

Irrigation Expansion – Pebble Creek Rough

By **CARY FEMRITE**

Pebble Creek Head Superintendent

It was Fall of 1989. After enduring two years of severe drought, reseeding 75 acres of rough, losing our primary water source and drilling a new well, we finally decided to expand our irrigation system. With concerns of future water restrictions, limited well drilling and added costs in the future, the city council was convinced the expansion was justified. If you are presently considering expansion or are under new construction, hopefully this article will answer some questions or help you determine your needs.

Since the original system was Toro, it was agreed upon to expand with similar equipment. I conferred with our Toro representative and reviewed the existing system to arrive at expansion cost estimates for budgeting purposes.

Pipesizing coming out of the pumphouse was substantial enough to adequately increase pumping capacity without repiping the mainlines. A 40 h.p. centrifugal pump was added to the present 40 h.p. and 20 h.p. system. This brought total pumping gallonage to 850 g.p.m. We added another wet well to reduce the change of a vortex through increased drawdown from pumping.

From this point we proceeded to determine coverage on all non-irrigated areas. Footages were measured from perimeters to existing lines to determine tie-ins, isolation valves and accurate head location.

Existing utilities were noted and sleeving locations under cart paths were highlighted. Sleeving is an added convenience during installation which aids future repairs. Consideration must be made to provide a slight bend creating side pressure in the sleeve because piping tends to vibrate inside the sleeve. Pipe sizing was laid out and double checked for correct pressure at perimeter locations. When the design was finalized and approved, the bidding process commenced.

The specification process is detailed and all areas of concern must be noted. Areas for concern are as follows:

- Previous contractor projects and references.
- Insurance and bonding.

- Crew size and foreman names.
- Starting and finishing dates.
- Penalty clause.
- Unit prices on materials list.
- Determine single or double head control.
- Approval of head locations.
- Power sources access.
- Change order process.
- As built design.
- Contractor warranties.
- Trench compaction.
- Pressure testing.
- Pump operation.

There are many additions to this list that can be specific to your needs. If you have additional projects like trenching or fountain wiring, you get prices on these also at bidding time.

After it was all done, 27,000 lin. ft. and 345 heads were installed. There were 20 areas where additions or deletions were determined. Gate valves were added, heads were relocated and piping was added. Total cost of the project was approximately \$170,000 or \$290.00/head for materials and \$158.00/head for labor. The project lasted approximately 4 weeks.

Areas of concern that needed to be communicated are glueing of tie-ins so as not to hinder watering cycles. The majority of glueing was done in the a.m., so glue would set up throughout the day.

The golf course enjoyed the benefits and versatility of the expansion immediately as we were able to water in newly fertilized rough areas and speed the grow-in. We even expanded our injectables such as wetting agents and liquid fertilizers. The benefits far out-weigh the costs. Our concerns include planning, budgeting and day-to-day monitoring during installation, plus becoming comfortable with the increased maintenance and operation.

Handling Pesticides—

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Try to contain spills by using a chemical spill absorbent. Keep people away from the area.

Chemtrec (Chemical Transportation Emergency Center) has a toll-free number (800-424-9300) that you can call day or night for help in chemical emergencies involving spills, leaks, fires or explosions.

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