



WESTMINSTER  
COLORADO

# Irrigation Tips for Businesses

A little maintenance goes a long way

April 29, 2021

# AGENDA

- Introductions
- Westminster Water
- Highlights
- Drought Watch
- Irrigation Chat
- Questions??
- That's All Folks!

# Megan Orloff

- Senior Water Resources Engineer
  - Water supply planning
  - Drought management
  - Water supply capital improvements



# Bret Eastberg

- Reclaimed System Coordinator
  - Reclaimed user training and point of contact
  - Long-term system planning
  - Day to day operations
- Irrigation Contractor
  - 25 years



# Water Supply

- Both potable and reclaimed water are an important part of the City's water supply
- Brief overview of the water supply, and how water finds its way to our customers



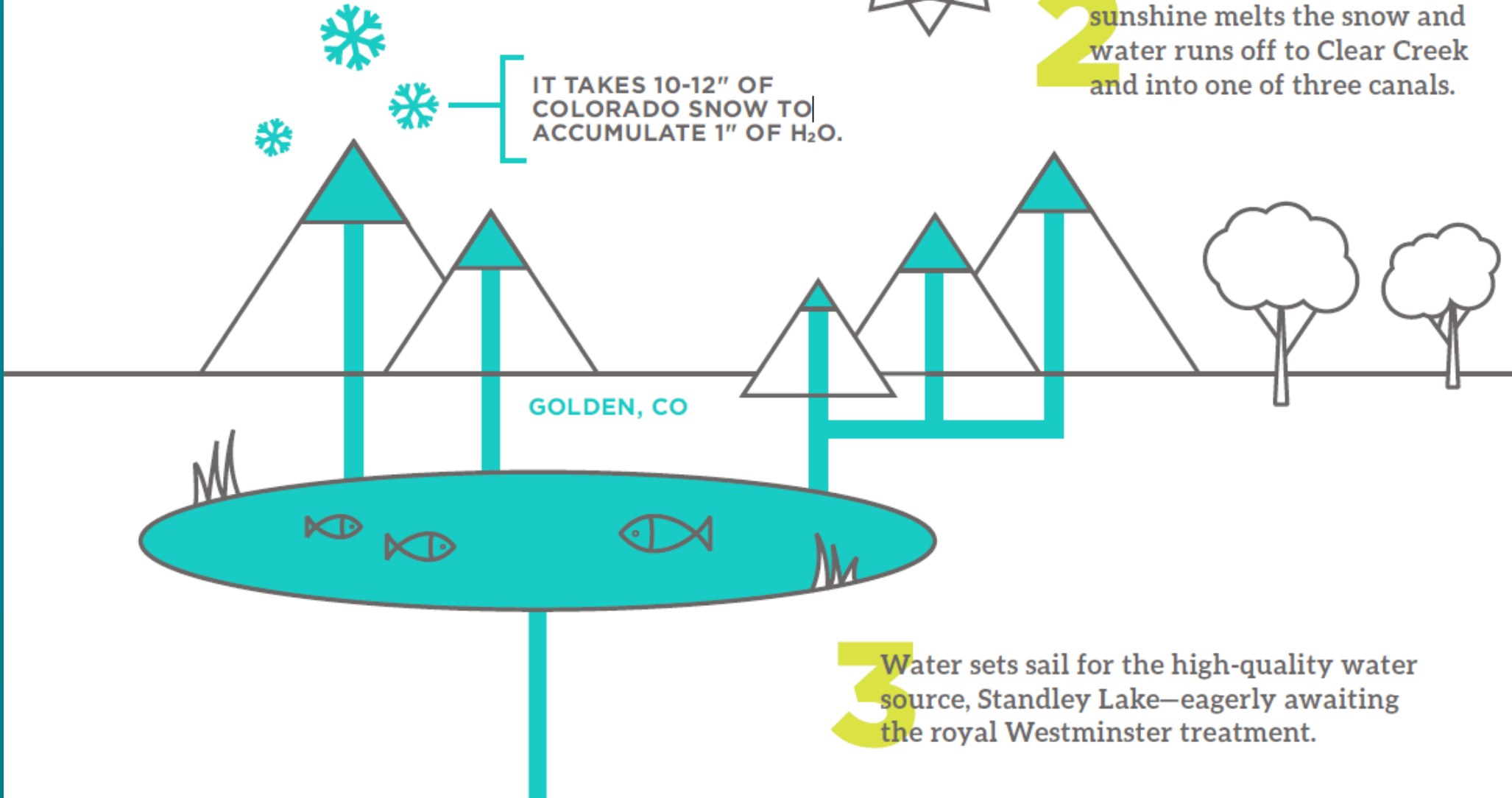
Clear Creek (Photo by Eric Scott).

