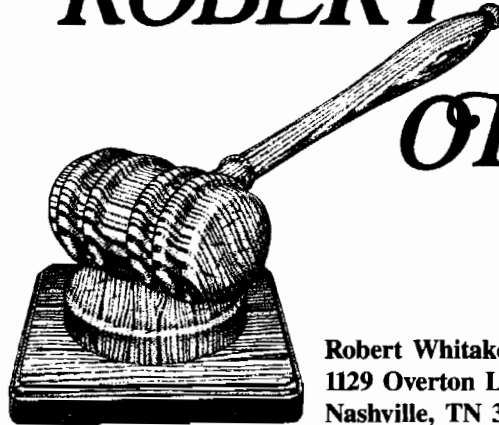




ROBERT'S RULES OF ROSES



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DIAL A DEVOTION TO WATERING

This fall a major attempt has been made to bring the Whitaker rose garden out of the Stone Age of watering methods into the Computer Age of programmed automation. Procrastination is being replaced by Proficiency. An underground timer-controlled water irrigation system for the rose beds is being installed using components supplied by the Toro Company. Some of the prices and experience gained may be of interest to readers who are ready for less time-consuming methods.

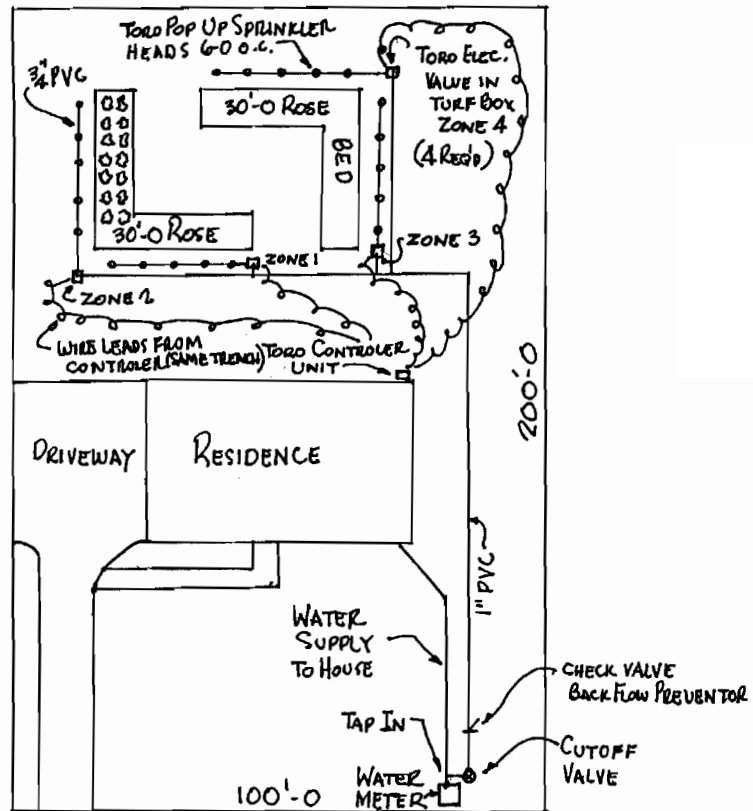
Several members of the Nashville Rose Society who care for the Cheekwood Public Rose Garden have remarked on how well the plants grow by comparison to our own gardens. One of the activities our care program does not involve is WATERING. Randall Lantz, the horticulturalist for the Botanical Gardens, installed a timer-controlled underground watering system using Toro components when the garden was initially planted. It consists of below-ground, pressure-activated pop-up sprinkler heads located around the perimeter of the beds which are timed to come on in the early morning on a weekly program to water the roses. Much of the vigorous growth we observe in the garden we attribute to this systematic watering program. The system is carefully managed to function only during periods when rainfall is deficient and active growth is occurring.

The expense of a system is dependent upon the size and location of your rose garden and lot. Compact gardens and lots are more economical to install than large, spread-out arrangements. The use of PVC pipe for distribution and provision for draining the system in the winter make for simpler labor of installation which offers the possibility of furnishing your own labor with a little advice and help from your friends. To help in your evaluation, I have included some unit prices of components which make up the system.

1/2" PVC Sch 40 Pipe.....	\$0.11 per ft.
3/4" PVC Sch 40 Pipe.....	\$0.15 per ft.
1" PVC Sch 40 Pipe.....	\$0.22 per ft.
3/4" Brass Ball Valve.....	\$6.36
Toro Timer Controller, 6 zones.....	\$140.00
Pop-up sprinkler heads and nozzles.....	\$15.00 ea
3/4" Toro Electric valves per zone.....	\$13.00 ea
Valve Boxes.....	\$5.00 ea

One of the most labor-intensive aspects of this system is the trenching required. Trenching machines can be rented for \$180.00 per day. Smaller units are available for less. Where time and distance are not factors, hand trenching and pipe installation can be done in sections. Each section can be pressure tested and re-covered with soil before proceeding further.

To avoid excessive pressure loss from the number of sprinkler heads required, individual zones can be controlled by an electric solenoid valve activated by the controller. The controller allows you to select a time for watering which does not interfere with household use. Early morning settings of an hour's duration can be tested to determine water supplied. The Toro



TORO IRRIGATION SYSTEM

sprinkler head system has selectable nozzles which are directional in plan and throw low or high trajectory patterns. In this way your rose bed can be fully covered by the sprinkler head layout.

Watering is one of the most important ingredients to vigorous growth but is often neglected when other activities take precedence. How often have we seen our roses perk up after a heavy summer rain? Every time! Fertilizer only works when it is in solution. If we must spray weekly for disease control, watering weekly has the same urgency.

A typical layout of a hypothetical rose garden with an underground watering system as described in this article is shown for reference. Toro distributors have a technical bulletin on designing your own system which is available upon request. There are many variations on types of heads and spacing. The Cheekwood garden uses 30" spacing heads of large capacity

and overlapping throw for overhead delivery.

The system described herein is a commercial type installation. There are simpler versions which are being used by various rosarians. One example is the *Leaky Pipe* distribution method placed in mulch connected to *Gardena* water computers. These components are available from many mail order catalogs. They may be connected to a water supply by underground PVC pipe system or a removable above-ground hose arrangement.

Another widely used system is the Dramm nozzle outlet fitting drilled into above-ground PVC pipe placed in the rose beds which can be supplied by an above-ground garden hose or an underground PVC pipe network.

If you need to improve your watering methods for 1988, some of the suggestions made here may whet your interest. You will have to decide between the Cadillac and the Chevette systems discussed to find one that meets your needs. Happy hunting!