



2015 Water Quality & Annual Business Report

Our Water. Our Community. Our Future

Dear Lakewood Water District Customers,

It's been an eventful year in the "wild world of water"...from braving a number of wind storms (with no one out of water!) to getting one of a handful of grants from the Federal Emergency Management Agency (FEMA) for the seismic retrofitting of our tanks to be ready to safely deliver your water to you in any eventuality. Not only did FEMA only give out a very few grants this year, but to have ours be for \$1M was significant...and we're in the running for another \$1M grant for next year to continue our seismic upgrades project...they've accepted our application.

There have been some other milestones this year, with the passing of key water legislation that had been "in the fight" for two and three years and more. We were one of the first to jump on board with Pierce County on the Region 5 All Hazard Mitigation Plan 2015-2020, which is what made us eligible for the FEMA grant, and we put our 80-pound proposal "hat" in the ring to acquire the JBLM water system if they do indeed privatize their utilities.

On the very sad side of life, we lost a beloved friend and veteran of 27 years, Dick Young, just this past April. Dick wore many "hats" during his 27 years of service to the District, from Meter Reader to Construction Crew to Construction Inspector to our "Locator Extraordinaire"...with his big heart, big smile, hearty laugh, and vintage overalls. We miss him, really miss him, but are grateful for the time we had with him and all he brought to our team.



Dick Young, 1962-2016

Most recently, we're sure you've been introduced to what the State Department of Health is calling the "New Four-letter Word in Drinking Water"—lead.

You may have seen our quite technical epistle in our most recent newsletter on this subject. Flint, Michigan we are not. Thank goodness. And yet we have had our challenges right here at home, in our schools. The good news is, from all reports we've received, the lead levels found in our local schools have been from the plumbing connections and fittings and not the water source, i.e., your-water-system truly.

We are in no way trying to down-play the growing public concern over the level of lead in drinking water. We also do not want to over-dramatize or traumatize the matter. We here at Lakewood Water District like good, honest, credible, solid facts. And some of the facts are...

- We have re-examined our historical data and methodology for complying with the Lead and Copper Rule (LCR) to be sure we are taking all necessary steps to ensure the health and wellbeing of you, our customers.
- Since the advent of the LCR, the District has been diligent in following its customer tap lead and copper sampling protocol. Since 2001, the highest lead test result from a customer tap is 4 parts per billion with the sample average less than 2 parts per billion, and with an Action Level (the level at which you need to take action) of 15 parts per billion.
- Your District was the first utility in the state of Washington to receive waivers from the State Department of Health reducing

testing level requirements due to our many years of consistent, good testing results.

- Lead service lines—one of the main culprits contributing to lead in drinking water—are rare in Washington state...and Lakewood Water District has none.
- Another main contributor to lead leaching into the water is corrosive water...and Lakewood Water District has non-corrosive water.
- Water is not the primary source of lead exposure; it ranks far behind lead-based paint, dust, and contaminated soil.
- And again, elevated lead levels found in some local schools have been tracked down primarily to lead fixtures versus the source of the water supply.

So, even after a very eventful year and in the midst of yet another, the District remains steadfast in its commitment to provide you with the highest quality water possible, for the lowest price practical.

Have a great summer and enjoy your good water.

Your Board of Commissioners



(left to right) **Larry Ghilarducci**, President; **John Korsmo**, Vice President; **Greg Rediske**, Secretary



The source of your water

The District's sole source of water is from underground aquifers, water-bearing strata of permeable rock, sand, or gravel. No surface water, desalinated water, or recycled water is used. The District has a total of 30 active wells, which together provide a maximum production capacity of approximately 30 million gallons per day (mgd), with a total water right capacity to pump up to over 60+ mgd.

The District has four aquifers, A, C, E, and G, with A being the shallowest and G being the deepest. Aquifers are generally of glacial origin and tend to be coarse-grained and highly permeable. There are three Aquitards, B, D, and F, layered between the four aquifers. Aquitards are strata of finer-grained and less permeable layers and usually of interglacial origin. The District's aquitards are made up of sediments deposited by the ancestral Nisqually and Puyallup rivers. Historical sedimentation is not unlike the alluvium presently being deposited by these rivers today.

Recharge (replenishing) of the aquifers comes from local rainfall in the Clover/Chambers drainage basin. The District's deepest aquifers, E and G, will most likely receive some additional, deep underflow ranging from the south Puyallup/Graham area westward to Puget Sound.