**1** Free-falling snowflakes land on the slopes of the Continental Divide.



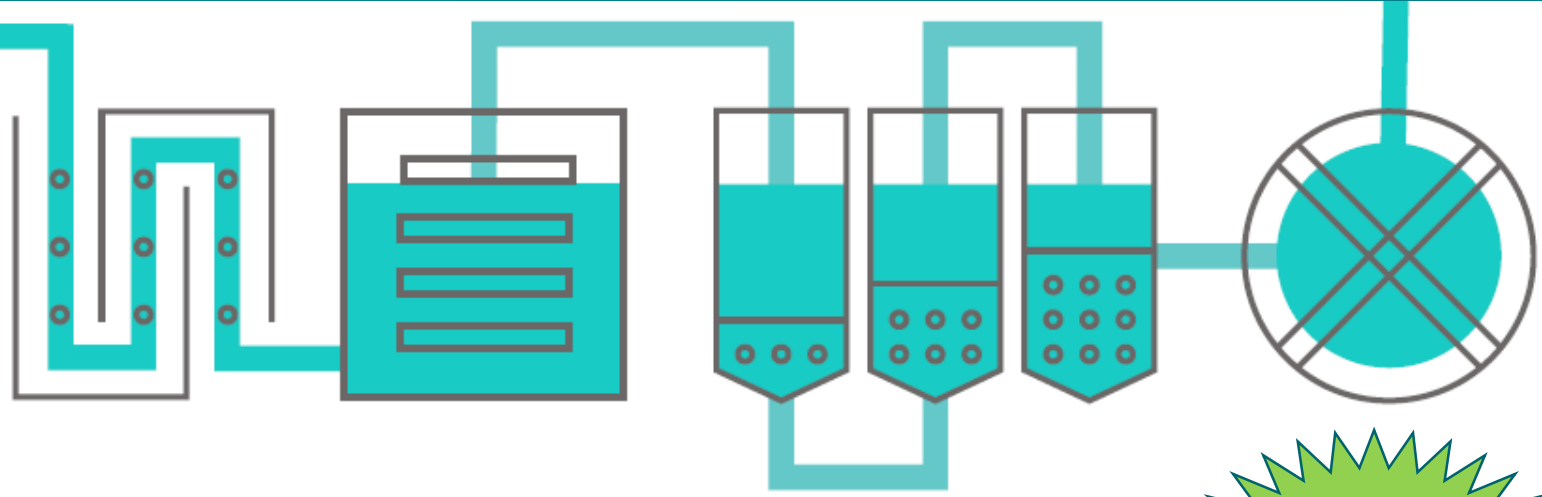
**2** Things heat up when spring sunshine melts the snow and water runs off to Clear Creek and into one of three canals.

IT TAKES 10-12" OF COLORADO SNOW TO ACCUMULATE 1" OF H<sub>2</sub>O.

