

Winterizing Pump Stations



Winterization enables irrigation equipment to get a safe rest during the winter so it can go to work in the spring. Photo courtesy: Hunter Industries.

With all the heat we've been experiencing this summer, probably the last thing on your mind is winterizing an irrigation pump station. Winterization takes on different meanings for people in different areas of the United States. It basically entails shutting down the irrigation system in preparation for freezing weather. If a few simple steps are taken each year, a pump station will be ready for action come next spring.

If the truth be known, the winterization process actually begins during the design stage of the irrigation system. Lawrence Cammarata of Certified Consultants Ltd., Woodstock, IL, feels longevity of all irrigation equipment begins with a common sense approach. He says, "Designers must have a practical knowledge and thorough experience in winterization procedures so a system is easy to winterize and reliable for the long term." It involves things like a good foundation for the pump station, a pump house in very cold climates and other irrigation equipment that can endure long periods of freezing weather.

Even though pump stations are a separate item from the rest of the irrigation system, turf managers should still keep in mind the total picture. Cammarata says, "Those of us in northern climates contend with winter soil frost lines up to four feet in depth. We have a strong appreciation of nature and its power. Pipes, sprinklers, wires, valves, boxes and other parts are continually 'heaved' and moved all winter. Install something poorly in the fall and springtime will reveal the need to redo that work. In most cases, there is

little we can do to 'beat' our weather conditions, but there is much that can be done to make a system 'give' with the conditions."

Geography dictates when to winterize. In Massachusetts, winterization begins as early as September. As soon as the warm temperatures are over, there's really no need to irrigate unless you are putting in a lawn or re-seeding. In this case, you may have to wait until late October.

Freeze Damage Can Be Avoided

Anytime the temperature is at 28 degrees F or below for more than 24 hours, you stand to have major damage to a pump station. "Because of the expansion of frozen water in a pump station that has not been winterized, main control valve, check valves and isolation valves may all crack. But by following a simple 15-minute procedure, replacement costs of \$600 to \$4,000 and up can be avoided," says Bob Houle, operations director at Flowtronex PSI Ltd., Dallas, TX.

Mike Parilo, sales manager at Odell's Pump & Service, Sacramento, CA, knows first-hand the expense of damaged irrigation equipment. "We just finished a job close to Christmas. An unexpected freeze came in without a chance to winterize the pump station. The pump case, clay valves and backflow preventer all cracked — the parts alone were \$4,000. And with labor, the cost ran up to \$7,000. I'd like everyone to be aware of the damage a freeze can do to pump systems," he says.

"If a heavy freeze comes before you have an opportunity to winterize, about the only thing you can do is protect your pump with heat strips, a heater or electric light

bulbs. These may provide enough protection to prevent expansion of the water in the lines until you can properly winterize," says Daniel Behrendt, technical services representative, Jacuzzi, Little Rock, AR.

Jeff Nelson, sales manager for Watertronics, Hartland, WI, says, "The most obvious part of winterization is to drain the water out. Open a drain wherever there's a drain. However, if no drain is visible you can crack the flange and manually drain the pump. More and more people are heating pump houses to 40 or 50 degrees F during the winter. This temperature can be maintained by simply placing a small heater in the pump house, leaving it on all winter," Nelson says.

Nelson also advises removal of aluminum intakes during the winter, since even with good grounding electrolysis can still occur. "Whenever possible, pull the aluminum intake. Clean the interior and exterior of the inlet or foot valve screen," Nelson suggests.

Len Ring, P.E., CID, is owner of a firm specializing in turf and agricultural irrigation design in Raymond, Alberta, Canada. "Some pumps have a priming system. Make sure you get all water out. Also, manually drain the system and leave open the drain plugs. It's a good idea if the drain plugs are at the low spot on the system," Ring recommends. "In cold climates, many people have their pump stations covered or vaulted, so rust is not so much of a factor as if it were in open air. If the pump station is exposed, you can cover it with canvas. Plastic is not recommended

because it causes condensation underneath."

"Thermostatically controlled heat tape is popular in this area for wrapping the pump station," Parilo says, describing a practice in Odell's Pump & Service's business area. A specialist in pumps and pump maintenance for landscape irrigation, the company serves a very cold area in the winter — from the High Sierra to Truckee, NV. One aspect of their business is providing customers with a winterization program to help them avoid costly damage.

Pump Station Check List

The following is a winterization checklist that works for most pump stations. Maintenance on pumps should not be attempted unless you have the proper knowledge and tools to work on pumps. Before beginning a winterization program, consult the manufacturer's technical guidebook on winterization.

- Always refer to the maintenance manual for winterization details;
- Shut off the water source, drain and blow out irrigation sprinkler system;
- Drain the pump completely, leaving all drain plugs open;
- Blow out all pilot lines and the pilot device on the control valve, leaving tube disconnected;
- Make sure all of the water in the pressure switch is out, leave tube disconnected;
- Tighten all connections, electrical and mechanical;
- Use steel wool and/or sandpaper to remove any rust;
- Use a high-quality rust-proof paint to cover rusted areas;
- Grease all fittings on the pump station;
- Remove aluminum intakes for the winter, clean the exterior and interior of the inlet or foot valve screen;
- Change the oil (turbine pumps);
- For exposed pump stations, canvas may be used to cover the unit. Do not use plastic.

"Pump stations are not commodity items. They are an important maintenance item — the heart of your irrigation system. If they become a weakness, your entire system will suffer," advises Parilo. He's right. Just like a lawn mower or any other piece of equipment, proper maintenance will keep a pump station working like a champ. Winterization enables the equipment to get a safe rest during the winter so it can go to work in the spring. □

Finally, A Mid-Sized Topdresser for 1/3 the Price of the Big Boys.



For many turf managers, large-area topdressers are way too expensive, while "finesse" topdressers are too limited in what they can do. If that's what you've found, The Millcreek Topdresser/Spreader is your answer. First, it's about 1/3 the price of typical large-area topdressers. No it doesn't hold 6 cubic yards, but it spreads 2 cubic yards in 7 minutes and will easily topdress a football field in 2 to 3 hours. It's safe and simple for a single operator. Plus it's unsurpassed for spreading compost, grass clippings, infield mix, lime, top soil, de-icing materials and more. With a 10-year guarantee on the floor, you get long-term spreading efficiency and versatility at a price you can handle today. Call for your FREE information.



Patented Spreading Action

Millcreek's patented "PowerBrush" action and adjustable directional fins enable you to spread almost any flowable material in paths from 3' to 10' wide. A single operator needs no tools for safe, easy adjustments. PTO or engine-drive. 2 cu. yd. capacity.



2617 Stumptown Rd.
Bird-in-Hand, PA 17505
1-800-879-6507
Dealer inquiries invited.

Circle 105 on Postage Free Card

FREE GUIDE TO SPORTS TURF

This free guide to the selection and use of turfgrass is a handy reference for anyone involved in sports turf.

The booklet addresses every area of sports turf... from the fine, dense turf required for precision sports like tennis and croquet to the tough turf needed for rugged sports like football or racetracks.

Geographically arranged, it suggests the appropriate turfgrass species, where to use them and even proposes proper cutting heights and seeding rates. A separate section covers Southern Winter Overseeding. And this new guide is yours for the asking.



Lofts Seed Inc.

Dept. ST95
347 Elizabeth Ave.
Somerset, NJ 08873
(800) 526-3890 ext. 250

Circle 106 on Postage Free Card