For your health

Important Information from the Environmental Protection Agency (EPA)

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

Some may be more vulnerable to contaminants in drinking water than the general population. The following can be particularly at risk of infection: the immuno-compromised, such as those with cancer undergoing chemotherapy; those having had organ transplants, HIV/AIDS, or other immune system disorders; and some elderly and infants. These should seek advice about drinking water from their healthcare providers.

More information about contaminants and potential health effects, and EPA/CDC guidelines on appropriate means to lessen the risk for infections by cryptosporidium and microbial contaminants, is available from the Safe Drinking Water Hotline at 1.800.426.4791.



Zac takes one of the 19 weekly bacteriological samples.

Monitoring our lakes and streams

We consistently keep an eye on the levels of select lakes and streams in our service area.

The lake levels are indicators of the water table level in the Steilacoom Gravel deposited by the receding Vashon Glacier. Water in the gravel also leaks through the Vashon till or springs out above the till, adding to the flows of the area's major springs such as Ponce de Leon, Chambers, Garrison, and Sequelichew. The District collects monthly data from gauges on Ponce de Leon and on five lakes (American, Gravelly, Hidden, Louise, and Waughop). This information, together with the data collected from the Pierce County Stream Team, is vital to the District's Aquifer Management Program as well as the Tacoma-Pierce County Health Department's long-term Groundwater Monitoring Program.

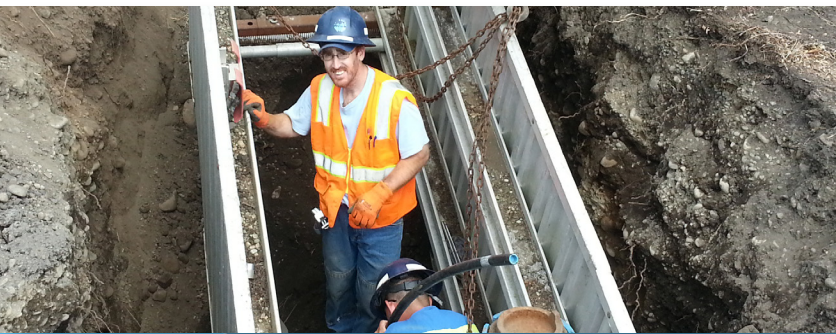
Here **Jake**, a water quality specialist for the Lakewood Water District, measures the levels at Lake Waughop.



District R&R Projects 2015:

Sound Transit Rail Relocation Phase 3, Pt. Defiance Bypass

Pape & Sons started work on this project on January 20, 2015, installing 185 feet of new steel casing at or near the edge of the right-of-way through the Sound Transit corridor at three different locations and replacing the existing mains with newer, larger mains to meet the future demands of the District. CHS Engineers provided design and engineering, with an Engineer's Estimate of \$245K. Pape & Sons bid the project at \$321,200.00. The work was completed March 3, 2015, several weeks ahead of schedule and slightly over budget due to changes made by Sound Transit.



Jake and Seth keep safety first, working in a trench box well below ground level.

Seattle Avenue Crossing at I-5

This project will utilize an existing Pierce County pipeline casing, saving the cost of boring another. The existing lines will be removed, and the sewer line will be reinstalled with a welded line. Two new 12-inch water mains will be installed, connecting with the main installed in the Springbrook area in 2012; this project will also tie in to the City/LWD Bridgeport Way project.

The 8-inch AC main under I-5 will be replaced with two 12-inch welded PVC mains on Pacific Highway from Seattle Avenue to Bridgeport. In total, the project will install 1700 linear feet of 16-inch ductile iron (DI) pipe, 660 linear feet of 12-inch welded PVC main, and upsize the Pierce County sewer line crossing under I-5. CHS Engineers provided design and engineering, with an Engineer's Estimate of \$1.2M. R. L. Alia Company out of Renton, Washington was awarded the project at \$1,053,375. Construction began in October 2015. Mains were placed along Pacific Highway, but a high water table stopped the work in the casing under I-5. This work resumed in May 2016 and is anticipated to be completed by the first week in July.

Steilacoom Boulevard Replacement and Rehabilitation Project

This project includes abandoning in place the AC mains and upsizing the existing main with 3,363 linear feet of new 16-inch ductile iron main. This will increase the flow in our 455 Pressure Zone and increase the fire flows throughout this area and a great deal of the District to the east of Gravelly Lake Drive. RH2 Engineering designed the project, with an Engineer's Estimate of \$656K. Pape & Sons Inc. was awarded the contract at \$646K. Work began March 2 and was completed by the end of April, ahead of schedule and within budget.