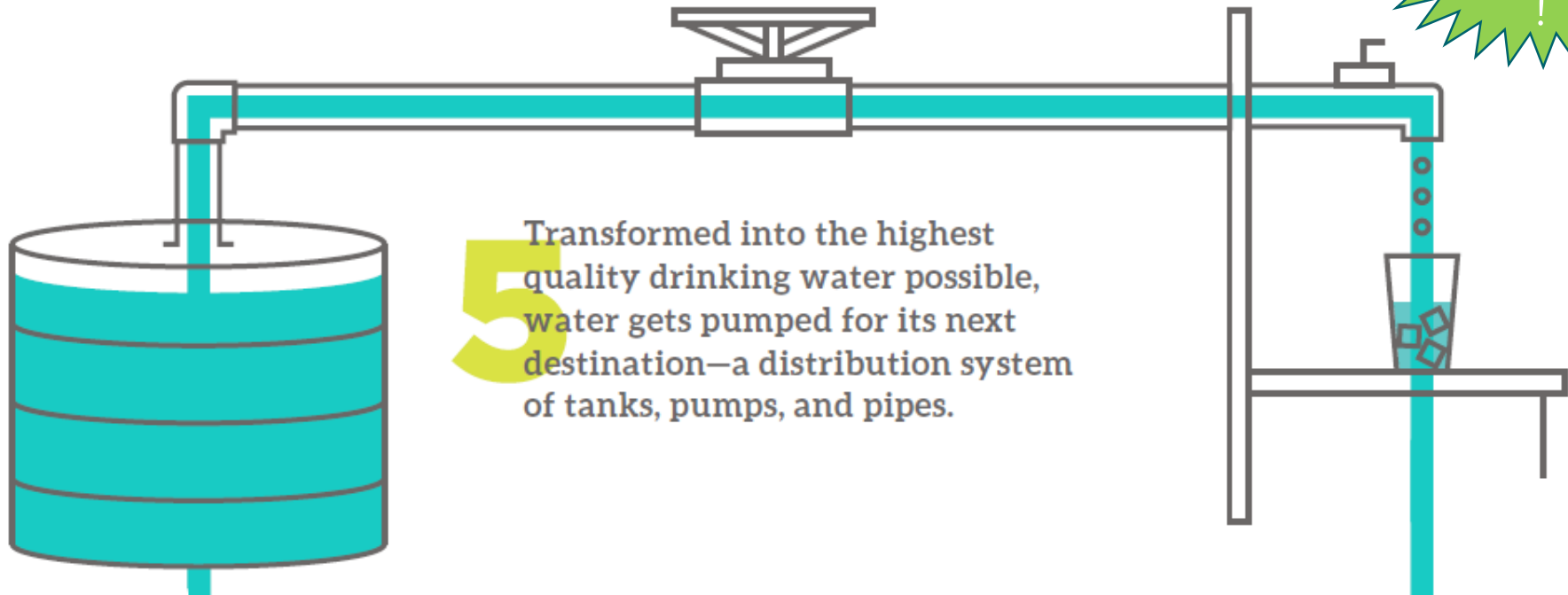


**3** Water sets sail for the high-quality water source, Standley Lake—eagerly awaiting the royal Westminster treatment.

**4** Finding its way to the Water Treatment Facilities, water passes through a complex system of treatment cycles, filters, pH balancing and a clear well.



