6
Biennial Total	\$133.5

Note: Values in millions.

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Storage and Pumping Highlights – 2021-23

Farmington Fluoride & Flow
Control Facility

• Page 15-13

Taylor's Ferry Reservoir
Replacements

• Page 15-15

Florence Lane Reservoir Coatings
& Cathodic Improvements

• Page 15-18

Somerset Reservoir Modifications

• Page 15-20

Taylor's Ferry Booster Pump
Station design

• Page 15-28

Pump Replacement Program

• Page 15-31



Control Vault at Taylor's Ferry Facility

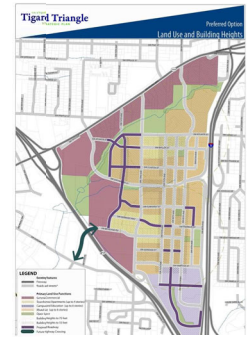
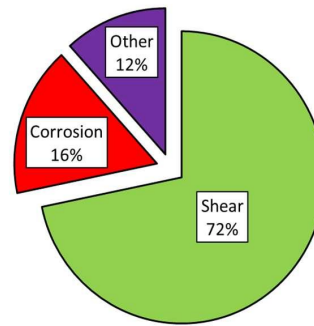


Taylor's Ferry Concrete Reservoir

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Pipeline Highlights - 2021-23

- Small-diameter mains • Page 15-32
- Agency-driven replacements • Page 15-44 to 15-50
- Fire Flow Improvements • Pages 15-52 to 15-55, and 15-57
- Metzger Pipeline East • Pages 15-61 to 15-63



Percent of Breaks by Type (1999 – 2016)

Other CIP items

- Vaults and PRV valves (Page 15-66 to 15-69)
- Facilities, Fleet (Pages 15-71 to 15-79)
- Customer Information Service (Page 15-80)
- Meters and services (15-81 to 15-82)



Six-Year CIP Summary



Category/Description	6-year Totals
Source	\$10.0
Storage	16.4
Pump Stations	13.6
Pipelines	
Agency-Driven Pipelines	12.4
Metzger Pipeline East (WWSP)	115.1
All Other Pipelines	47.1
Valves and Vaults	3.9
Facilities	1.8
Fleet Replacements	4.3
CIS	6.6
Meters & Services	11.7
6-year Total CIP	\$242.8

Note: Values in millions.

Six-Year CIP Project Highlights

• Source Projects

- Metzger Supply Improvements for WWSS Page 15-7
- Booster Chlorination Page 15-12

• Storage Projects

- Goyak Reservoir Seismic: Page 15-14
- Rosander 2 Reservoir Page 15-17

• Pipelines

- Mains replacement, agency-driven, development-driven Pages 15-32 to 15-49
- Fireflow improvements Pages 15-52 to 15-57



Questions and Answers



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Water Supply



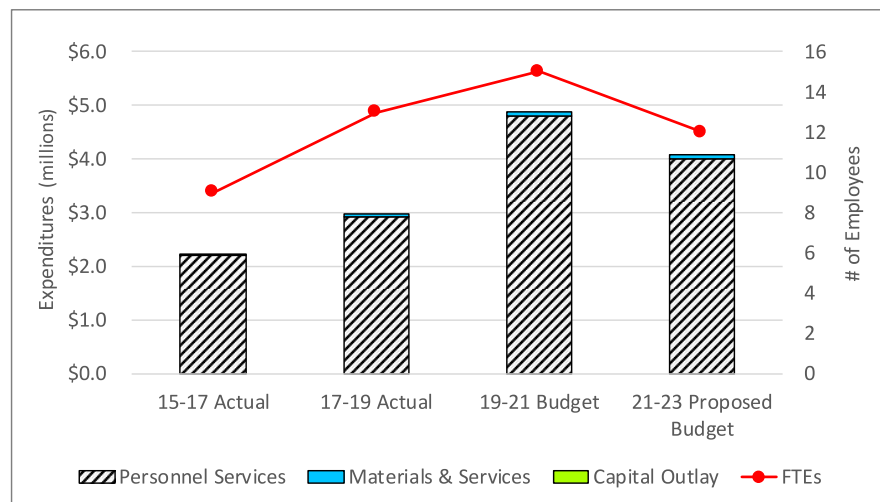
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Water Supply Program Department

Dave Kraska, P.E.
WWSP Program Director

Water Supply Program Department Operating Budget

- Complete design work and related activities
- Initiate and advance 16 construction projects
- Continue planning for operations and system integration



