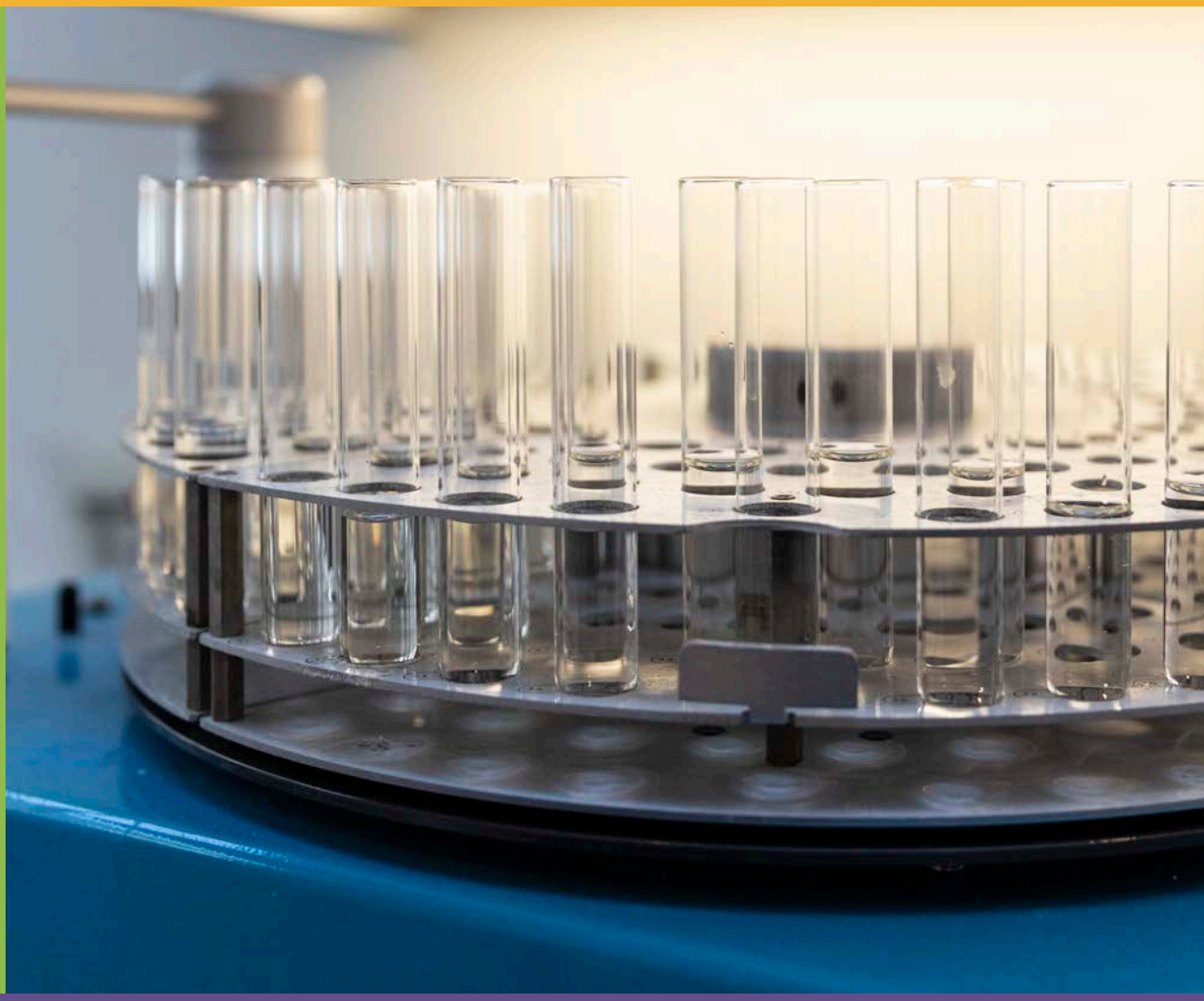


Annual Report 2022

Cleaning and restoring water resources for our communities

LOTT™ Clean Water Alliance

LOTT's Performance in 2022

Each year, LOTT compares our performance with 10 key performance objectives and 20 priority activities identified in the Strategic Plan. The plan spans the 2019-2024 planning period, and can be found in full at www.lottcleanwater.org. For 2022, LOTT met all performance objectives and made progress on priorities in the six-year work plan.