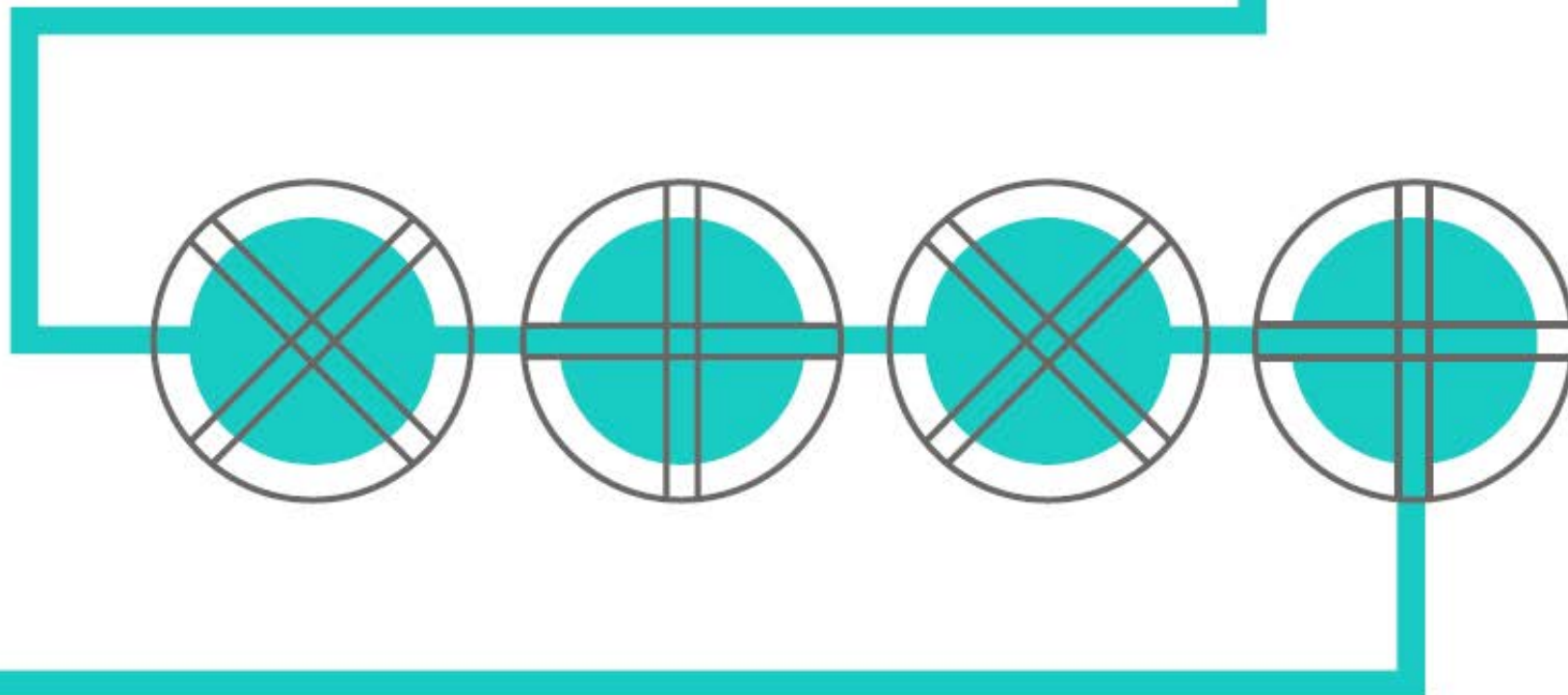
And Irrigation !



**5** Transformed into the highest quality drinking water possible, water gets pumped for its next destination—a distribution system of tanks, pumps, and pipes.

6 Ready to show off how clean and great tasting it has become, water flows into a Westminster household or business.

7 After washing clothes, twirling in the toilet and streaming through a showerhead, water heads down the drain and treks back to Big Dry Creek Wastewater Treatment Facility or Metro Wastewater Reclamation Facility.





8 After freshening up again with another treatment, water books it back to Big Dry Creek or rushes to the Reclaimed Water Facility to be used as irrigation.



