

2012 Water Quality & Annual Business Report



Our Water.
Our Community.
Our Future.



A Message from Your Board of Commissioners

You may notice a new picture below, and not see one in that lineup that's been there since this report's beginning. Our beloved Mr. Bill Philip (right), known as "Mr. Tacoma" to many in the Puget Sound Area, retired as Vice President of the Lakewood Water District Board of Commissioners last November, resigning his post as Commissioner after serving faithfully and with great dedication for over 44 years. Mr. Philip's sharp business sense, financial savvy, and expertise have helped guide and direct the District through these many years. His integrity and genuine care and concern for the District, its customers, and staff have engendered great respect and admiration, and we shall all surely miss him. Please join us in wishing him all good things in his retirement.

It is now our pleasure to introduce to you Mr. Greg Rediske, the gentleman who offered to step into some very large shoes and complete Mr. Philip's final term of office; he is running for his first full term as your Commissioner this fall. Mr. Rediske is a long-time resident and respected businessman in the Lakewood area, very active and well regarded in our community and committed to the District and you, its customers. We are thankful to have Mr. Rediske as a vital member of our Lakewood Water District Board of Commissioners.



Bill Philip
Former Vice-President

Now to more serious matters.



Larry Ghilarducci
President

In last year's "Water Quality & Annual Business Report," the message from your Board of Commissioners dwelt at some length on the history of the District's water transmission facilities, beginning with its acquisition from the federal government in 1943 of the initial 41 miles of water mains and attached individual service lines and the construction of additional mains and lines as our service area expanded, resulting in our present system totaling 256 miles of mains and lines.

Also discussed was the composition of those mains beginning with the original asbestos cement (A/C) and cast iron mains and galvanized steel service lines; then in the 1970's until 1995, mostly polyvinyl chloride (PVC) mains with polyethylene (PE) lines; and from 1995, ductile iron mains with PE lines.

Sewer construction from 1978 to 1985 resulted in hundreds of broken A/C water mains and lines requiring repairs but also causing a substantial increase in our "leakage" (the difference between what we pump out of the ground and what we sell). Initially, to deal with these problems, we adopted a leak detection and system repair program; however, the program was not enough to solve the problem. So, in 1995, the District initiated a Water Main Replacement and Rehabilitation (R&R) Program and since has set aside an average of \$700,000 each year for replacement of old mains and their associated parts and pieces, including the original galvanized steel service lines, which are subject to corrosion over long periods of time. Despite these expenditures, 20 to 25 miles of the original mains installed before 1943 (some as early as the 1930's) are nearing the end of their useful lives; and the galvanized steel lines installed before the 1970's, as well as the couplings, bands, and clamps used for repair of the many main and line breaks during the sewer construction, are well beyond their service lives. In addition, the brittle A/C mains must be replaced to solve our "leakage" problem.

Our District has been blessed with low rates since its inception, in part due to the fact we have not had to make large capital outlays for our transmission system. We did not have to pay the federal government for the initial 41 miles of the system and, except for repairs and replacement, the extension of our system as our service area grew was paid for by developers. Unfortunately, no such "angels" exist to pay for the needed replacement of our system. We must generate the funds ourselves from operating revenue and, likely, borrowed funds. Necessarily, this will result in increased rates over time.

With the assistance of our financial and engineering consultants, and our staff, the Board is working to prepare a plan for replacing about 180 miles of mains and service lines. In today's dollars, the estimated cost is approximately \$1 million per mile. Obviously, we can't do it all at once, so the first task is to determine over what period of time it can be done feasibly at a cost bearable by the District and its customers. We are tentatively working with a model of 50 years. If we were to shorten the number of years significantly, the burden would fall more heavily on our present and near-future customers. By spreading the project out over more years, customers coming on board in the more distant future will also help shoulder the burden.

As we stated last year, we are being proactive in setting a schedule now to systematically perform the needed work before things wear out or break with potential damage to homes, businesses, and property.

Early this spring, we formed a Citizen's Advisory Group representing various sectors of our community. We educated them on the District's system and our replacement needs; and presented to them our tentative plan. We sought feedback from them...and listened. In turn, they will assist us in presenting the plan to all of our customers.

