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Reasons Why Golf Irrigation Systems Are Replaced

There are many reasons why golf course irrigation systems are replaced. Some of them are obvious and stand alone. However, others are less obvious and only cause minor inconveniences, but become significant when compounded with other problems. The first two reasons are pipe and wire.

Pipe and wire are the most critical component of the irrigation system because they are directly related to the day to day operation and the long term integrity and function of the irrigation system. Problems with pipe and wire are usually linked together because they are always installed together in the trench and at the same time. When problems are occurring with one of them, you can expect to have problems with the other. They are permanently buried in the ground and there is no way to access the problem area without disruption to turf and play on the golf course.

Other components of the irrigation system, such as sprinklers, valves and controllers, are at or above ground level making them more accessible to repair or replace. In addition, sprinklers and controllers have a limited life span and will require upgrading long before the rest of the system.

Factors that affect the life expectancy of pipe and wire are:

- **Product Substitution** – Sometimes installers and suppliers inadvertently substitute specified products with inferior ones expecting them to perform the same the higher quality / more expensive product.
- **Poor Product Selection or Performance** – Some products are selected and used without having a proven track record in the golf course industry and result with a less than perfect outcome.
- **Poor Installation** – Even the best products can be mistreated and misused through poor installation procedures resulting in a shorter than normal life span.
- **Poor Maintenance** – Every system requires regular maintenance and if this is neglected for a long period of time, problems will start small and compound themselves
- **Age and System Operation**- Years of abuse from water hammer and poor winterizing procedures will fatigue even the best pipe and fittings to a point where they will inexplicably break at any time. Frost heaving will cause wire to become stretched and potentially break or pull out of connections.
- **Additions to the System** – Many systems do not sufficiently irrigate the required area and adding heads to a system can exceed the original hydraulic capacity.
- **Lack of Proper Components** – Variable speed pumps and the removal of air pockets trapped in the piping system are critical in controlling water hammer.

The third reason for replacing an irrigation system is lack of coverage. In other words, the existing system can no longer effectively irrigate what needs to be watered and the system itself lacks the ability to expand. Sometimes this happens inadvertently when the golf course makes changes to accommodate the needs and expectations of the golfer. For example, greens are moved or enlarged; fairway bunkers added or new tees are built to lengthen golf holes. The result is that the existing system becomes inadequate or obsolete based on the changing parameters of the golf course and/or the increasing demands to improve course conditions.

A fourth reason to replace an irrigation system is strictly based on poor sprinkler distribution uniformity. In areas where a good supply of water is scarce, irrigation systems have been upgraded strictly to save water. Also, older systems (and poorly designed new systems) inherently waste water because of improper use of sprinkler selection and spacing.