City of Tumwater, Washington | 2015

Tumwater

Water Resources | Programs & Utilities

Public Works Department | Water Resources | 555 Israel Road SW | Tumwater, WA 98501 | (360) 754-4140 | www.ci.tumwater.wa.us/utilities

Where does our drinking water come from?

As a Tumwater utility customer, the water that comes out of your tap is from groundwater sources. **Groundwater** is located beneath the Earth's surface in spaces between layers of sand and gravel, called **aquifers**. Groundwater is recharged when **precipitation** soaks through the ground in a process called **infiltration**. Pollution to groundwater can occur when toxic substances are allowed to infiltrate. Groundwater is withdrawn by **wells** and treated before being delivered through a pressurized system to your household taps. This water is stored in **reservoirs** to meet high demand and add pressure to assist in distribution. The City of Tumwater currently operates 12 wells to ensure an adequate water supply for customers. This report contains the information on how you can help to protect our water.

The City of Tumwater rigorously tests its water supply to ensure high quality. See the annual **Water Quality Testing Results** section on page 3 of this report for more information.

What is stormwater? What is surface water?

Stormwater is precipitation from rainfall and snow melt that flows to nearby waterways. Often, it flows off impervious surfaces, runs down the street and then into stormdrains. Ideally, before flowing into the nearest stream or lake, this runoff is intercepted by a stormwater pond or other treatment facility, which captures pollutants present in the water. Stormwater ponds help sediment to settle out of the water and provide a place where rainfall runoff can safely infiltrate back into surface or groundwater, thereby reducing water pollution, erosion and flooding.

Surface water is the fresh and salt water system, including creeks, streams, lakes and bays. Surface waters help to recharge groundwater aquifers, and groundwater helps to recharge our streams and lakes.

The Storm Drainage Utility, a ratepayer-financed program of the Tumwater Public Works Department, reduces flooding, erosion and pollution caused by stormwater runoff while protecting and enhancing aquatic habitat.

What is wastewater?

Wastewater refers to any water that needs cleaning after it is used and sent down an indoor drain. It includes water from dish washing, laundry, baths and showers, toilets, commercial and industrial uses and countless other sources. A wastewater pipe system, called a sanitary sewer system, conveys wastewater from Tumwater homes and businesses, except those on septic systems, to the LOTT Clean Water Alliance treatment plant in downtown Olympia. LOTT "cleans" wastewater through both physical and biological processes.

What is reclaimed water?

Reclaimed water is used water that has been cleaned to a high level, so it can be used for other beneficial purposes. Washington State defines four classes of reclaimed water: A, B, C and D. Locally, LOTT Clean Water Alliance produces only Class A reclaimed water, the highest quality, which can be used for a wide variety of non-drinking uses, such as irrigation (golf courses, parks and landscaping), decorative fountains and ponds, streamflow and wetland enhancement, and groundwater recharge. Reclaimed water flows through a system of purple-colored pipes which are separate from drinking water and wastewater pipes.