Wisteria 20-inch Transmission Main Extension

This project was designed and engineered in 2014 by Parametrix Engineers, with an Engineer's Estimate of \$350K. This project consisted of extending the 20-inch transmission main by 1115 linear feet from the end of the Orient Street Crossing under I-5 to the wholesale transmission main in South Tacoma Way. Waunch Construction & Trucking was awarded the project for \$276K. Construction started February 3 and was completed March 3, 2015, ahead of schedule and below budget.



Contactors lower 20-inch pipe for water main installation.

Veterans Drive Phase 4

This project focused on the area between Vernon and Nottingham Avenue SW, including replacement of mains on American and Edgewood Avenues SW. The project replaced the existing AC mains with 1610 linear feet of new 8-inch DI main and 1550 linear feet of 12-inch DI main. This completed the Veterans Drive upgrades for the time being; additional work will be assessed in the future. BHC Engineers was the design engineer for the project, with an Engineer's Estimate of \$679. The project went out to bid July 6, 2015. The contract was awarded to South Bay Excavating of Olympia, Washington in late July at \$651K. Construction began in early August and was completed in late November, on time and under budget.

Joint Base Lewis McChord (JBLM) Utilities Privatization Request for Proposals

In April 2015, the government released a two-part Request for Proposal (RFP) to take over the supply, maintenance, and operations of the utilities at JBLM—one for JBLM's electrical distribution system and another for the water and waste water systems.

LWD engaged in the water system proposal process with the approval and support of the Board of Commissioners and worked to complete the final proposal from April until December 15. This was an enormous endeavor requiring the assessment of the existing system, scheduling of system replacements, and upgrades over the life of the 50-year contract as well as estimations on staffing requirements based on the expected service level detailed in the RFP. Included in this effort were the design and pricing for the project as required by the government, as well as defining, designing, and pricing deficiencies that we determined would need to be addressed so we could operate the JBLM system with the same efficiency as we run our water system.

The District secured the assistance of long-time consultants Gray and Osborne, Inc. and Financial Consulting Solutions Group (FCSG) along with Meridian West, an experienced federal proposal writing group based out of Nevada. The proposal team, consisting of District staff and consultant staff, worked hard and efficiently as a collaborative team to meet the aggressive timeframe for this very large proposal. The proposal was completed and published in advance of the deadline, a product we believe to be of the highest quality, not only in concept but in innovative design and solutions to the issues addressed in the RFP.

The Federal Government accepted proposals from several entities both private and public. The proposal grants the government 300 days to review the proposals. From that point, the Federal Government can open negotiations with one or more proposers to attempt to reach an agreement for the term of the contract. We have been told the qualifying of the proposal and the completion of the negotiations can take between 1-2 years prior to an official award of the contract.

The proposal team, individually and collectively, "left it all on the table" and believe we generated a strong, well thought out proposal designed to benefit our rate-payers, our community, and our local military forces in providing high-quality, cost-effective management of the government's water system during the 50-year contract.



Christie, Ian, David, Randy, and Dave served as the District's JBLM Proposal Team.

Seismic Tank Retrofits and Upgrades—FEMA Mitigation Grant

In 2014, the District was awarded a \$1,000,000 Hazard Mitigation Grant from FEMA to conduct an engineering study to determine the potential survivability of the District's storage tanks in case of a catastrophic seismic event and fund necessary retrofits. The \$1M grant consisted of 12.5 percent from the District (\$12.5K), 12.5 percent from the State Department of Health, and \$750K from FEMA.

The focus of the study was to identify what improvements or additions to specific tanks must be made to insure they meet current seismic building code standards, enhance ride-through capability during a major earthquake, and determine which of the improvements can be accomplished within the scope of the \$1,000,000 grant. The engineering study started in the fall of 2014.

The base project included seismic retrofits on seven tanks—104th & Bridgeport, American Lake Gardens, Farwest, Oakbrook, Philip (formerly Western State Tank), Steilacoom Boulevard, and Washington Boulevard—and seismic adapters and mechanical work at the Farwest Tank. The base bid for this had an Engineer's Estimate of \$740K. There were three additional optional schedules of work, Schedules A, B, and C.

