

Water Conservation Tips

North & East Metro Groundwater Management Area (GWMA) project update

The student selection process for the intern projects has been completed and projects are already beginning. The project with the City of Woodbury will be working to optimize irrigation systems to minimize water use for a variety of commercial properties. This project is exciting because of the potential it offers in developing Minnesota best practice irrigation methods that can be used on other properties (commercial or residential) and in other communities.

Are you excited about the prospect of water savings but disappointed that you did not receive an intern or discovered the intern program too late? Another objective of this project includes free, confidential site assessments with detailed water process evaluations, written recommendations, and follow-up to answer questions or offer additional assistance in moving toward implementation. You may be surprised to see how conserving water can actually produce savings in other areas as well, such as heating and cooling costs, chemicals used in water solutions, and metro SAC charges.

We have on site assessments available, and are ready to help industrial facilities in the GWMA reduce water use. Contact Mick Jost at jostx003@umn.edu / 612-624-4694 to make arrangements for an assessment today.

Contact MnTAP for More Information

Let us know if you are interested in getting involved in this water conservation project, at no cost to your business. We welcome your questions and ideas for future newsletter topics, so please send them our way! For questions or further information, contact Mick Jost, MnTAP Program Coordinator and project lead, at jostx003@umn.edu or 612.624.4694.

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MnTAP is a non-regulatory program in the School of Public Health at the University of Minnesota and is funded by the Minnesota Pollution Control Agency.

About MnTAP

A program of the University of Minnesota, MnTAP offers a variety of technical assistance services to help Minnesota businesses implement industry-tailored solutions that maximize resource efficiency, prevent pollution, increase energy efficiency, and reduce costs. Our information resources are available online at <mntap.umn.edu>. Please call MnTAP at 612.624.1300 or 800.247.0015 for personal assistance.

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Did You Know...

Experts estimate that 50% of the water used in landscape irrigation is wasted through overwatering. Here are some signs that you may be overwatering: water runoff, water-logged turf hours after the sprinklers have been off, fungal growth, and grass that looks wilted despite being watered. The latest innovations in irrigation controllers can help reduce this waste by controlling the watering schedule based on local weather and landscape conditions rather than a preset timer that waters independently of whether it rained yesterday or will rain tomorrow.

Regular inspection and maintenance could also help prevent unnecessary water loss and huge water bills. Irrigation systems should be checked for broken sprinkler heads and leaky valves. Sprinkler heads should also be adjusted so that only lawn is being watered and not paved or impermeable areas.

If you are in the market for a new irrigation system, choose a drip irrigation system over sprinklers. Water use with drip systems may be as much as 70% less since wind drift, evaporation, and runoff losses are minimized. If considering a new landscape, consider the use of native water-efficient plants, mulch, putting in an efficient water system, landscape fabric rather than solid plastic sheeting and permeable hardscaping. By limiting lawn areas, mowing and maintenance costs will be reduced as well. Consider reseeding or starting new lawns with drought tolerant species, such as some fescue grasses. Here are some additional tips to keep in mind to help conserve water:

- Water when evaporation will be minimized, during early morning and early evening.
- Water deeply and less often to encourage deeper root growth.
- Do not water when it is windy or raining.
- Do not water all plants at the same time. Customize application so that each plant type receives the appropriate amount of water and is not overwatered. Also, water appropriately for each season.
- Adjust sprinkler heads so that water is going where it is needed.
- Keep the grass height at least 3.5". Longer grass can retain water better and longer turf also shades weeds and weed seeds, preventing them from taking hold and thriving.

If your facility has a lot of roof square footage, consider a rainwater collection system for some specific plant irrigation needs. Read how CHS Field, the home of the St Paul Saints baseball team has the potential to collect an estimated 480,000 gallons of rainwater a year to irrigate fields and flush toilets: http://www.twincities.com/localnews/ci_27568765/st-paul-saints-new-ballpark-among-greenest-country. For an approximation of how much water your facility rooftop can generate, look at the rainwater harvesting calculator example below.

Catchment Area to Runoff Yield Assuming 90% Runoff				
Rainfall (inches):	1	2	3	4
Catchment (sq feet)	Yield: Gallons of Rainwater (rounded to nearest whole gallon)			
3000	1683	3366	5049	6732
3100	1739	3478	5217	6956
3200	1795	3590	5386	7181
3400	1907	3590	5386	7181
3500	1964	3927	5891	7854
3600	2020	4039	6059	8078
3700	2076	4151	6227	8303
3900	2188	4376	6564	8752
4000	2244	4488	6732	8976
Actual square footage				
44000	24684	49368	74052	98736
[Precipitation in Minneapolis = 30.64 inches/yr (www.usclimatedata.com)				

The on-line version factors in variables for the catchment area (roof area in square feet) to runoff yield (the percent assumption of how much runoff capture is possible) and the average area rainfall to show collection based on 1, 2, 3, or 4 inch rainfall events. In the case of the example above, a formula to arrive at the total square feet was added. So for a 44,000 square foot facility recovering most of a 1 inch rainfall, the total water available would be over 24,000 gallons. Over an entire year, the total volume of precipitation available from a 44,000 square foot roof is approximately 740,000 gallons.