A message from the Mayor

Pete Kmet
Mayor

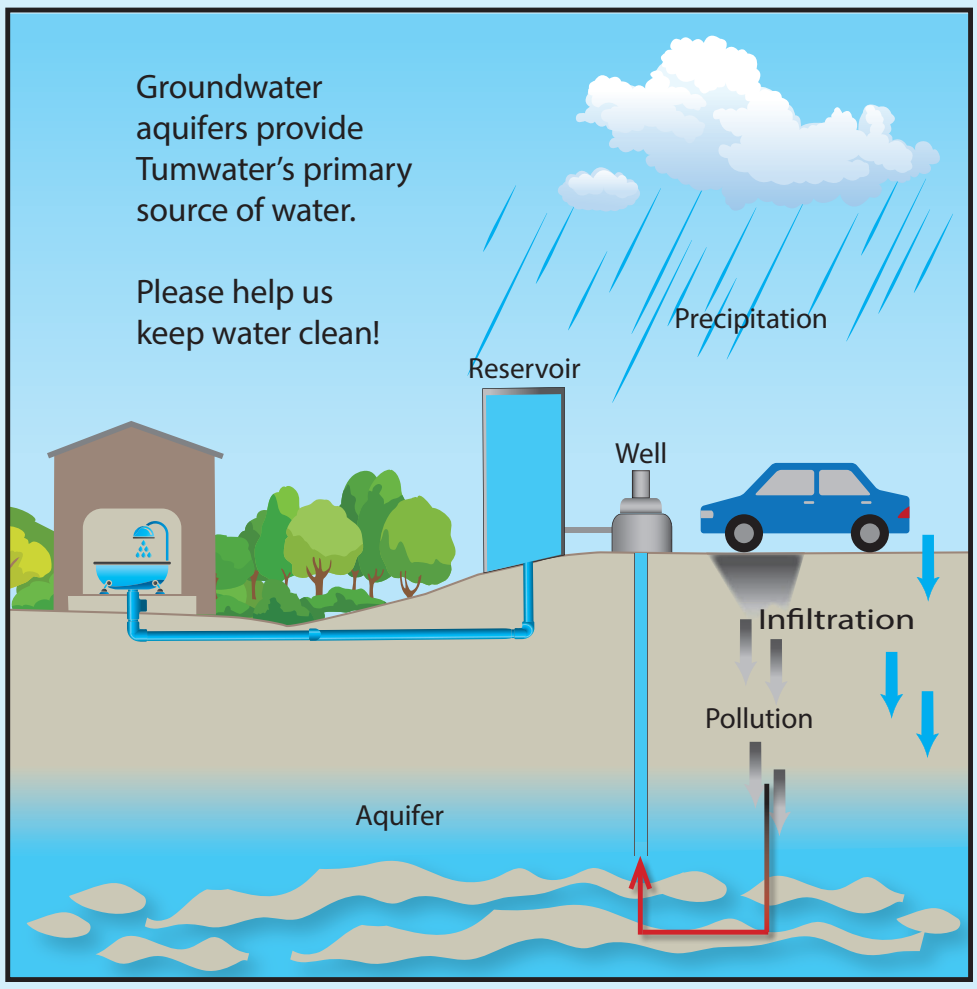
It is my pleasure to offer you the City of Tumwater's Water Resources Programs & Utilities Report. The report details our water quality sampling results collected during 2014 and provides information about our other utility services and programs.

I am proud to announce that, once again, our drinking water is of excellent quality. The dedicated City staff who operate and maintain your water system continually strive to ensure that the water delivered to your tap is of the highest quality possible.

All water resources are interconnected. Therefore, we are bringing together information for all our utilities in one report—drinking water, storm and surface water, sanitary sewer and reclaimed water. Each utility operates as a business within the City budget structure, where fees for services must pay for expenses.

The first reclaimed water project in Tumwater is now online through a partnership between the City and LOTT Clean Water Alliance. The project brings the highest quality reclaimed water to the golf course for irrigation and a new City park to the T Street neighborhood, which will also serve as a trailhead for the future Deschutes Valley Trail.

Please take a moment to read the articles to learn how we can all work together to protect, preserve and conserve our water resources. If you have any questions about our utility systems or programs, please call our public works department at (360) 754-4140.



Good News! Tumwater's drinking water quality is excellent

The City of Tumwater tests your water supply for more than 100 different substances. In 2014, drinking water quality in Tumwater was excellent, and our water supply continues to meet or exceed all drinking water standards!

Water Quality Testing Results

Your drinking water comes from wells located throughout the City and the immediate vicinity. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals as well as substances left by animals or humans. Because our soils are very sandy in most areas, contaminants can travel quickly and easily through groundwater. Contaminants that may threaten human health are regulated.