Objective 1 Achieve permit compliance

LOTT met 99% of all water quality permit requirements for wastewater treatment at the Budd Inlet Treatment Plant. These requirements include strict discharge limits April through October for both nitrogen and biochemical oxygen demand. LOTT is proud to report that there were no violations for these water quality permit requirements, which are measured two ways – average concentrations and total pounds discharged to Budd Inlet. LOTT also met all water quality permit requirements related to Class A reclaimed water production at the Budd Inlet Reclaimed Water Plant, with the exception of one total coliform exceedance and one sampling error. The Martin Way Reclaimed Water Plant also met nearly all water quality permit requirements, noting one exceedance in total coliform, one in turbidity, and one sampling error.

Permit compliance

Zero *instances where limits were exceeded for total amount of pollutant discharged to Budd Inlet*

Most other treatment plants that discharge to Puget Sound do not have strict discharge limits for nutrients. A new Puget Sound Nutrient General Permit issued by the Department of Ecology went into effect in 2022, requiring 58 treatment plants discharging to Puget Sound to evaluate options to reduce nutrient loading to the Sound. Since LOTT has been conducting nutrient removal for nearly three decades, the Budd Inlet Treatment Plant was spotlighted as a successful example of high-level treatment. For LOTT, the General Permit adds a nutrient removal metric, specifying a loading limit of 243,000 pounds of total inorganic nitrogen annually. In 2022, we measured a total of 99,335 pounds – only 41% of the annual load limit. This is an exceptional level of performance, attributable in part to a major upgrade in our biological nutrient removal system, which began in 2020 and is nearly complete.

LOTT received Silver Peak Performance awards from the National Association of Clean Water Agencies for 2021 performance at the Budd Inlet Treatment Plant, Budd Inlet Reclaimed Water Plant, and the Martin Way Reclaimed Water Plant. LOTT was also recognized with a national Utility of the Future Today award for being a forward-thinking, innovative, resilient utility that provides value-added services to our communities.

Permit Compliance

Budd Inlet Treatment Plant

Type	Discharge Limits*	Performance
Biochemical Oxygen Demand (BOD)	7 mg/L 671 lbs/day	2.85 mg/L 212 lbs/day
Total Suspended Solids (TSS)	30 mg/L 5265 lbs/day	3.54 mg/L 262 lbs/day
Total Inorganic Nitrogen (TIN)	3 mg/L 288 lbs/day	0.51 mg/L 36 lbs/day
Fecal Coliform Bacteria	200/100 mL	9.25/100 mL

* Average monthly discharge limits for summer season June-September

Budd Inlet Reclaimed Water Plant

Type	Discharge Limits	Performance
Total Nitrate	10 mg/L	0.39 mg/L
Turbidity	2-5 NTU	0.35-0.72 NTU
Total Coliform Bacteria	< 23 MPN/ 100 mL	0.02 MPN/ 100 mL

Martin Way Reclaimed Water Plant

Type	Discharge Limits	Performance
Biochemical Oxygen Demand	20 mg/L	2.00 mg/L
Total Suspended Solids	30 mg/L	0.16 mg/L
Total Nitrogen	10 mg/L	2.93 mg/L
Turbidity	0.2-0.5 NTU	0.04-0.22 NTU
Total Coliform Bacteria	< 23 MPN/ 100 mL	.58 MPN/ 100 mL

Objective 2

Avoid combined sewer overflows (CSOs) into Budd Inlet, with no more than one occurring annually

Combined sewer overflows
Zero
since 2009

CSOs refer to discharge of wastewater from LOTT's emergency Fiddlehead outfall due to overloading of the treatment system during major rain events. There were no CSOs in 2022, even during extreme high flow events such as one in early January that lasted seven hours with peak flows exceeding a rate of 64 million gallons a day. Operations staff followed high flow protocols and successfully managed these rain events by filling equalization storage basins and carefully metering the water back into the treatment process as the rains subsided. Maintenance, Control Systems, and Environmental Compliance staff supported their efforts by keeping our facilities, equipment, and processes running properly.