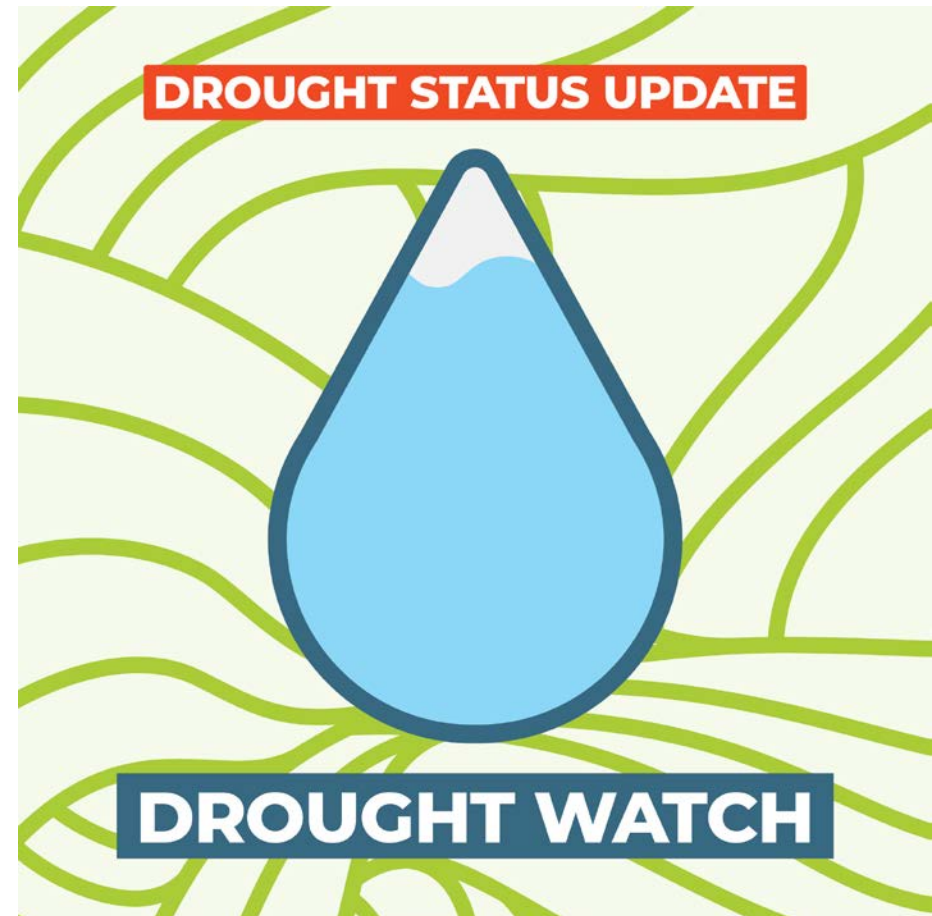
# It Takes a Village...

- \$4 billion water and wastewater system
- \$1 billion water right portfolio
- Over 900 miles of underground pipes
- 4 Treatment facilities
- 29 Pump/lift stations
- 5,000 hydrants



# Drought Watch

- Severe drought conditions
  - Soil moisture well below average
  - Snowpack below average
  - Stream flows below average
  - Forecasts indicate continued dry conditions
- Voluntary Conservation:
  - Water no more than 3 days a week
  - Water after 6 p.m. or before 10 a.m.
  - Help prevent/delay further restrictions



# Drought Watch

- Drought reduces our storage in Standley Lake
- Drought also increases water demand of our landscapes and irrigated areas
- Voluntary conservation and wise water use help protect our water supply



Standley Lake (Photo by Eric Scott).

# Importance of a Well-Maintained Irrigation System

The spring tune-up is key!

# Spring is the time to make sure your irrigation system is at its best!

- Controllers: replace battery, remove old/extra programs & start times.
- Verify that all sensors and valves are working properly.
- Are all heads plumb and hitting the target area?
- Nozzles take a beating from sun & lawnmowers and should be replaced every 5 years. Not to mention technology is always