The EPA has set safety limits, called the MCL and the MCLG (see definitions below), for numerous compounds considered harmful to humans. Municipal water systems are required to disclose levels detected, no matter how low, for all of these chemicals. The table below shows the regulated compounds detected between 2010 and 2014. All samples were well below legal limits.

Primary Standards Regulated by EPA						
	Allowed Level (MCL)	Ideal Goal (MCLG)	Amt Detected/ Range of Detections	Sample Date	MCL Violation	Typical Source of Contamination
Total Coliform Bacteria	1 positive sample/mo.	0	No Detections (ND)	2014	No	Contamination from mammals naturally present in the environment
Nitrate as Nitrogen	10 ppm[1]	10 ppm	0.8 - 1.66 ppm	2014	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion from natural deposits
Total Trihalomethanes	80 ppb[2]	N/A	ND - 6.0 ppb	2014	No	Reaction of chlorine with naturally occurring organic matter
Total Haloacetic Acids	60 ppb	N/A	ND - 1.1 ppb	2014	No	
Chlorine Residual	4.0 ppm	Detectable amt. of 0.05 ppm or higher	0.06 - 0.31 ppm	2014	No	Chlorine is used as a disinfectant in the water treatment process
Secondary Standards Regulated by EPA						
Chloride	250 ppm	N/A	3.6 - 4.1 ppm	2010	N/A	Naturally occurring in environment; geology, natural weathering
Sulfate	250 ppm	N/A	2.9 - 4.8 ppm	2010	N/A	Naturally occurring in the environment
State Regulated						
Turbidity	1.0 NTU[3]	N/A	3.6 - 4.1 NTU	2010	N/A	Naturally occurring in the environment
Sodium	20 ppm	N/A	5.88 - 6.95 ppm	2010	N/A	
Hardness	N/A	N/A	45.0 - 70.1 ppm	2010	N/A	
Conductivity	700 µS/cm[4]	N/A	127 -177 µS/cm	2010	N/A	
Unregulated Contaminants						
Vanadium		< 21 ppb	0.0004 - 0.0005 ppb	2014	N/A	Naturally occurring in the environment; geology, natural weathering
Strontium		< 4000 ppb	0.06 - 0.159 ppb	2014	N/A	
Chromium		< 100 ppb	0.0003 - 0.0006 ppb	2014	N/A	Discharge from steel and pulp mills; Erosion of natural deposits
Hexavalent - Chromium		< 100 ppb	0.000275 - 0.000551 ppb	2014	N/A	
Chlorate		< 210 ppb	0.023 - 0.038 ppb	2014	N/A	Naturally occurring in the environment; geology, natural weathering

Lead and Copper (Taken at Customer Tap)						
	Action Level (AL)	Amount Detected	Number of sites above Action Level (AL)	Range	Sample Date	Typical Source of Contamination
Copper	1.3 ppm	90% of homes tested had levels less than .034 ppm	Zero sites above AL (31 sites sampled)	0-0.62 ppm	2013 (taken every 3 years)	Corrosion of household plumbing
Lead	15 ppb	90% of the homes tested had levels less than 9 ppb	One site above AL (31 sites sampled)	0-25 ppb		

[1]ppm = parts per million [2]ppb = parts per billion [3]NTU = Nephalometric Turbidity Unit
[4]µS/cm = microsiemens per centimenter

Definitions

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water, below which there is no known risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible, using the best available treatment technology.

Non-Acute Violation: An exceedence of state regulations that poses a possible or less than immediate risk to human health.

Parts Per Million (ppm): Parts per million is measured in milligrams per liter (mg/L). One ppm is approximately equal to 1 drop in 22 gallons of water.

Parts Per Billion (ppb): Parts per billion is measured in micrograms per liter (µg/L). One ppb is approximately equal to 1 drop in 22,000 gallons of water.

Who Monitors Your Water?