Volume of Wastewater Treated*

Budd Inlet Treatment Plant	2020	2021	2022
Daily Average Flow	11.41	12.38	12.30
Minimum Monthly Average	9.14	9.08	9.51
Maximum Monthly Average	18.68	18.53	18.64
Peak Flow	32.72	45.05	64.54
Reclaimed Water Daily Average	0.50	0.60	0.56
Martin Way Reclaimed Water Plant			
Daily Average Flow	1.43	1.38	1.36
Reclaimed Water Daily Average	1.16	1.14	1.09

* Million gallons per day

Sanitary sewer overflows (SSOs) differ from CSOs; they are spills that occur in city collection systems occasionally throughout the year. Though these spills generally involve infrastructure that is not owned or managed by LOTT, reporting of SSOs is required under LOTT's discharge permit.

Objective 3

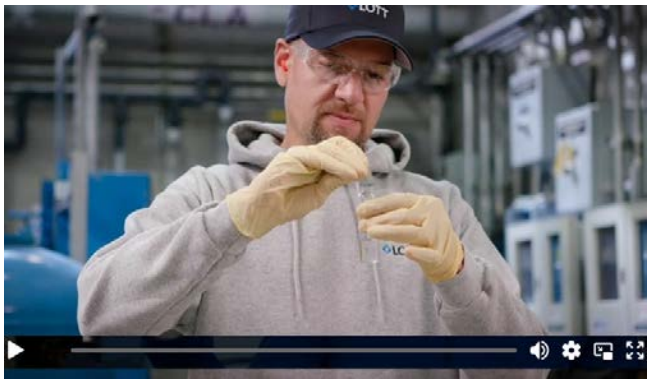
Engage the community proactively through public education, outreach, and involvement efforts

School program
1,416
participants

Tours
260
participants

Public engagement increased during 2022 as COVID-19 conditions eased and LOTT returned to routine operations. School groups attended virtual field trips through the spring. By the end of June, both the WET Science Center and the East Bay Plaza reopened to the public for regular hours. By the fall, in-person school field trips, tours of the treatment plant, and Saturday community partner programs began again.

Monthly Board meetings were adapted to a hybrid format in June to allow the public to attend in-person or remotely. By November, audio-visual systems were improved to allow for a fully functional hybrid meeting in which Board members and staff could attend either remotely or in person.



Extensive outreach was conducted to share results of LOTT's Reclaimed Water Infiltration Study with community groups and the public. These efforts included providing numerous presentations to community groups, completing a series of fact sheets, conducting an online open house and feedback survey, and producing a video. Presentations and outreach about LOTT's master planning effort began in 2022.

Reclaimed water produced
593
million gallons
Biosolids generated
9,465
wet tons
Energy generated
683,107
kilowatt hours

Objective 4 — Manage and utilize wastewater as a source of renewable resources

While the primary function of the Budd Inlet Treatment Plant is to treat and clean wastewater, it also recovers resources, including reclaimed water, biosolids, and methane gas. Class B biosolids are trucked to eastern Washington to be used as a soil amendment on fallow dryland wheat fields. The cogeneration system produces both heat energy and electricity from methane, saving more than $49,000 in energy costs last year. In 2022, LOTT produced an average of 1.65 million gallons of Class A reclaimed water each day. This reclaimed water was used for water features, streetscapes, irrigating parks and the Tumwater Valley Golf Course, and replenishing groundwater at LOTT's Hawks Prairie Recharge Basins and at the cities of Lacey and Olympia's Woodland Creek Groundwater Recharge Facility. By replenishing groundwater at that location, the cities retain the right to withdraw water in other locations to meet water supply needs. LOTT completed a multi-year scientific study to examine potential risks from residual chemicals in reclaimed water. Study findings indicated that the use of reclaimed water for groundwater replenishment is safe. This major research study was selected for a National Environmental Achievement Award from the National Association of Clean Water Agencies.

Objective 5 — Utilize a formal process to evaluate, optimize, prioritize, and fund infrastructure needs

Formal process utilized **Yes**

Progress on the multi-phase master planning effort continued. Phase 1 work, completed previously, had identified capital projects necessary to sustain the Budd Inlet Treatment Plant through 2050. This information was used in 2022 to bring the long-term capital improvements plan up to date and inform the biennial budget process. The 2023-2024 Budget and Capital Improvements Plan was approved by the LOTT Board of Directors in October. Phase 2 master planning work continued with evaluation of alternatives to meet future wastewater system capacity needs and refine long-term management strategies for the future. A draft master plan update was completed, and public outreach began prior to year's end.