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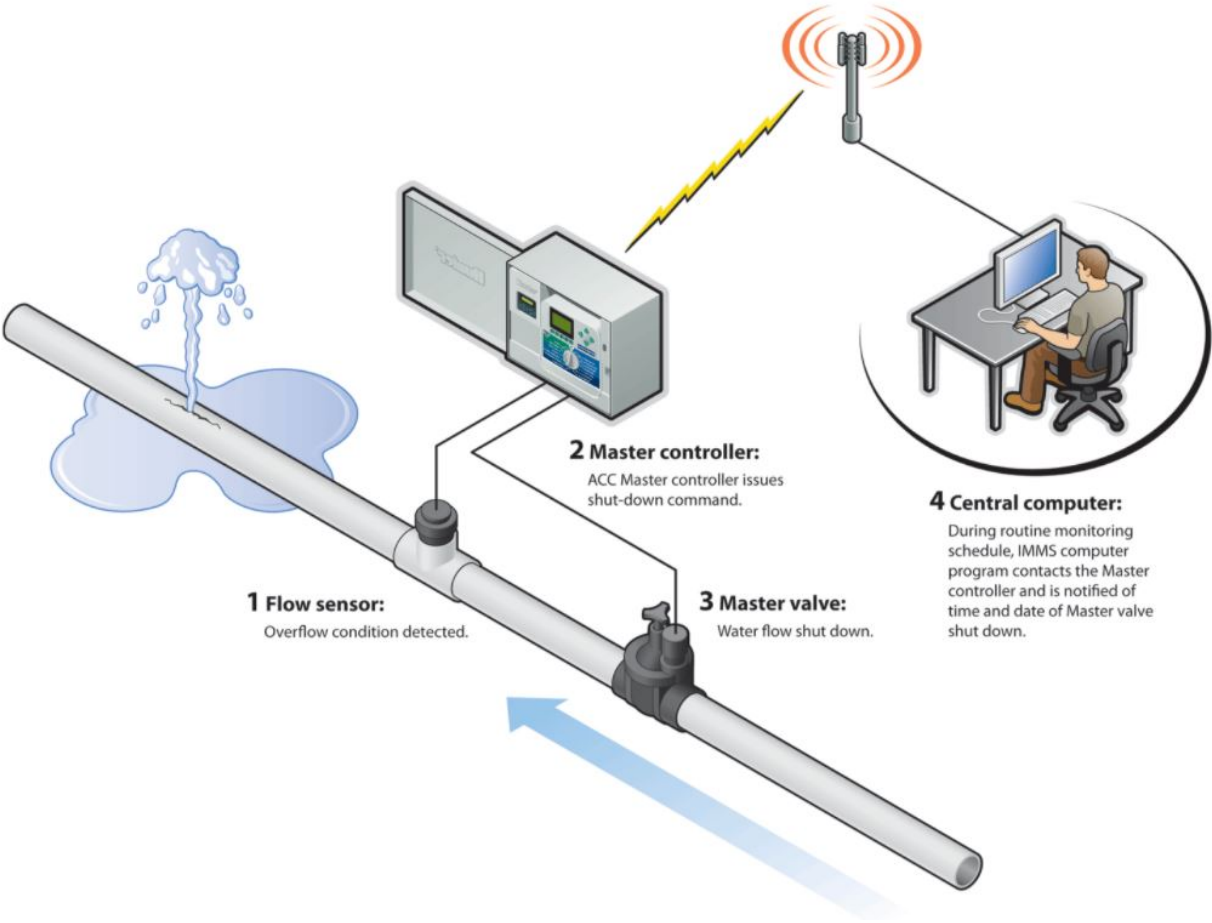
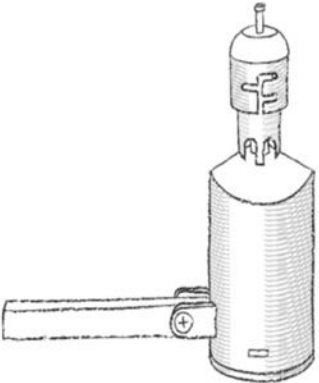
Low flow options: MP