U.S. Environmental Protection Agency (EPA) sets national standards for more than 100 potential drinking water contaminants under the Safe Drinking Water Act. Visit the EPA's drinking water web site, www.epa.gov/safewater, or call the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

Washington State Department of Health (DOH) enforces national and state health standards. The Southwest Regional Drinking Water Office can be reached at (360) 236-3030.

Washington State Department of Ecology (DOE) enforces national and state environmental standards. Contact the DOE Southwest Region Office 24-hour Hotline at (360) 407-6300 to report a spill.

Tumwater Public Works Department operates the water system, conducts water quality testing and protects the City's water supply. Contact Public Works maintenance at (360) 754-4150 or Water Resources at (360) 754-4140.

Food and Drug Administration (FDA) and the WA Department of Agriculture establish limits for contaminants in bottled water that must provide the same protection for public health.

Customers provide insight on water quality. Your questions, concerns and observations are valuable to us. To learn more about current water quality issues and decision-making processes, make comments or ask questions, contact Water Resources Program Manager Dan Smith at (360) 754-4140.

What We Look For in Your Water

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic analytes, such as salts and metals, can occur naturally in soils or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, coming from a variety of residential and agricultural sources, can easily infiltrate into the groundwater if over-applied or used incorrectly.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum products. They can also come from gas stations, dry cleaners, urban stormwater runoff and septic systems.
- Radioactive contaminants that are naturally occurring or the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the EPA and the Washington State Department of Health regulate the maximum allowable amount of certain substances in water provided by public water systems. The U.S. Food and Drug Administration and/or Washington State Department of Agriculture regulations establish limits for contaminants in bottled water, which provide the same level of protection.

Drinking water may reasonably be expected to contain at least small amounts of some substances. The presence of a minute amount of a contaminant does not necessarily indicate that water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Persons with compromised immune systems, such as those undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders and some elderly and infants can be particularly at risk. These populations should seek advice about drinking water from their health care providers.

For more information about groundwater, drinking water and possible contaminants including cryptosporidium and other microbial contaminants, and potential health effects, visit www.epa.gov/water, or call the EPA Safe Drinking Water Hotline at 1 (800) 426-4791.

Chemical and Bacteriologic Testing

Nitrates – Routine testing for nitrates, a chemical compound commonly found in residential areas using septic tanks and in agricultural areas with livestock or those using fertilizers, revealed levels of nitrates well below the Maximum Contaminant Level Goal (MCLG) of 10 ppm. Reducing the use of fertilizer and properly maintaining septic tanks helps lower nitrate levels.

Bacterial – The City conducts sampling for bacterial presence throughout the water system 30 times each month. Coliform bacteria is an indicator that conditions may be present that are conducive to growth of bacteria in the system. **There were no detections of bacteria during the 2014 sampling program.**

Disinfectant By-Products – As a disinfected system, the City is required to sample the groundwater for disinfectant by-products (DBPs) quarterly. DBPs are the by-product of chlorine reacting with naturally occurring organic matter in the distribution system. In 2014, the City detected trace amounts of DBPs at levels far below the EPA's level of concern for drinking water.

Unregulated Contaminants – The City is periodically required to participate in the national Unregulated Contaminated Monitoring program to evaluate conditions that may require new regulations to be protective of public health. None of the parameters detected during this round of sampling present a level of concern for drinking water.

Stream Team Celebrates 25 Years!

The Stream Team program has been bringing volunteers together for education programs and action projects since 1990. Tumwater Stream Team volunteers have planted tens of thousands of native trees and shrubs, marked hundreds of storm drains, monitored water quality in our streams and served as Salmon Stewards for the annual run of Chinook salmon in the Deschutes River.

Volunteer! Stream Team will be celebrating its 25th anniversary with a **Storm Drain Marking Blitz volunteer event on Sunday, July 12**. Following the volunteer activity, a potluck barbeque will be held at Wonderwood Park. Stream Team will provide hamburgers, hot dogs, veggie burgers and cake. Past, present and future Stream Team volunteers are welcome to come!