Water Supply Program Department Summary by Appropriation Category

Appropriations Category	2019-21 Budget	Requested Budget	Change	Percent Change	Annualized Percent
Personnel Services	\$4,798,806	\$4,007,052	(\$791,754)	-16.5%	-8.6%
Materials & Services	72,095	76,990	4,895	6.8%	3.3%
Capital Outlay	0	0	0	0.0%	0.0%
Department Totals	\$4,870,901	\$4,084,042	(\$786,859)	-16.2%	-8.4%

Budget Summary Presentation Outline

Presented on March 23

- Water Supply Program (Department 60)
 - TVWD staff involved in delivering the WIF and the WWSS

Tonight's presentation:

- Willamette Intake Facilities (Fund 44)
 - Overview and status
 - Planned activities and budget for next biennium
- Willamette Water Supply System (Fund 45)
 - Overview and status
 - Planned activities and budget for next biennium

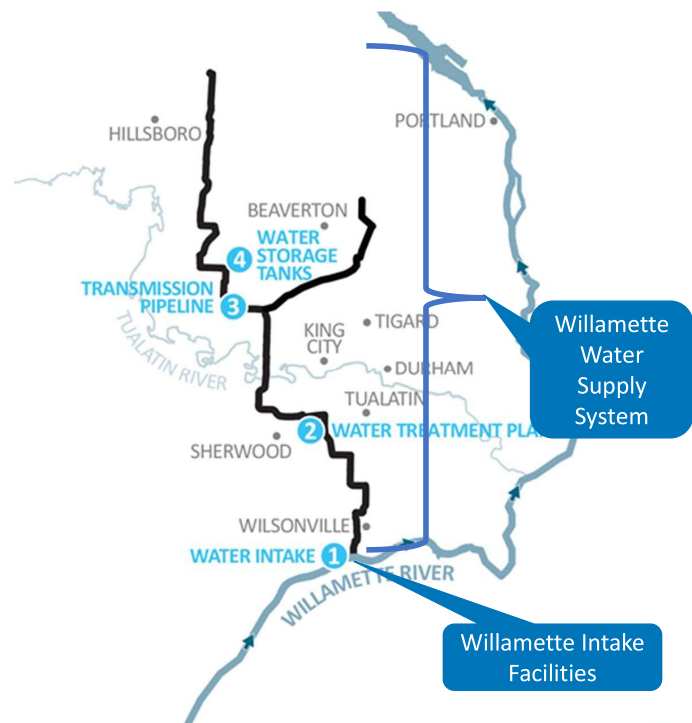
Willamette Water Supply Program Mission

Provide a cost-effective, reliable, and resilient water supply system by July 2026, that benefits current and future generations of the communities we serve and supports a vibrant local economy.

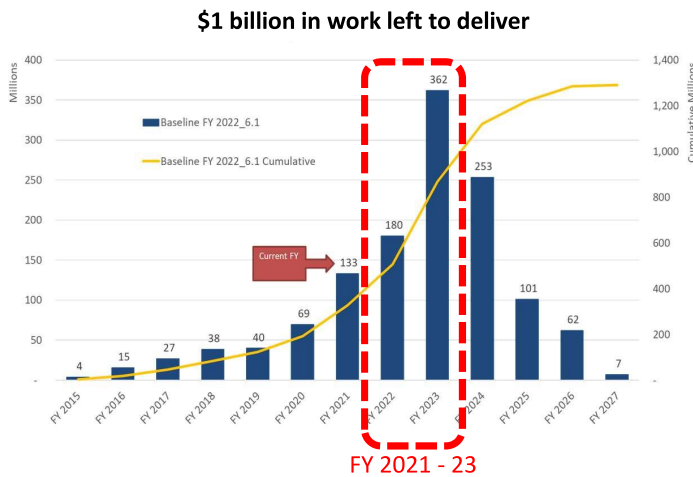


WIF/WWSS Overview

1. Willamette River intake, located in Wilsonville
2. New state-of-the-art water treatment plant
3. 30+ miles of large diameter transmission pipeline
4. Water storage tanks



Capital Spend Will Dramatically Increase in the Next Few Years



Influencers

- Demand on WWSS partner agency staff and resources
- Reliance on regional partners for delivering projects
 - WCLUT
 - PGE
- Effects on stakeholders
 - Ratepayers
 - Property owners and businesses
 - Motorists, pedestrians, and cyclists
- Challenging economic climate
 - Competition for regional construction resources
 - COVID-19
- Need for jurisdictional approvals and properties
 - Many permits and approvals remain
 - Dozens of easements remain
 - Risk of opportunistic behaviors
- Environment of continual change

