

# A Trouble Free Sports Field Irrigation Start-up is No Accident

ANDREW GAYDON GIVES POINTERS FOR THE DIFFERENT CHALLENGES ASSOCIATED WITH IRRIGATION SYSTEMS

**T**he amount of work and preparation done the previous fall will obviously impact any potential troubles one might have starting up in the spring. We are so often wrapped up in spring hype that we are never fully prepared for the upcoming season. The pressure of getting fields ready for play is intense. During this busy time, turf managers often do not have the parts on hand they need to make even the most basic of repairs. Proper preparation both in the previous fall and early spring will make turf managers' jobs much easier and more efficient later in the season. Here are some suggestions to help managers be better prepared for the different challenges associated with irrigation systems.

## Inventory Repair Parts

Ensure a sufficient stock of irrigation parts. Order parts early enough to avoid being ill prepared for possible pipe and

fitting problems during initial start-up testing. Purchase a new supply of glue for PVC repairs and throw out the can that



tends to have a much longer shelf life. Budget about \$500 to get the 'repair inventory' started.

## Start-up

Once the weather is cooperating and the risk of freezing has passed, it is time to get the water moving. There is a specific sequence to charging and testing the lines. Start by opening up a place to drain water,

if possible, at the end of each zone. By turning on each zone individually and having it drain, this will get rid of all the

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dirt and debris that has collected inside the pipe over the winter.

Throughout the winter, the inside of the empty piping network has been drying out. All the dirt and build-up tends to harden and fall to the bottom of the pipe. As water is put back into the pipe, the garbage inside starts to travel throughout the system.

If the heads are turned on before properly flushing, all the dirt will be forced into the heads and some sprinklers may block and give trouble.



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Be sure to adequately flush the entire system through drains and quick couplers before the sprinklers are tested. Some systems are under constant pressure throughout the season. If this is the case, charge the system to half the regular operating pressure and let it sit. Check the pressure after one hour and if there is a difference, leaks are possible. By isolating different sections of the system, the exact locations of the leaks can be detected. Remember, the number one cause of wasted water is small leaks in the system that we tend to leave and put up with over the course of the season.

### Sprinklers

Once the system is holding pressure and flushed clean, it is time to check sprinkler performance. During the winter, frost will heave sprinklers and make it necessary to level all heads back to grade before mowers hit the turf. This exercise will save a great deal of money in sprinkler parts and mower bed knives. Each sprinkler in the system must be checked for rotation, a clean nozzle, debris and proper distribution. Monitoring sprinkler pressures is important to make sure that they are performing to the manufacturer's published specifications.

### Controllers

The **program schedule** in the controller is the most important function

to ensure that the system is conserving water but at the same time is producing green turf. Watering application rates will vary with different types of plants, soils and climates. New turf must be kept moist and newly-transplanted shrubs must be watered every day or two. Established plants and turf will need deeper, less frequent watering. The following guidelines will assist:

- 1) Do not operate more than one valve at a time.
- 2) Water early in the morning when it is least windy and the pressure is the greatest. Early morning watering will also reduce water evaporation. Watering in the early evening is not recommended. Turf is more likely to get diseases when wet for a long duration, especially overnight during the summer. Watering on a hot summer day may also burn the plants.
- 3) In most areas of Canada, turf requires 1-1/4 to 1-1/2" of water per week in the hottest months. Most controllers today have a feature called 'water budgeting' and this is a very useful and money saving feature. It allows the irrigation or park manager to increase or decrease the complete controller program by a simple percentage amount according to seasonal changes.

- 4) Manually activate the complete system every week or so to make sure everything is operating correctly. Check and clean sprinklers to ensure proper functioning.

### Assessment

Water is a very topical subject these days and it's time to keep accurate records of water events and water used. At some time, you will be asked the potentially embarrassing question "How much water is this field or park using?" A manager will need to know the answer or at least where to go to get the information. Meters, computers or manual calculations – the equipment used doesn't matter – just make sure data is recorded.

An electrical assessment should also be done. Checking controller boxes for mouse damage is an important spring task. Proper protection against rodents should be taken all season long, but especially in the fall. Check each station's voltage using a multi meter to ensure electrical integrity.

When the system is up and running at its maximum efficiency and records are up to date, one can expect a trouble free system with green turf and happy customers and athletes alike. ♦

For more information, see "Intelligent Irrigation" by Greg Snaith in the Spring 2003 *Sports Turf Manager*.