Objective 6 — Complete capital projects necessary to effectively and reliably sustain existing infrastructure, build new capacity, and meet LOTT's mission

At the Budd Inlet Treatment Plant, construction of LOTT's second generation nutrient removal system continued, remaining ahead of schedule and under budget. Milestones included starting up two completed treatment trains, and installing piping, diffusers, mixing systems, and pumps for the remaining three trains. Construction of a new mechanical/electrical building was also completed. This complex work took place in the heart of the plant and was carefully sequenced to ensure effective treatment of wastewater could continue without disruption during construction. The new treatment trains are proving highly effective at removing nutrients from wastewater – greatly exceeding expectations.

Major Capital Projects

Project	Status
Biological Process Improvements: Phase 2	100% Constructed
Budd Inlet Treatment Plant Mechanical Improvements	80% Constructed
Sludge Thickener Improvements	100% Designed
Security Improvements: Budd Inlet Treatment Plant Fencing	100% Constructed
Collection System Piping Rehabilitation: Phase 2	100% Designed
Digester System Improvements: Phase 1	60% Constructed

Also at the Budd Inlet Treatment Plant, mechanical improvements addressed several plant systems, and the first phase of a project to upgrade plant digesters began with a microaeration system, improved life safety systems, and new heating, ventilation, and cooling for the entire digester building. An emergency project was completed to find and repair a large leaking water line. Offsite, a collection system rehabilitation project was completed, including coating 15 manholes and lining 11 major interceptor pipelines.

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Objective 7 — Manage utility finances in an economical, responsible, efficient, and sustainable manner

LOTT monthly rates
Below
regional average

Higher than normal inflation led to increased costs in both the operating and capital budgets. While some measures of annual inflation were near 10%, LOTT's long-term approach to rate setting allowed the utility to avoid a major, unplanned jump in rates. Results of an informal survey show LOTT rates remain lower than average. LOTT was also awarded a $10 million low interest loan from the Public Works Trust Fund to fund a portion of the Digester System Improvements project.

Objective 8 — Achieve an annual state audit that is free of findings

Annual state audit
Zero
findings

LOTT's annual state audit was free of findings, and has been since the utility became an independent entity in 2001. LOTT submitted its 2021 Annual Comprehensive Finance Report to the Government Finance Officers Association and believes it meets the Certificate of Achievement Program's requirements. If awarded, it would be the 15th consecutive year receiving the award.

Objective 9 — Maintain an environment in which no more than 4% of staff voluntarily leave for similar work opportunities annually

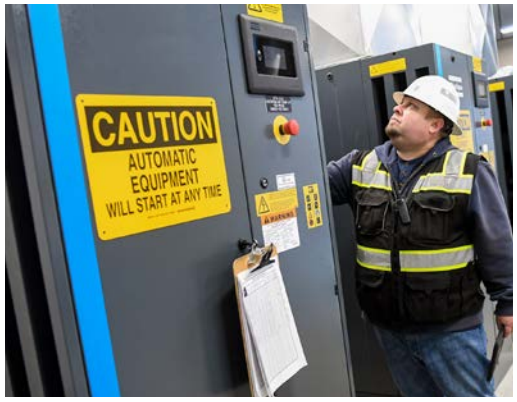
Employee retention
4%
voluntary exits

LOTT's focus on innovation, professional development, and employee wellness helps the organization remain a workplace of choice. A continued focus on growing future leaders from within allowed numerous staff members to step into new roles and responsibilities, including the role of Operations & Facilities Director. LOTT effectively prepared for retirement of the Executive Director at the end of the year. As established by a comprehensive succession plan, the incoming Executive Director gradually assumed responsibilities over the year to allow for a smooth leadership transition. In addition, LOTT management worked with the local labor union to successfully negotiate a new collective bargaining agreement for 2023-2026.

Objective 10 — Maintain a safe work environment, achieving a safety experience rating at or below the industry standard of 1.0

Workplace safety
0.89
experience rating

The Washington State Department of Labor & Industries experience rating defines the industry standard for safety. A utility's rating is calculated by comparing Workers' Compensation claims to the levels typical of our industry. The excellent rating indicates our proactive safety program is working.



