Victor Jamieson gives some advice on the purchase of a new irrigation system

Thinking about a new irrigation system?

Looking back over the past nine months it is hard to imagine an irrigation system ever been used in this country again. However, not so long ago we were talking about drought conditions, water shortages and restrictions. Hot dry summers are sure to come again and when they do golf clubs with old irrigation systems will very quickly realise their inadequacies.

With an ageing irrigation system the greenkeeper will be forced to spend more and more time trying to keep the system going and having to hand water to make up for its poor performance.

Comparisons will be made between the condition of their course and the course next door that was installed with a state of the art irrigation system a few years previously. An efficient irrigation system is not only an insurance policy against dry weather but also an effective management tool to help with the control of divots and overseeding etc., enabling greenkeepers to improve the overall condition of their course.

At some stage the club will have to make the decision to install a new system and this will probably be one of, if not the largest, capital expenditures they will ever make on their golf course. Once they have decided to go ahead there are many considerations to take into account and various options open to the club as to how they should proceed.

They can employ an irrigation consultant to take care of the project from conception to completion, or the consultant can prepare a specification to be issued to contractors to bid on a design and build basis. The consultant can then be used to make a comparative analysis of the submitted bids with a recommendation as to how the club should proceed.

Another alternative is for the club to proceed alone without professional advice. This is not the easiest of routes and one that should only be taken if the club is prepared to do its homework, considering the enormous costs involved.

Continuous research and development ensure more advanced and high tech materials and equipment are available to the irrigation contractor. These days a well designed, well installed and properly set up irrigation system should be relatively maintenance free. Leaks should be a thing of the past and greenkeepers can undertake their normal maintenance operations without the risk of damaging equipment and materials.

To select the most appropriate irrigation system for your golf course certain decisions must be made. The club should decide on the following:

- Coverage: determine the area to be irrigated.
- Application rate: decide on the amount of water needed per square foot.
- Irrigation method: choose between sprinkler, drip, or overhead irrigation systems.
- Budget: allocate funds for the new system.
- Durability: select materials that can withstand weather conditions.
- Energy efficiency: choose systems that use water and energy efficiently.
- Maintenance: opt for low maintenance systems to reduce costs.

Once these decisions are made, the club can move forward with the installation of their new irrigation system.
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Which areas of the golf course need to be covered by the irrigation system eg, greens, green surrounds, tees, approaches, fairways, carries, walkways, bunker surrounds, areas prone to wear and other areas such as turf nurseries and landscaped areas.

Maximum design application rates. This is the amount of water that the system should be able to deliver to the selected areas of the golf course within the irrigation-operating window, normally in mm/day or mm/week.

Available irrigation window. This is the length of time the system will need to be operated to apply the chosen application rate. In the UK this is generally eight to 10 hours. It is useful to bear in mind that the shorter the irrigation window requested the more expensive the irrigation system will be. For an eight-hour operating window the system will require a larger capacity pumping system and larger pipework than for a 10-hour window. Once these have been decided the club can go into further detail and decide on:

Type of coverage. Part or full circle sprinklers on the greens and approaches, single or double row on fairways and tees etc.

Sprinkler type. Valve-in-head or non valve-in-head controlled in blocks.

Sprinkler control. Individual head control or sprinklers controlled in pairs/block.

Control system. Wall mounted standalone controller or PC controller, Remote control facility, Weather station etc.

Pumping system. Pressure or variable speed set.

Usually the club will have limited funds available and although they may wish to install a wall-to-wall irrigation system immediately this may not be financially viable. This does not mean that the golf club cannot have what it wants in the long term as long as it is taken into account in the initial design.

For example a system can be designed to initially irrigate greens, tees and approaches but the irrigation mains and electrical control system can be sized so that the system can be extended at a later date to irrigate other areas of the golf course eg, fairways. The pumpset can be designed and fabricated in such a way that an extra pump can easily be fitted to provide the required extra duty. In this case the club can add fairways one at a time as funds become available.

Before approaching contractors the club should find out how much water they have available, as this will dictate the size and area that the irrigation system will cover and they should have a budget figure in mind. The club should research other clubs that have had a new irrigation system installed. They should also examine the workmanship of the installer, quality of reinstatement etc, and short list a number of contractors that they would like to bid on the project. Impartial professional advice is advisable and considering the huge costs involved, the club should satisfy themselves that the advice they receive is appropriate.

If a consultant is not involved, the club should make sure that the contractors they select bid using the same criteria as listed above. In addition they should ensure that materials offered meet or exceed appropriate standards. With regards to installation, the club should make sure they know how the irrigation system is going to be fitted, to what depth pipework will be installed and how reinstatement will be carried out. Guarantees and warranties should be examined and the club should make sure that the contractor has allowed for the system to be set up and commissioned fully. Make sure the contractor’s bid has included for as-built drawings, spare parts, tools and training etc.

A club should always install the highest quality, most sophisticated system it can afford. The investment will quickly reflect in the improved quality of the course enhancing reputation and revenue.

Don’t forget irrigation is as important to golf courses as central heating is to houses. Not necessarily essential, but without an efficient system conditions are uncomfortable and inferior.

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