For event details, and to sign up for the storm drain marking blitz and/or Stream Team 25th Anniversary Celebration Barbeque, please go to **www.streamteam.info**.

What's the best way to protect our water resources while washing your vehicle? Use a commercial car wash! Local car washes conserve water by filtering and reusing wash water. Water contaminated with dirt, oil and other pollutants from your vehicle is sent down to the LOTT Sewer Treatment plant. This protects our local streams, lakes and groundwater, the source of our drinking water.

City of Tumwater is giving away FREE car wash coupons! The first 100 Tumwater utility customers who come to the City's Public Works Dept. will receive a coupon good at a number of Puget Sound car washes, including the two located in Tumwater. Coupon offer is limited to one per household.

Let Us Help Your Business Be WaterSmart

The WaterSmart Technology Program offers rebates to business and institutional sewer customers who install water-saving fixtures and equipment. **Rebates can be as much as up to 75% of the installed project costs.**

Contact Tumwater Water Resources at (360) 754-4140 to find out how your business may qualify for new appliances and fixtures that not only save your business money, but it will also save our precious water resources!!

City of Tumwater
Public Works Department
Water Resources Program
555 Israel Road SW
Tumwater WA 98501

If you are a property manager, please share this report with your Tumwater tenant. Thank you!

Free pet waste resources

Help spread the word about proper pet waste disposal...

"Don't Let Your Pet Pollute" brochures and FREE pet waste stations are available for neighborhoods and multi-family housing. Contact Debbie Smith at 360-754-4148 or dmsmith@ci.tumwater.wa.us.

Free On-Leash Dog Waste Bag Dispenser

Pick up your FREE dispenser with bags.

Limit 1 per household.
Bring your utility bill or account # to Tumwater City Hall.

Water conservation devices available to Tumwater water customers

Free Indoor and Outdoor Water Saving Kits

Indoor kit:
High-efficiency shower head, faucet aerators and toilet leak detection tablets.

Outdoor kit:
Heavy duty adjustable hose nozzle.

Limit 1 per household every two years. Bring your utility bill or account # to Tumwater City Hall. See below for more information.

Free Hose Timers

For those who water their lawns with a hose and sprinkler, these hose timers will shut off automatically to save you water and money. They are simple to use and connect to any standard outdoor hose bib.

Limit 1 per household every two years. Bring your utility bill or account # to Tumwater City Hall. See below for more information.

Free Smart Watering DVD (Irrigation Systems)

Get sprinkler savvy! *Beautiful Landscapes through Smart Watering* will help you learn to maintain a beautiful yard and keep your water bill to a minimum.

Limit 1 per household every two years. Bring your utility bill or account # to Tumwater City Hall. See below for more information.

Rain Barrel $10 Rebate

Collect rainwater for reuse in your home and yard. Rebate valid for up to six barrels per household.

Rebate forms available at Tumwater City Hall, Public Works counter or visit www.ci.tumwater.wa.us/water-rebates.

High-Efficiency Toilet Program

Tumwater LOTT Clean Water Alliance sewer customers can receive financial help to replace older non-efficient toilets. Programs available for residential, multi-family units or business customers.

WashWise Program

Tumwater LOTT Clean Water Alliance sewer customers can receive a $50 rebate on the purchase of a qualified high-efficiency washing machine.

Details and forms for toilet replacement and washing machines at www.lottcleanwater.org/rebates.htm

To learn about additional water conservation rebates and other money-saving programs, or to find out if you qualify, please contact Tumwater Water Resources at (360) 754-4140. Pick up your water conservation devices at Tumwater City Hall, Public Works Counter (in basement), 555 Israel Road SW, Monday through Friday (except holidays), 8 a.m. to 5 p.m., and start saving water today!