Schedule A was for seismic adapters and foundation and mechanical work on the Steilacoom Boulevard Tank. Schedule B was for mechanical work at Oakbrook, and Schedule C was for the expansion of the foundation of the Oakbrook Tank.

The contract was awarded to T Bailey of Anacortes, Washington in late July 2015 at a base bid of \$448K. The project is expected to be completed by the first part of June.

District R&R Projects 2016:

South Tacoma Way Project from 512 to 96th Street

This project is being done in conjunction with the City of Lakewood in a continuing joint effort to minimize the impacts of projects on our roads and customers and provide cost-savings for our ratepayers. The District's portion of this project will include replacing the existing 8-inch AC mains with 12-inch DI pipe on both sides of South Tacoma Way. Design was completed with the assistance of the City of Lakewood design engineers and the District's Consultant Engineer. The work was anticipated to go to bid in July 2015 after the US Open at Chambers Bay Golf Course but was delayed due to City permitting and funding issues. The project went out to bid in April 2016, and work began May 9 by Pape & Sons, Inc. Water upgrades are expected to be completed in October.

Bridgeport Way I-5 to JBLM (San Francisco Street)

This project was designed by City of Lakewood engineers in conjunction with the District's Consultant Engineer. This will connect to the Springbrook Project completed in 2012, as well as connect in to the I-5 Crossing at Seattle Avenue Project. Estimated construction costs for the District are approximately \$300K. This project was anticipated to go to bid in June or July of 2015 but was delayed due to City permitting and funding issues. The project was awarded to contractor Johansen Construction in March 2016. The water work is anticipated to be complete by mid-June with the entire project scheduled to be completed in September.

Seth, Eric, & Chris install a water service on Tower Road.





Our staff here to serve you

Our staff is a dedicated, hard-working, multi-talented combination of seasoned veterans and young professionals with over 260 years of collective service to the customers of Lakewood Water District and our community. As a united team, we genuinely care about our customers and are committed to our mission to **provide our customers with water service that meets or exceeds all water quality standards, maintaining policies and practices that benefit the health and welfare of the community.**

Water Use Efficiency Rule

The District far exceeded its goal of saving one-quarter of 1 percent of water over the 2015 reporting period with an annual decrease of 0.87 percent. The District continues to be compliant with all facets of the Water Use Efficiency Rule except unaccounted-for water and only since 2010. The Rule requires municipal water suppliers to maintain a standard of having no more than 10 percent of water loss (the difference between water pumped and water sold). Once as high as 15 percent in 2012, the District's lost water was down to 11.56 percent in 2015 and presently at 10.69 percent.

The continued success of our AMI Meter Replacement, 50-year R&R, and expanded Leak Detection Programs should allow us to meet our WUE goals per the State Department of Health within the next reporting period.



Jodi, Vanessa, Sharon, and David, our Finance Director, keep District finances protected and strong.

Another clean audit...20 years and counting

For the 20th year in a row, the State Auditor's Office completed its annual review and again awarded the District a clean audit. The SAO's official Accountability Audit and Financial Statement Audit Reports noted no deficiencies and complimented the District on its strong financial policies, precise accounting internal controls, and competent and cooperative staff.

We do work hard each day to deliver the highest level of integrity, accuracy, and regulatory compliance through exceptional financial and compliance practices. The District Commissioners and staff are proud of our record of consistently clean audits and are committed to continuing our efforts to maintain our financial stability, so we can serve you most efficiently.

2015 Water Quality Sampling/Monitoring Report

Your water meets all federal, state, and local quality standards, ensuring that you enjoy safe, clean, potable water. Not listed are 63 volatile organic chemicals for which we tested, all resulting in either Not Detected (ND) or well below the MCL. The number and frequency of non-bacteriological samples are determined by the WQMR (Water Quality Monitoring Report) issued by the Washington State Department of Health.

