

## County Stadium gets a new water supply

by Bernie Rupp, Milwaukee Brewers

Last fall, a new irrigation and drainage system was installed at Milwaukee County Stadium under the direction of Harry Gill, superintendent of buildings and grounds, and his assistant Gary Vanden Berg.

They decided that the Toro 640 irrigation system would be best for use. Fifty-seven rotary, gear-driven, pop-up heads were installed. They are constructed of cycloc plastic with spring-loaded retractors, delrin gears and locking caps with check valves.

All irrigation heads were installed on swing joints. The heads were positioned 1 to 1½ inches below the finished grade. Sprinkler head connections were made to the existing 3-inch PVC main. Each irrigation head is controlled by a remote electric valve placed in a control box next to the irrigation head.

The field controllers are electro-mechanical units, capable of operating 12 normally closed 24-volt A.C. valves. Each controller has a 0- to 30-minute station timing, a 24-hour clock and a calendar clock allowing fully automatic independent programming.

Each of the field controllers is wired to the central controller which has one module capable of individual standard cycle functions such as "syringe" or "cancel" for each satellite or field control.

The central controller has a 24-hour clock, a 14-day program dial and



Workers from Milwaukee Lawn install the Toro sprinkler heads.



Harry Gill (right) supervises installation of the irrigation pipe and wires through slit sod. "The only places we had to remove the sod was when we came to a sprinkler head," Gill notes.

a manual start button. The central control is the Toro VT-XP 4000 vari-time unit, and the field controllers are Toro solid state VT-3 models.

The pipe used for the irrigation system is polyvinyl chloride pressure pipe rated at 200 psi. The piping and wiring were installed using a vibratory type apparatus. Pipe was placed 18 inches below grade.

In conjunction with the installation of our new irrigation system, a field drainage system was also installed. It is based on the concept developed by Cambridge Soil Services of Cambridge, England. It was installed by David Heiss of Turf Services in Spring Lake, Mich.

The system is implemented in three phases. Phase one consists of a slit measuring ¾-inch wide and 9 inches deep, placed 20 inches on centers radially from home plate. The slits were back-filled with sand, analyzed in the accompanying chart.

About 80 percent of the sand was in the 18- to 25-millimeter range, which is very good for sand-slitting work. It's uniformity and round particle size is especially good for this type of drainage system.

Phase two, which consists of an ID perforated pipe at the trench bottom, and phase three, a 4-inch perimeter

SAND ANALYSIS	
Mesh	(%) Retained
30	.2
40	5.8
50	27.0
70	47.0
100	19.8
140	.2

drain adjacent to the warning track, were not installed at this time. The existing drain tile was adequate for the new drainage system.

All work was completed in eight working days. **WT&T**

*ED. NOTE: Milwaukee County Stadium received national media attention when heavy rain caused four feet of water to accumulate on the floor of the stadium this summer. Gill and his ground crew had the stadium ready to play ball the next day. "The irrigation system has been super," says Gill today. "It's probably one of the best things we've ever done here."*

*AUTHOR BIO: Bernie Rupp is employed by the Milwaukee Brewers.*