Storm & Surface Water utility protects water and habitat

Rain keeps the Northwest green, but stormwater runoff picks up pollutants (oil dripping from cars, excess fertilizer from yards and fecal coliform from pet waste as it flows into our waterways. The City of Tumwater works to reduce flooding, erosion and pollution caused by stormwater runoff while protecting aquatic habitat.

Does the 2015 Drought Affect Tumwater?

Unlike other areas around Puget Sound, Tumwater does not get its drinking water from local streams. Tumwater is not directly impacted by low snowfall in the mountains, since we do not depend on snowmelt for our water supply. The good news is that we have a reliable supply of water for Tumwater customers throughout 2015.

This does not mean that Tumwater customers don't need to conserve water. **Efficient use and water conservation are always good ideas!** There is a delicate balance between groundwater levels and our local streams and lakes. Less water use by humans ensures there is enough water available for fish and wildlife. Also, if Tumwater's water demand increases, through population growth and/or increased use, providing additional drinking water capacity is expensive.

Conservation is important for our community, regardless of drought conditions. Conserving water also helps keep your water bill low.

Conserve water! Please visit the City of Tumwater website at **www.ci.tumwater.wa.us/save-water** .

What is Low Impact Development?

When rain lands on the ground and flows overland, it becomes "stormwater runoff." Around our homes and businesses, stormwater runs off of rooftops, driveways, landscapes and sidewalks, carrying pollutants with it. If left untreated, these pollutants could end up in local streams, lakes or Puget Sound. According to the Puget Sound Partnership, seventy-five percent of the pollution in Puget Sound comes from stormwater runoff generated from residential neighborhoods.

Low Impact Development (LID) is a human-built approach that works with nature to manage stormwater as close to where it falls as possible. LID employs principles such as preserving and creating natural landscape features and minimizing impervious (hard) surfaces to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product.

There are many practices that are used to advance LID principles, such as bio-retention facilities, rain gardens, vegetated rooftops, rain barrels and permeable pavement. These practices are also referred to as Green Stormwater Infrastructure (GSI). By implementing LID principles and GSI practices, stormwater can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem

Report Spills and Dumping (illicit discharge) 24 hours/day

Tumwater Public Works Operations
(360) 754-4150

WA State Department of Ecology
(360) 407-6300

Pick up your copy!

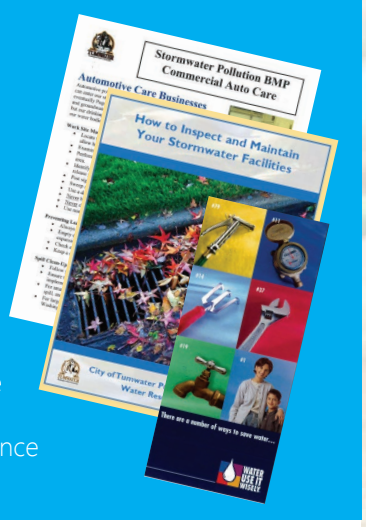
Free publications available at the Public Works counter (in the basement of Tumwater City Hall).

For Business

- Automotive Care Business
- Carpet & Dry Cleaning
- Construction
- Food Service
- Lawn Care & Landscaping
- Low Impact Development

For Homes

- Auto Care
- Car Washing
- Home Care
- Household Hazardous Waste
- Lawn and Garden Care
- Stormwater Facility Maintenance
- Water Conservation



ThurstonGreenBusiness.com

Find out where to shop "green" *or learn how to* **get your business recognized** *for green business practices.*

Backflow Prevention: Keeping Tumwater's Water Clean

The City of Tumwater is committed to ensuring your drinking water remains clean and safe. Drinking water can become contaminated as a result of cross-connections. A cross-connection is a connection between the potable drinking water system and a non-potable substance. The Washington State Department of Health requires proper backflow prevention assemblies on all commercial properties and some residential properties that are connected to the city's water system.

What is Backflow?