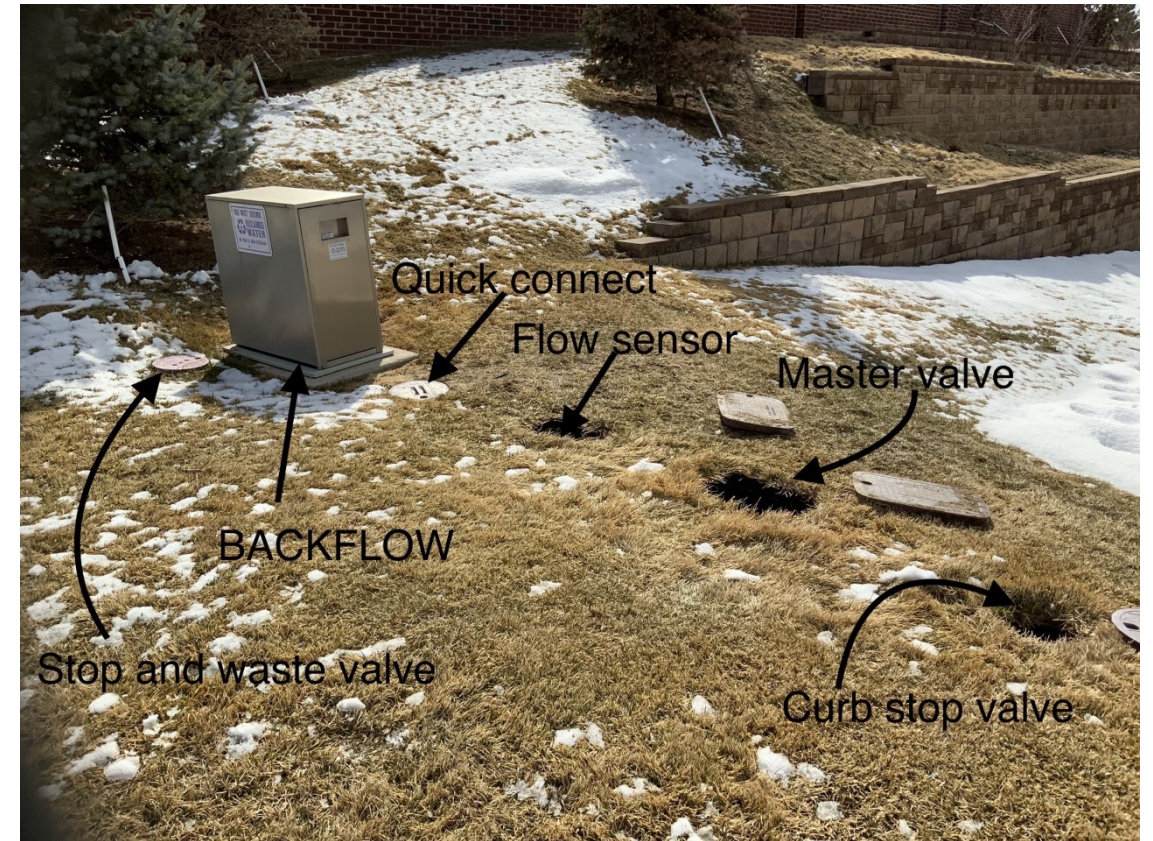
VAN & Toro Precision



# Rain Sensors, Master Valves, & Flow Sensors



# Master Valves, Rain & Flow Sensors





# Rain Sensor



- Verify all rain sensors and weather stations are calibrated and working properly.
- Older rain sensors internal components should be checked annually.
- And pointed in the right direction!

# Over the past 5 years roughly 6,000,000 gallons of water was wasted from systems with faulty master valves or flow sensors.



- This tank could have been filled over 3 times.
- At a cost of roughly **\$35,000**, and the customers were billed for spilled water.
- The faulty sensors would have likely worked, if they had been wired up.

# Spring tune-up...

If you think that a few broken sprinklers can waste a lot of water, don't forget about your drip system.



