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IRRIGATING SPORTS FIELDS

Today irrigation of sports playing fields is becoming more and more prevalent and necessary because of competition, turfgrass quality, and liability issues. And sports field irrigation systems are as varied as the sports being played on them.

How fast the field can be watered is an important consideration with any athletic field and is even more important on a lighted, heavily used field. The amount of non-use time defines the water window, but watering turf when the sun is high should be avoided of course, as it makes the irrigation system less efficient. Having to water the field every day means mowing a wet field and does not promote proper turf management principles.

A typical water window might be 8 PM to 5 AM on a non-lighted field, but as little as 1 AM to 5 AM on a lighted field, as little as four days per week on either. The smaller the water window, the larger the water supply will need to be and the more sprinklers will need to be operated at the same time. The water supply also needs to have proper backflow protection if on a portable supply or injecting chemicals.

No matter where the water supply for the irrigation system originates, there should be some sort of emergency shut off for the system on the field side of the facility. This allows for a fast shut off if something breaks or fails. The shut off can consist of a gate or ball valve shut off in an easily accessible location that does not require a special key for access.

Sports fields are unique landscapes and as such should be irrigated with equipment that is specifically manufactured for sports fields. This includes sprinklers that have rubber covers, heavy duty retract sprinklers, multiple nozzles, options for stainless steel risers among many others. Most sportsturf professionals have their own way of watering and require that the system be designed and installed to meet their individual tastes. This results in some unconventional layouts, especially with sprinkler zoning, but very good turf conditions.

Sports field sprinklers need higher pressures and use more water to operate than conventional landscape irrigation system sprinklers. In most cases an athletic field sprinkler will require 50 to 70 psi operating pressure at the sprinkler base and use 12 to 24 gallons per minute depending on the spacing of the sprinkler and what type of field is being watered. It is best to minimize the number of sprinklers on the field. Eliminating sprinklers down the middle of the field (wear points) is a requirement, so three and five row systems do not work well.

The sprinkler system should be zoned for the available water supply and any sun/shade issues. In large stadiums, sun and shade, as well as wind issues, can be major factors in the irrigation system design as some areas of the field will not like as much water as others, and the irrigation system needs to be zoned and scheduled accordingly.

The location of valves and valve boxes also need to be considered with any sports field system. The valve boxes need to be located well off the field or buried beneath the turf at least 6 inches. In some cases, the valves may be located in a manifold configuration in the water supply room and piped out individually to the sprinklers. Although this is an expensive option, it insures that no below-the-field piping is under constant pressure.

Today's sports field irrigation systems have modern controls that allow turf manager flexibility in controlling the system. Some managers prefer the simple mechanical type control while others opt for computerized central control systems that allow for integration of an on site weather station, remote control and GPS mapping systems to allow for the ultimate in on field use. However, many sports field systems are operated semi-automatically to closely control the water application.

Irrigation is no longer just limited to natural turf fields. It is now common for many nylon and synthetic fields to be irrigated. Irrigation is especially common on field hockey fields and many major colleges water their non-turf fields. This is not much different than on a natural turf field, although not as much water needs to be applied, as the purpose is for cooling or wetting, not sustaining plant life. Sometimes no sprinklers or piping is installed under the synthetic fields.

Sports fields also have some areas that allow for specialty irrigation. This includes warning tracks, dugout areas, infields, and bullpens. These may or may not be watered, but will require some specialized sprinklers and zoning if they are. Sports fields also require a means of being hand watered for maintenance and dust control. Quick coupling/snap valves are used for these connections and should be placed where needed throughout the field.

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