WWSS & WIF Costs and Schedule (Baseline) are Updated Annually



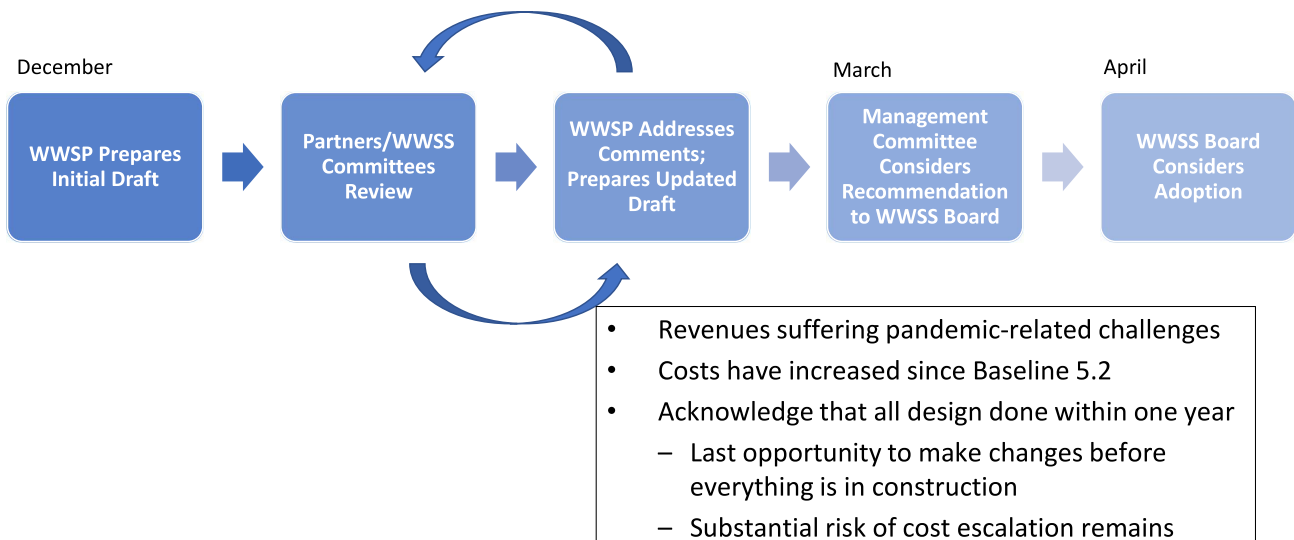
Why adopt a Baseline and when?

- Board to adopt a capital improvement plan (IGA Section 5 & 8)
- Component of WWSS Financial Procedures (IGA Exhibit 6)
- Part of WWSS governance (WWSS MAM)
- Updated annually and modified if needed

How is it used?

- Planning and managing work
- Establishing fiscal year budgets
- Detecting potential changes or variances
- Input to risk analysis and management
- Reporting to Board, Partners, WIFIA, and public
- Input to financial forecasting by Partners

Approach to Annual Baseline Preparation and Review

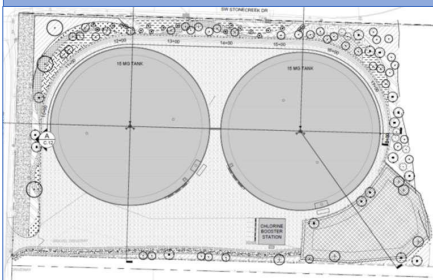


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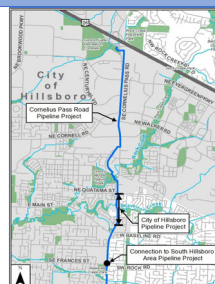
Managing Cost & Schedule Risk Related to Baseline 6.1

- Identified and evaluated a range of options to reduce spend on the WWSP through 2026 by between \$30 million and \$170 million
- Balanced maintaining the mission of the WWSP with the current realities
- Agreed on a limited number of changes to reduce spend through 2026 by about \$50 million, while still delivering water by June 2026:

Defer one reservoir



Defer most of PLW_2.0



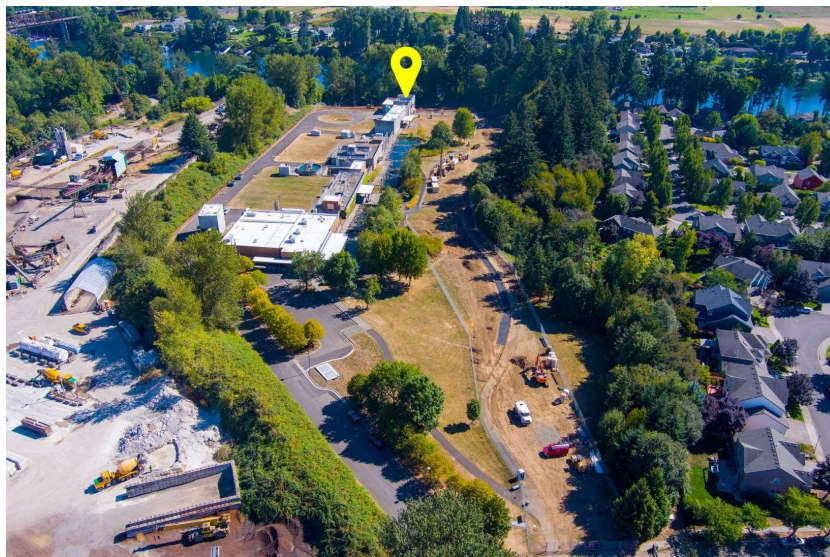
Other deferrals

- Completing the fiber-optic communications network north of the WTP
- Minor WTP components
- Staff positions