We are very sensitive to the fact that many of our customers are on limited budgets. Consequently, in our planning, every effort is being made to minimize the burden of rate increases while accomplishing the vital and necessary task of rebuilding our system. After all, part of our stated mission is to provide our customers with reliable, safe water service that meets or exceeds all water quality standards, and we fully intend to fulfill that mission.

We thank you for your continued support of your Lakewood Water District; we will definitely need your help in the days ahead to continue to keep our water system secure and reliable. Please stay tuned for the unveiling of our plan for Our Water...Our Community...Our Future

Most Sincerely,
Your Board of Commissioners

www.lakewood-water-dist.org



Our 50-Year R&R Program—Protecting Our Water, Our Community, & Our Future



Our water system (commonly referred to “infrastructure” in the water industry) has a need...and we have drafted a plan. As President Ghilarducci penned in the Board’s letter to the left, we need to replace the majority of our infrastructure (pipes, meters, parts, and pieces) in the next 50 years. Look at the map of our Lakewood Water District system boundaries [below and to the right of this article]...see all that “red”? That represents the old AC water main that needs to be replaced!

You may ask, “What are we going to do??” We’re glad you asked; because as we said, we have a plan. Our plan, simply stated, is to do just that—replace the majority of our water system—about 180 miles of predominantly AC pipe—in the next 50 years. The “how” of that includes a very aggressive 50-year R&R Program (Replacement & Rehabilitation), the details of which we are working on as we speak...and will be sharing with you in the days close ahead. We will do this by way of public meetings and presentations, notes on your bills, stand-alone stuffers with your bills, and perhaps a separate mailing; as well as articles in the next few editions of *The Pipeline* and in *The Patch*, *The Suburban Times*, and *The News Tribune*; and the venue most readily available to you—our District website at www.lakewood-water-dist.org. As we proceed, our website will be an interactive “headquarters” where you can receive the latest information, as well as ask questions and share your thoughts with us.

Because our water is so critical to our lives, our families, our community, and our future; protecting its safe, reliable delivery to you warrants the utmost diligence, vigilance, concern, and commitment. Therefore, we have “tapped” the most knowledgeable and capable of resources and team members in hewing out our plan, from the latest AWWA (American Water Works Association) industry standards to the expertise of experienced water-industry engineers and long-time financial consultants, to the sage wisdom of our Board of Commissioners and veteran staff, to a respected group of men and women directly representing you, our customers and our community—the CAG.



Meet the CAG...our Citizen's Advisory Group.

From left to right, Tommy & Fae Crabill, retired long-time owners of AA Meats; Susan Hart, Senior Tax Advisor, H&R Block Premium; Claudia Thomas, former City of Lakewood Mayor and Council Person; Paul Webb, retired Lakewood Fire Chief; Back row center, Dan Durr of First Western Properties; and Paul Wagemann, a Clover Park School District Board Director, Chairman of the City's Transportation Advisory Committee, and Lakewood YMCA board member. Not shown: Jeff Brown, President of Creoworks in Lakewood.