Sample type	Samples taken per year	Last sample year	Next sample year	EPA/DOH MCL (max level allowed)	LWD highest level detected	LWD lowest level detected	Number of samples over MCL	MCLG	Typical sources
Arsenic ¹	DOH WQMR List	2015	TBD	10 ppb	5 ppb	<1 ppb	0	10 ppb	Erosion of natural deposits
Asbestos	1 every 9 yrs	2011	TBD	--	--	--	--	--	Friable fiber
Copper	30 every 3 yrs	2014	2017	1.3 ppm	0.72 ppm	<.02 ppm	0	1.3 ppm	Household plumbing
Fecal Colliform	840 per yr	2015	2016	0	ND	ND	0	0	Human and animal fecal waste
Total Colliform	840 per yr	2015	2016	<5% positive	ND	ND	0	0	Found throughout the environment
Haloacetic Acids	16 per yr ²	2015	2016	60 ppb	ND	0.0 ppb	0	0	Disinfectant by-product
Lead ³	30 every 3 yrs	2014	2017	15 ppb	5 ppb	<1 ppb	0	0	Household plumbing
Nitrates	22 per yr	2015	2016	10 ppm	2.3 ppm	<0.2 ppm	0	0	Erosion of natural deposits
Total Trihalomethanes	2 per yr ²	2015	2016	80 ppb	5.5 ppb	0.0 ppb	0	0	Disinfectant by-product

Our testing resulted in no violations

The chart above only reflects a portion of the testing LWD performs. Complete Source Water Assessment (testing result information) is available at the District office. Table Definitions:

- MCL—Maximum Contaminant Level. The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best treatment technology available.
- MCLG—Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- ND—Not Detected
- ppm—parts per million, or milligrams per liter (mg/L)
- ppb—parts per billion, or micrograms per liter (ug/L)
- TBD = To Be Determined

One part per million corresponds to one minute in two years or a single penny in \$10,000.
 One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

¹Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low levels of arsenic. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

²The Disinfectant Byproduct Rule went into effect September 1, 2012, requiring 4 samples taken per quarter versus 4 per year.

³If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lakewood Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.



If you would like to learn more about our water, or have questions regarding water quality or what you can do to help keep our water supply clean and safe, please contact us at Lakewood Water District, or any of the following:

Lakewood Water District
11900 Gravelly Lake Drive SW
Lakewood, WA 98499
www.lakewood-water-dist.org, 253.588.4423

Randall M. Black, General Manager
Email: rblack@lakewood-water-dist.org

Washington State Department of Health (WDOH)
www.doh.wa.gov/ehp/dw

Environmental Protection Agency (EPA)
www.epa.gov/safewater

Safe Drinking Water Hotline
800.426.4791, email: hotline-sdwa@epa.gov

To request additional copies of this year's Water Quality & Annual Business Report, please contact the District office at 253.588.4423 or csweb@lakewood-water-dist.org.

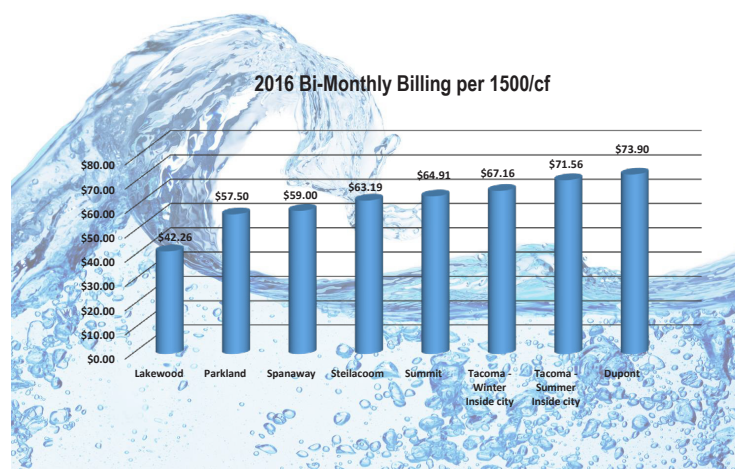
You can also access this report on our website at www.lakewood-water-dist.org.



PRSRST STD
U.S. POSTAGE
PAID
Permit #1
Seattle, WA

P.O. BOX 99729
LAKEWOOD, WA 98496-0729

Comparisons of Lakewood Water District rates with surrounding utilities



LWD Customer Drew and son Ben enjoy playing in the water.

Lakewood Water District Balance Sheet year ended December 31, 2015 (unaudited)

Assets	(S) Dollar amounts
Total Net Utility Plant	66,163,325
Cash	3,936,349
Other Current Accrued Assets	1,351,388
Total Current Assets	5,287,737
Deferred Outflows	263,531
Total Assets	71,714,593
Current Liabilities	
Current Liabilities	3,070,392
Other Liabilities	1,869,368
Contributions in Aid of Construction	-
Bonds Payable	19,645,193
Unappropriated Retained Earnings	46,841,372
Deferred Inflows	288,268
Total Liabilities & Equity	71,714,593