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WILLAMETTE INTAKE FACILITIES

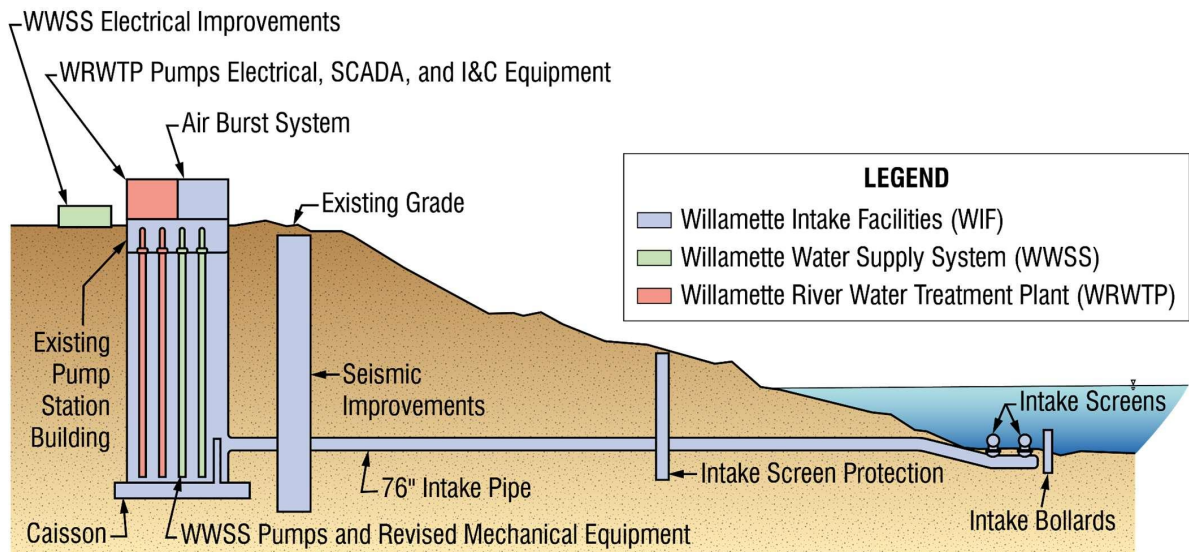
Co-located with the Willamette River Water Treatment Plant



Willamette Intake Facilities



Willamette Intake Facilities Components



Fish Screens



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Raw Water Pump Station Structure