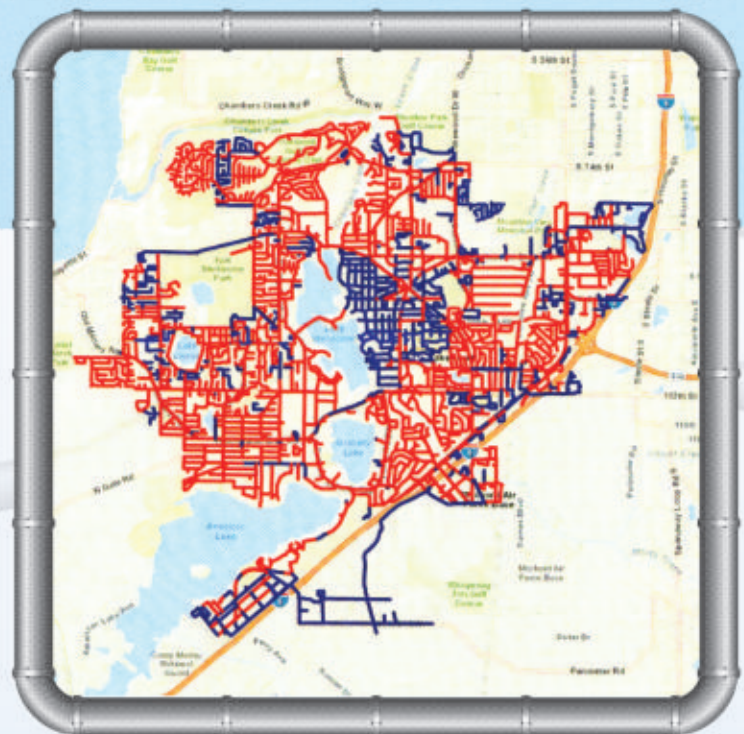
The District is most grateful to these men and women for their hours of tireless service over a number of weeks to become well educated on the District and its needs and to give valuable input as to how and when to meet those needs and communicate our plan simply but effectively to you, our customers. The CAG will continue to provide input and support as we proceed with the details of the R&R Program and our public communication and education plan.

Stay tuned for more details on our 50-year R&R Program, coming soon to your mailbox or a meeting or presentation near you.

GIS—Technology to Support Our Future

Geographic Information Systems (GIS) Technology describes a centralized and integrated approach through which to capture and store data and use that data to analyze and manage the District's infrastructure. The District's older water system map has gone through some significant changes with the transfer over to the GIS mapping system. The past year we have made significant gains in bringing up the accuracy of the GIS mapping model. We have been able to assign detailed information to much of our infrastructure, like meter information to all parcels and global position of some of those infrastructures using the District's Trimble GPS (Global Positioning System) data collection unit.

This new, valuable tool will help the District staff provide even better customer service and more accurate information more quickly to help expedite customers' needs and requests. And it will help us to better design and operate our water system to be able to more efficiently and securely deliver your safe, clean, reliable water to your homes each day.



Developer Extension Water Main Projects Completed by LWD



Kenworth Northwest Truck Dealership 325 feet of 8-inch water main replacement and upgrade along Chicago Avenue; 2 fire hydrants.

Harrison Prep Elementary of School Clover Park School District. Installed 1,728 feet of 8-inch and 115 feet of 6-inch water main; looped system; 6 fire hydrants; 3 services.

Olympic Moving & Storage Installed 879 feet of 8-inch and 289 feet of 6-inch water main; looped system; 2 services; 2 fire hydrants; 2 services.

City of Lakewood New Maintenance Shop Installed 408 feet of 8-inch water main through City property and metering for Maintenance Shop to the District's system; 1 new service.

Thorne Lane in Tillicum Roadway Widening 650 feet of 6-inch AC main upgraded to 8-inch ductile iron water main as part of a Camp Murray National Guard roadway widening project; re-plumbed 5 existing services.



10-inch Meter Exchange at Clover Park Technical College

Replaced a combo-meter involving 3 meters (10-inch, 8-inch, and 2-inch) installed in 1943 with one 10-inch compound meter; the old meter combination had been under registering by about 60%, causing a loss in revenue of approximately \$1,200.00 per billing cycle.

Water Use Efficiency Rule

The District met its goal of saving one-quarter of 1 percent of water this year. The District continues to be compliant with all facets of the Water Use Efficiency Rule except in the area of unaccounted for water, and only since 2010. Aggressive leak-detection measures have been taken to discover and repair leaks found in the system, beginning with the pro-active launching of a formal Leak Detection Program in 2007. Through the District's extensive Leak Detection Program, 51 leaks were found in 2012, and all have been repaired.

The District continues its determined pursuit of any and all leaks in its system. Meter testing and replacement as well as our launching of a 50-year R&R Program will be huge steps in the right direction. We believe both of these programs, in conjunction with our Leak Detection Program, will allow us to meet our WUE goals per the State Department of Health sooner than later.

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 Sequachew. 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.



Monitoring on Gravelly Lake.