# Check the drip emitters too..Thousands of gallons of water wasted annually.



# Irrigating rock or mulch, can add up.

12-2 gallon per hour (GPH) emitters= 24 GPH

Scheduled to run 3 times per week for 60 minutes=180 minutes per week.

Over a 26-week growing season=1,872 gallons of water.

That's real money!



**Proper maintenance and nozzle choice can help reduce overspray and using “cycle & soak” will help with runoff.**



# My 2 Cents...

- First Impressions Matter: When you pull up...
- Hire Certified Landscape Professionals
  - Third party to evaluate or audit your irrigation system
- Principal Agent Problem-Is your contractor managing your irrigation system or their email and phone?  
**Global adjustment.**

# Continued...

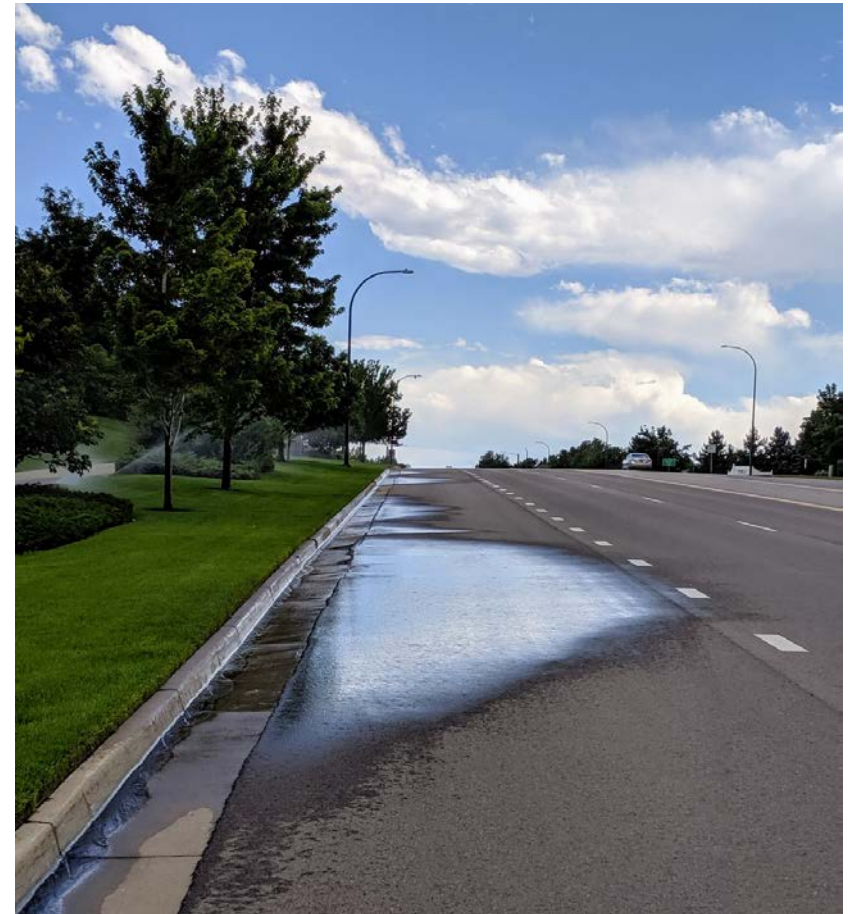
- Upgrade to Smart Controllers
  - Proper set up is key. Garbage in, garbage out
- No generic programming-microclimates
- Don't begin irrigating until mid-May



# Require Smart Controller's. The City does.



# Is your irrigation system properly managed?



# Is your irrigation system properly managed?



# Controller left open and in the “Run” position all winter. Shortens the solenoids life cycle & costs you money.



# In closing...

- Optimize your irrigation system to save water and money.
- Upgrade your controllers.
- Install master valves and flow sensors.
- Check your drip systems too.
- You don't need to start watering because your neighbor did.



## Contact information



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