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Air Burst System



Compressors

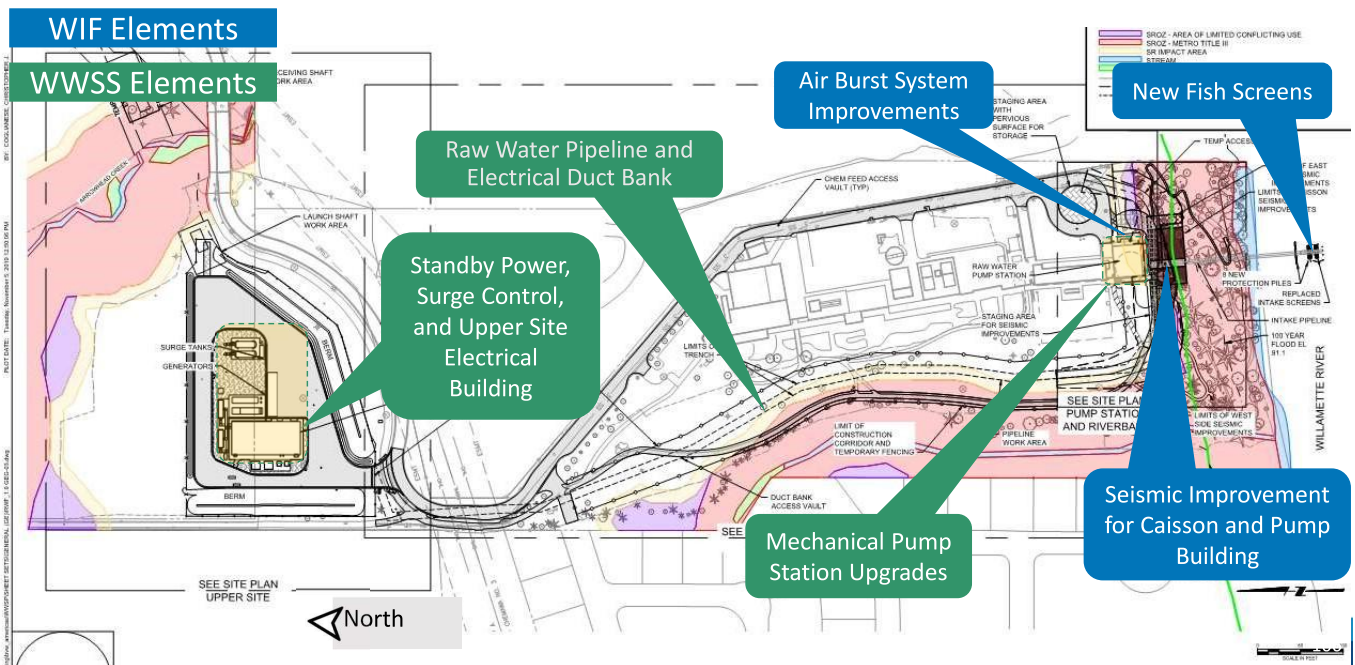


Receiver Tank



Air Burst Valves

WIF-Related Elements of the WWSP's RWF_1.0 Project



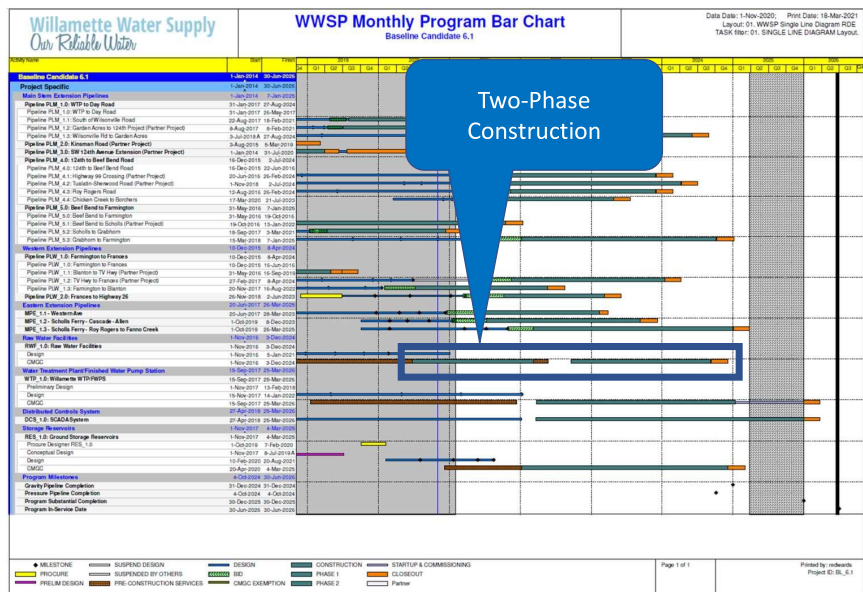
Construction Cost Estimate Update

Total Project Budget	Estimated WIF Share	Estimated WWSS Share
\$108,766,499	\$11,009,417	\$97,757,082

Note: Total project budget estimate does not include permitting and other allocated system-wide costs

RWF_1.0 Project Schedule

- Design Phase:
 - Complete
- Construction Phase 1
 - Mostly below-ground work
 - Started Q2 2020
 - Ends Q1 2022
- Construction Phase 2
 - Above-ground construction and equipping
 - Starts Q3 2022

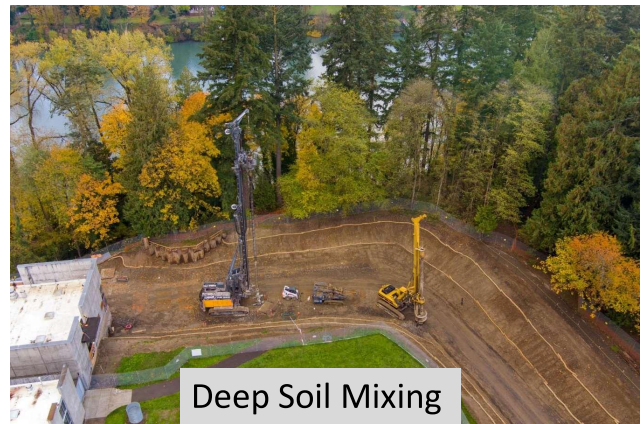


Completed Construction Elements (Q1 2021)