District Capital and R&R Projects 2012 and 2013

2012—

Springbrook Water

Main Upgrade This new 16-inch water main begins in McChord Drive, from the Ponders Well site to Bridgeport Way, then northwest along Bridgeport Way from McChord Drive to San Francisco Avenue. The District received a Public Works Trust Fund Loan of \$777K at 0.5 percent interest for this \$1 million project. The project, engineered by Murray, Smith & Associates, was completed early and under budget by Pape & Sons Construction, Inc. of Gig Harbor, Washington prior to Thanksgiving of 2012.



Kendrick Street—111th Street South to Railroad Tracks: This project was completed by LWD crews in conjunction with a City of Lakewood Franchise Project, including 840 feet of 8-inch and 8 feet of 6-inch ductile iron pipe, with 15 services replaced, and 1 new and 1 relocated fire hydrant. This project cost \$73,000. While not budgeted, the District saved approximately 40 percent in restoration costs by taking this opportunity to replace the main while the City had the road open.

Veterans Drive Phase 2 This phase involved replacement of 1900 lineal feet of AC (asbestos concrete) mains with 12-inch and 8-inch ductile iron mains along Veterans Drive from Lakeholme Road SW to Alameda Avenue SW, including new hydrants, valves, and replacement water services. This \$260,000 project, engineered by CHS Engineers, was completed on time and within budget by Iversen & Sons, Inc., of Rochester, Washington.

2013—

Interstate 5 Crossing at Orient Street SW The District will extend its 30-inch steel casing at this I-5 crossing to the freeway right-of-way limits on both sides and replace the 10-inch main inside with a 24-inch main. The project is needed to provide the required water supply for the new Wholesale Water supply system. Kennedy/Jenks provided the engineering on this project with an Engineer's Estimate of \$570K. The project was awarded to Nordic Construction in March at the lowest-bid price of \$596,820.76. Construction will begin in the mid-to-late summer months when the water table will be most conducive to this type of construction.

Pine, Walnut, Langlow, North Streets R&R Project This project included the replacement of 2,400 lineal feet of AC main with ductile iron pipe, including new water services. RH2 provided the engineering, and Iversen & Sons of Rochester, Washington completed the project in April 2013, on time and under budget.

Veterans Drive R&R Project, Phase 3 This phase included the replacement of 2,900 lineal feet of AC main with 12-inch and 8-inch ductile iron pipe along Veterans Drive between Alameda Avenue SW to Dolly Madison and along Vernon Avenue. CHS Engineers provided the engineering, and the project was completed by Pape & Sons Construction, Inc. of Gig Harbor, Washington in June 2013, early and under budget.



← Our staff, in "LWD formation" to serve you.

Yet Another Clean Audit



If you happen to have a child or niece or nephew or grandchild that is 17 years old, we've been telling this same story since he or she was born! We hope you haven't grown weary of reading about our clean audits each year. Your Lakewood Water District does work hard each day to deliver the highest level of integrity, accuracy, and regulatory compliance through exceptional financial and compliance practices.

The State Auditor's Office has completed its annual review and again awarded the District a clean audit. The SAO's official Accountability Audit and Financial Statement Audit Reports note no deficiencies and compliment the District on its strong financial policies, precise accounting internal controls, and competent and cooperative staff. 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.

Lakewood Water District Balance Sheet

Year Ended December 31, 2012 (Unaudited)

ASSETS

Total Net Utility Plant	\$ 54,357,491
Cash	3,101,787
Other Current Accrued Assets	1,039,949
Total Current Assets	\$ 4,141,736
Deferred Debits	409,203

TOTAL ASSETS

\$ 58,908,430

CURRENT LIABILITIES & EQUITY

Current Liabilities	\$ 689,492
Deferred Credits	4,917
Contributions in Aid of Construction	15,066,467
Bonds Payable	13,817,823
Unappropriated Retained Earnings	29,329,731