Security continued to be a high priority. Improvements included completing fencing upgrades around the Budd Inlet Treatment Plant, East Bay Plaza, and other facilities. These upgrades are helping to deter intrusions and safeguard these facilities.

As COVID-19 conditions eased in 2022, staff who had been working remotely transitioned back to onsite work, with protocols in place to protect staff from the spread of illness. LOTT focused on employee health with 15 wellness campaigns and was recognized with the WellCity award.

Work Plan Priorities 2019-2024

The 2019-2024 Strategic Plan includes an Internal Work Plan to guide organizational development, improve the way the utility does business, and keep LOTT agile and prepared for the future. The work plan identifies a list of actions related to six focus areas. The highest priority activities to be completed within the six-year planning period are included in the following table, along with a summary of their status. Additional information can be found in the 2019-2024 Strategic Plan at www.lottcleanwater.org.

Priority Activities	Status
Emergency Preparedness	
Establish a specific emergency response structure	**Done**
Assign staff to primary and back-up roles within the response structure	**Nearly Done**
Develop response plans for a variety of emergency scenarios	**In Process**
Knowledge Management	
Complete succession planning for critical positions	**Ongoing**
Establish a strategic training program for apprenticeships and Operator advancement	**Done**
Complete organizational development work for the Control Systems work group	**Done**
Human Resources	
Complete a staffing and organizational assessment for the Operations work group	**Done**
Further develop LOTT's formal Human Resources program	**In Process**
Continue to evaluate and optimize staffing resources	**Ongoing**
Information Technology	
Conduct a network assessment	**Done**
Conduct a system security assessment	**In Process**
Complete an IT disaster recovery plan	**In Process**
Complete an assessment of LOTT's current MAX control system	**In Process**
Address priority needs identified in the system assessments	**Ongoing**

Priority Activities	Status

Capital Planning

Refine and update the new staffing model as a tool for projecting CIP related staffing requirements . . . . . **Ongoing**

Harness MainSaver data to prioritize asset management CIP projects . . . . . **Ongoing**

Planning for Emerging Issues

Complete a master planning effort in two phases: the first to establish a long-range plan for the Budd Inlet Treatment Plant and the second to update LOTT's plan for overall system capacity . . . . . **Nearly Done**

Develop step-by-step procedures in coordination with the City of Olympia for responding to surface flooding that could convey floodwaters into the combined storm/sewer system . . . . . **Done**

Establish LOTT's baseline energy usage and greenhouse gas emissions for use in tracking future reductions . . . . . **Done**

Encourage community conversations on results of the Reclaimed Water Infiltration Study, future levels of treatment and uses of reclaimed water, and broader water management issues . . . . . **Done**

Reassess and adjust monthly service fees and connection fees for both residential and commercial customers as a result of the cost of service study findings, and propose associated updates to LOTT's Intergovernmental Agreement . . . . . **In Process**

LOTT Board of Directors 2022

Carolyn Cox
City of Lacey

Lisa Parshley
City of Olympia

Leatta Dahlhoff
City of Tumwater

Tye Menser
Thurston County

Your Wastewater Utility

The LOTT Clean Water Alliance is a non-profit corporation responsible for wastewater treatment in the urban areas of north Thurston County, Washington. L-O-T-T stands for the four government partners – the cities of Lacey, Olympia, and Tumwater, and Thurston County – that formed and govern the regional utility.

In 2022, LOTT met all our performance objectives for the year, and made great progress on a major upgrade at the Budd Inlet Treatment Plant. Throughout the year, LOTT's dedicated staff remained hard at work protecting water quality and providing essential public services.

119,790 people served

13.7 million gallons of wastewater treated per day

1.65 million gallons of reclaimed water produced per day

87 staff members

3 treatment plants

25,202 laboratory tests

106 active contracts

6,325 work orders

606 IT requests

5,213 education program participants

LOTT's Mission

To preserve and protect public health and the environment by cleaning and restoring water resources for our communities.

LOTT™ Clean Water Alliance

500 Adams Street NE, Olympia, WA 98501 • www.lottcleanwater.org