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Current Activities (Q1 2021) Ground Improvements



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Current Activities (Q1 2021) Ground Improvement Spoils Handling



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Current Activities (Q1 2021) Upper Site

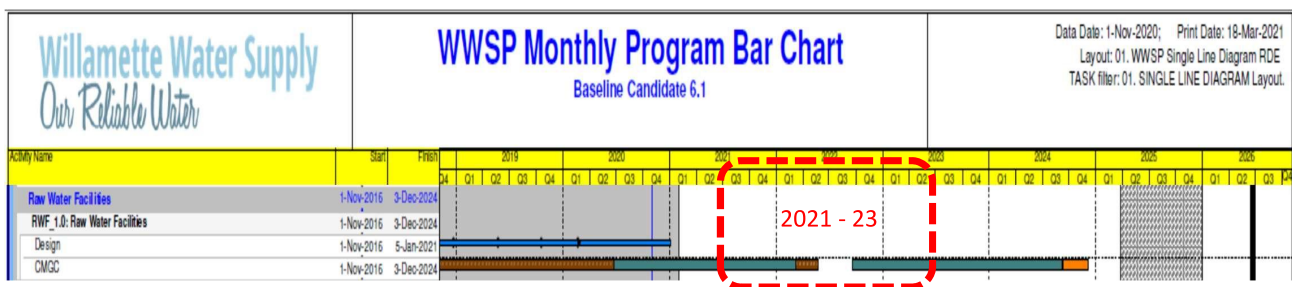
- Trenchless crossing launching and receiving shafts
- Foundation for air burst receiver tank
- Coordination for the raw water pump station seismic retrofit improvements



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2021-23 WIF BIENNIUM BUDGET ACTIVITIES

WIF-related Elements of the RWF_1.0 Project 21 – 23 Biennium



Construction Phase 1

- Starts Q2 2020
- Ends Q1 2022
- Ground stabilization
- Intake screens replacement
- Pump station seismic retrofit

Construction Phase 2

- Starts Q3 2022
- Ends Q4 2024
- Air-burst system improvements
- Building mechanical improvements

WIF Requested Capital Outlay 2021-23 Biennium

Resources	
TVWD	\$ 3,131,620
Other Partners	3,402,116
Total Resources	\$ 6,533,736
Requirements	
Capital Outlay	\$ 6,533,736
Total Requirements	\$ 6,533,736

Note: Requested capital outlay includes budget for allocated system-wide costs

WILLAMETTE WATER SUPPLY SYSTEM

WWSP Map

As found on the front page of:

www.OurReliableWater.org



Project Delivery Progress – Spring 2019

Work Package	Conceptual/ Preliminary	Design				Construction
		30%/50%	60%/70%	90%	100%	
RWF_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.3	Complete	Complete	Complete	Complete	Complete	Complete
PLM_2.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_3.0	Complete	Complete	Complete	Complete	Complete	Complete
WTP_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.3	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.4	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.3	Complete	Complete	Complete	Complete	Complete	Complete
RES_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.1	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.1 ext	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.2	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.3	Complete	Complete	Complete	Complete	Complete	Complete
PLW_2.0	Complete	Complete	Complete	Complete	Complete	Complete
MPE_1.0	Complete	Complete	Complete	Complete	Complete	Complete