TOTAL LIABILITIES & EQUITY

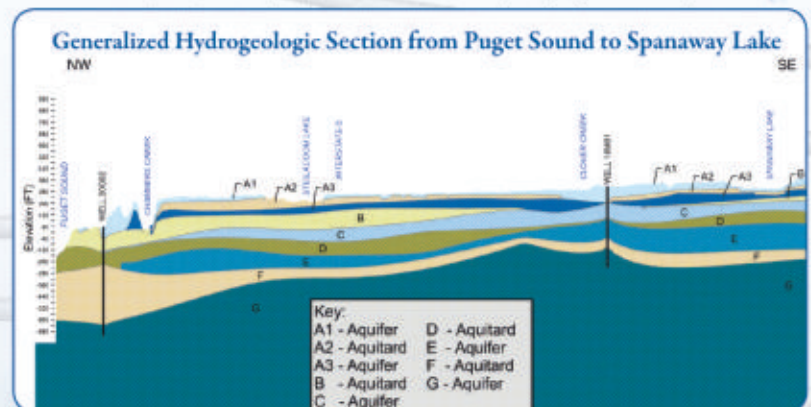
\$ 58,908,430

The Source of Your Water

The District's sole source of water is from underground aquifers. 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.

Aquifer Zones are designated as layers A, C, E, and G from shallowest to deepest, as displayed on the accompanying chart. Aquifer Zones are generally of glacial origin and tend to be coarse-grained and highly permeable. Aquitards A2, B, D, and F, which are usually of interglacial origin, represent finer-grained and less permeable layers whose sediments were 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 or snowmelt in the Clover/Chambers drainage basin. The E and G level aquifers 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 are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Water Quality Sampling Results

Your water meets or exceeds all federal, state, and local quality standards, ensuring that you enjoy safe, clean water. The table below reflects the maximum levels of certain contaminants as allowed by the EPA and Washington State Department of Health (DOH) and the levels found in your drinking water. Not listed are 63 volatile organic chemicals for which we tested, all resulting in either Not Detected (ND) or well below the MCL (Maximum Contaminant Level). As a customer, if you ever experience water that is unsatisfactory, please do not hesitate to call us. Our goal is to provide the cleanest, safest, and best-tasting water possible.

Sample Type	Samples Taken per Year	Last Sample Year	Next Sample Year	EPA/DOH MCL (maximum level allowed)	LWD Highest Level Detected	LWD Lowest Level Detected	Number of Samples Over MCL	MCLG	Typical Sources
Arsenic ¹	22 every 3 yrs	2010	TBD*	10 ppb	<6 ppb	<2ppb - <6ppb	0		Erosion of natural deposits
Asbestos	3 every 3 yrs ² <small>(Required every 5 years, we test every 3.)</small>	2011	2014			No structures detected	0	0	Friable fibers
Copper	30 every 3 yrs	2011	2014	1.3 ppm	0.63 ppm	.02 - .63 ppm	0	1.3 ppm	Household plumbing
Fecal Coliform	840 per yr	2012	2013	0	ND	ND	0	0	Human and animal fecal waste
Total Coliform	840 per yr	2012	2013	<5% positive	ND	ND	0	0	Found throughout the environment
Haloacetic Acids	16 per yr ²	2012	2013	60 ppb	6.4 ppb	0.0 ppb	0	0	Byproduct of drinking water disinfection
Lead ³	30 every 3 yrs	2011	2014	15 ppb	.003 ppb	<.001 - .003ppb	0	0	Household plumbing
Nitrates	22 per yr	2012	2013	10 ppm	2.3 ppm	<0.2 - 2.3ppm	0	0	Erosion of natural deposits
Total Trihalomethanes	16 per yr ³	2012	2013	80 ppb	11.8 ppb	0.0 ppb	0	0	Byproduct of drinking water disinfection

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)

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

ppb = parts per billion, or micrograms per liter (ug/L)

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

¹Your drinking water exceeds EPA's standard for arsenic, which allows for low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic. Arsenic is a mineral. Arsenic is known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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.



P.O. Box 99729
Lakewood, Washington
98496-0729

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TACOMA, WA
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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.



Our Water.
Our Community.
Our Future.

Keep informed about important news from your water district.

Register for our email alerts at:
www.Lakewood-Water-Dist.org