Backflow occurs when the pressure in the drinking water system drops, siphoning water and any substances in it into the public water system. This may occur when there is an unusually high use of water in an area, such as firefighting or a broken water main. It may also occur when a hose is left in a full mop bucket or in a watering can containing garden chemicals. Backflow can also occur when there is a cross-connection with a container or pipe containing non-potable substances under pressure. When the public water system's pressure drops, the pressurized system pumps into the public system.

How is Backflow Prevented?

In accordance with federal law, the City regularly surveys all water system connections in the City's service area to locate potential cross-connections, and to determine which type of backflow protection – if any – is necessary to protect both the consumer and the water system. With your cooperation, the City's cross-connection control program will help keep our water free from contamination and health hazards.

To learn more: Visit the City of Tumwater website at **www.ci.tumwater.wa.us/prevent-backflow**

Emergency Water Shut-off Service

If you need your water shut off immediately, call (360) 754-4150 – anytime day or night, including holidays. Please do not try to access the meter to shutoff. Any damage caused by a customer to a meter will be the financial responsibility of the property owner.

Protecting Our Water When Removing Moss

Living in our beautiful, green Pacific Northwest means living with moss. Preventing moss buildup from damaging structures such as homes, businesses, driveways, sidewalks and patios can be tricky business. Going to the store and picking up whatever moss killer catches your eye can lead to problems, including possible toxin exposure to pets and children and contamination of our water resources.

Moss requires three things to flourish: moisture, shade and acidic conditions. Reducing these conditions is the first recommended step in reducing problems from moss. Hand removing moss is the second step. Using chemical controls should only be used as a last resort.

It is illegal to discharge any substance other than rain water or snow into the stormwater drainage system. (TMC13.12.020.A). This means that allowing moss killers to directly enter any water body is illegal and could lead to a fine. If your roof drainage system is tied directly to any water body, including a stormwater pond, you must disconnect the drainage system before using any chemical moss control.

More moss prevention tips and tables listing specific brands of moss killers and their toxicity ratings can be found at **www.growsmartgrowsafe.org**. If you need further information, please call Tumwater Public Works at (360) 754-4140.

Tips to Remove Moss from Structures:

- Selectively prune vegetation to minimize shade in mossy areas.
- Ensure structures are sloped properly to drain away excess water.
- Hand scrape moss. For roofs, remove moss carefully with a putty knife. A flat-bladed shovel or scraper can work on hardscapes.
- Driveways, sidewalks and most patios may be pressure washed. Never pressure wash roofs, as this can damage them.
- Use a sprinkle of baking soda or vinegar on mossy structures to reduce acidic conditions.
- Install zinc strips to the peak of roofs. In large amounts, zinc can be toxic to pets, wildlife and aquatic life, but zinc strips release minimal amounts of zinc during each rainfall.
- If a chemical moss killer is used, the least toxic products are ones which contain potassium salts of fatty acids. These are low risk to pets and wildlife, but still toxic to aquatic life. They must not be allowed to drain directly to any water body.
- Moss killers containing zinc sulfate are highly toxic to aquatic life. Use only if treated areas do not drain directly to a water body, including storm drains.

Reclaimed Water Tank Comes On-line for Tumwater Valley Golf Course

The LOTT Clean Water Alliance recently completed construction of a reclaimed water storage tank at the site of a future City of Tumwater park located at T Street. LOTT's project included construction of a one million gallon storage tank, set into a hillside that overlooks the Deschutes River Valley. The tank allows for use of Class A Reclaimed Water by the City of Tumwater at the Tumwater Valley Municipal Golf Course and other sites in the area. In fact, the tank is now in use, providing up to 500,000 gallons of Class A Reclaimed Water a day for irrigation of the golf course.

The new storage tank also provides the foundation for a small neighborhood park. Initial park features, such as a tile mosaic, benches, valley overlook and parking lot, have been completed. The City of Tumwater will complete a second phase of construction to add additional park elements, including restrooms and play structures, and then open the park to the public later this year.