Complete Active Work

Project Delivery Progress – Spring 2021

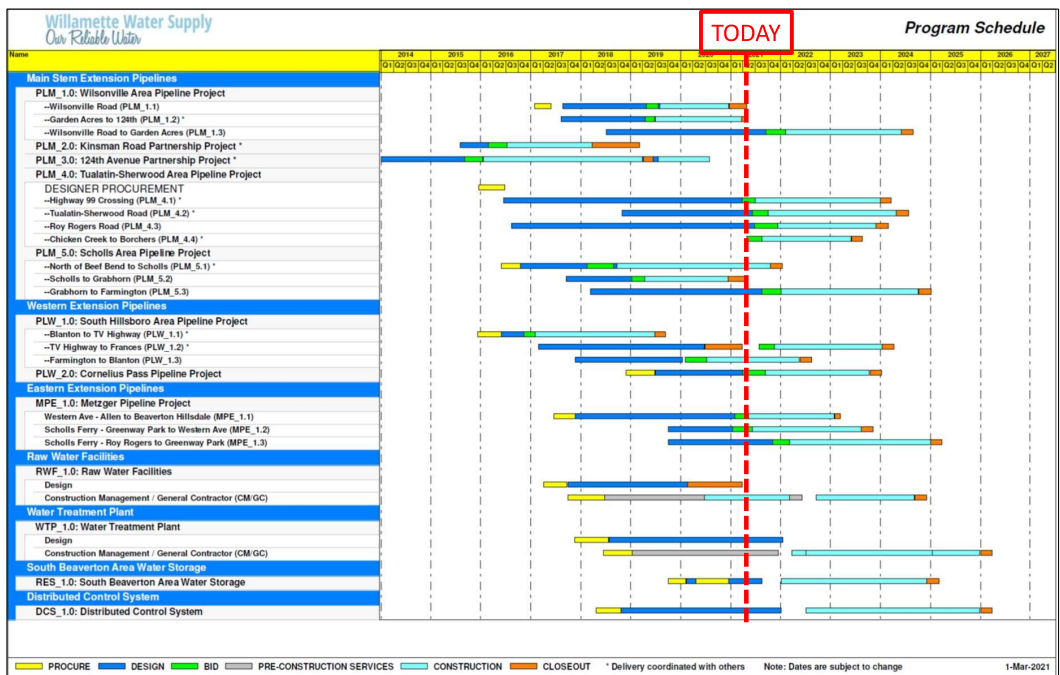
Work Package	Design					Construction
	Conceptual/ Preliminary	30%/50%	60%/70%	90%	100%	
RWF_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_1.3	Complete	Complete	Complete	Active Work	Complete	Complete
PLM_2.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_3.0	Complete	Complete	Complete	Complete	Complete	Complete
WTP_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.3	Complete	Complete	Complete	Complete	Complete	Complete
PLM_4.4	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.1	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.2	Complete	Complete	Complete	Complete	Complete	Complete
PLM_5.3	Complete	Complete	Complete	Complete	Complete	Complete
RES_1.0	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.1	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.1 ext	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.2	Complete	Complete	Complete	Complete	Complete	Complete
PLW_1.3	Complete	Complete	Complete	Complete	Complete	Complete
PLW_2.0/COH_1.0	Complete	Complete	Complete	Complete	Complete	Complete
MPE_1.1/COB_1.1	Complete	Complete	Complete	Complete	Complete	Complete
MPE_1.2/COB_1.2	Complete	Complete	Complete	Complete	Complete	Complete
MPE_1.3	Complete	Complete	Active Work	Complete	Complete	Complete

Complete Active Work

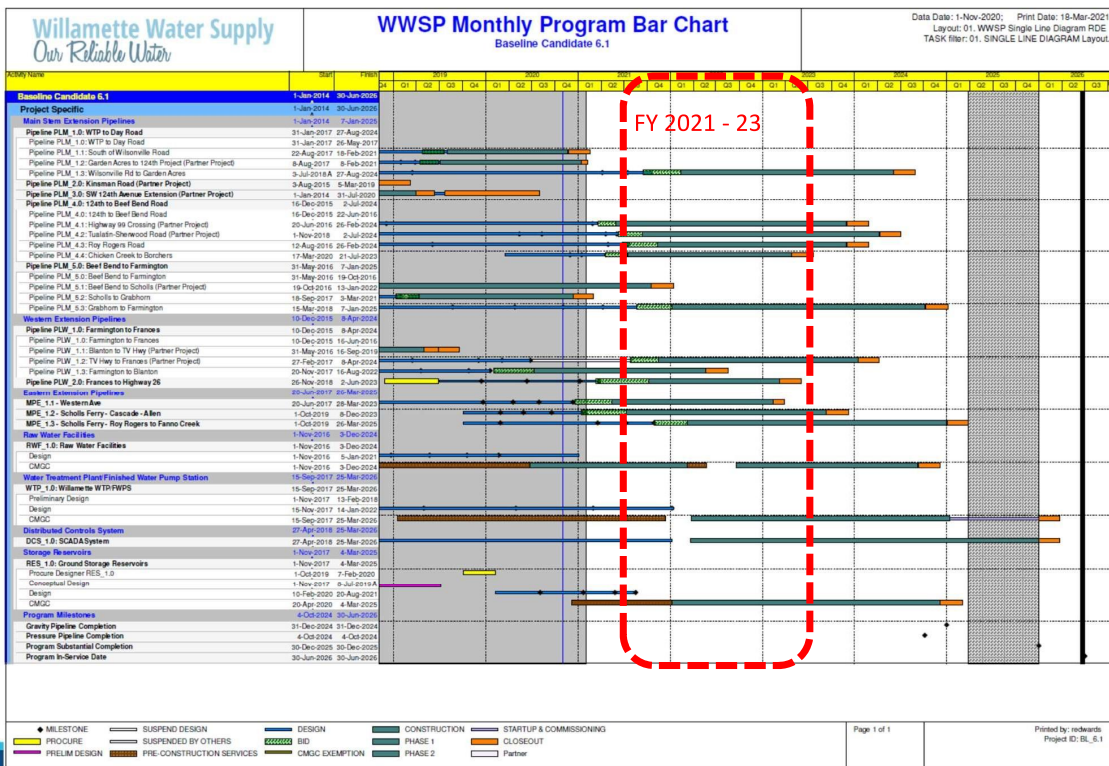
WWSP Schedule

As found on the front page of:

www.OurReliableWater.org

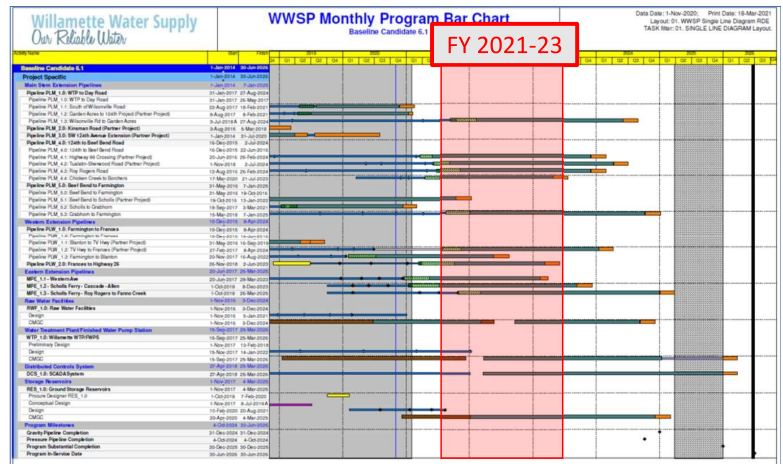


2021-23 WWSS BIENNIUM BUDGET ACTIVITIES



WWSS Work Planned for FY 2021-23

- Complete design of 7 projects
- Advance construction of 16 projects
- Continued program management
 - WIFIA compliance and loan programs
 - Safety program
 - Communications and outreach program
 - Development of financial procedures
- Continued acquisitions
 - Real estate
 - Permits and land use approvals
- Plan
 - Water supply integration
 - Commissioning and start-up
 - Operations



WWSS Requested Capital Outlay 2021-23 Biennium

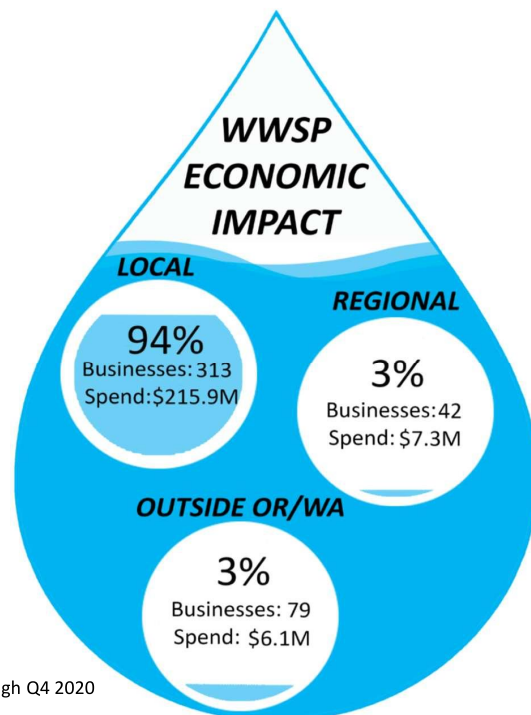
Resources		
TVWD	\$	241,923,889
Other Partners		210,365,761
Total Resources		452,289,650
Requirements		
Capital Outlay	\$	452,289,650
Total Requirements	\$	452,289,650

WWSP Summary

	WIF	WWSS	MPE	Total
Resources				
TVWD	\$ 3,131,620	\$ 241,923,889	\$ 82,747,861	\$ 327,803,370
Other Partners	3,402,116	210,365,761	-	\$ 213,767,878
Total Resources	\$ 6,533,736	\$ 452,289,650	\$ 82,747,861	\$ 541,571,247
Requirements				
Capital Outlay	\$ 6,533,736	\$ 452,289,650	\$ 82,747,861	\$ 541,571,247
Total Requirements	\$ 6,533,736	\$ 452,289,650	\$ 82,747,861	\$ 541,571,247

Supporting Our Economy

- Business Utilization: Recent Activities
 - 94% of spend for WWSS is benefitting the local economy
 - 69 additional local businesses were accounted for from Q3 to Q4 reporting
 - Finalized 2020 Q4 utilization statistics
 - Publishing Semi-annual Business Utilization Report



Data through Q4 2020

Questions and Answers



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Next Steps

- Future Workshops and Meetings
 - Workshop #3: April 22, 2021
 - Budget Committee Meeting and Public Hearing: May 25, 2021
- Questions for the Team

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