

DON'T SAY IT—WRITE IT

To Marty Parker - Ch. Lakes and Landscaping Committee Location _____ Phone No. 791-
From Paul Johnson Location _____
Subject: Lake Seepage - Water Consumption - Costs Date 4-5-
Seepage Losses

It has been known for some time that it has been necessary to add make-up water to the lakes in excess of that lost by evaporation. Last year the Board asked me to check the quantity of water lost due to seepage. This was done by measuring the drops in water levels in both lakes over a period of ten days in November, prior to the start of the fall rains, and correcting for evaporation losses by subtracting the water level drop in my swimming pool during the same period.

The drops in water levels, which were about the same in both lakes, averaged 2.25 inches over the ten-day period. Assuming a surface area of slightly over an acre for each lake or a total of 92,000 Ft² the ten-day 2.25 inch combined drop in levels extrapolates to the loss of about 51,750 ft³ of water per month due to seepage. The monthly cost of this quantity of water at \$0.27 per unit of 100 ft³ is \$140.

Evaporation Losses

Evaporation losses, based on a midsummer drop in swimming pool water level of 0.25 inch per day, amount to 57,500 ft³ of water (575 units) at a cost of \$155 per month.

Irrigation Demand

Eight sprinkler circuits, each operating about 40 minutes per day, require approximately 480 units per month at a cost of \$130.

In addition to the cost of water lost due to seepage, there is also a cost due to loss of algacide.

A treatment, SS-13, is mentioned in the newspaper item reproduced on page 4. I contacted several people in an attempt to obtain information about this product. J. Harlen Glenn, who heads a lake engineering firm of the same name in Orange, California, informed me that Bentonite clays can, under certain circumstances, be rejuvenated by treatment with soda ash (sodium carbonate) and presented this as a more conservative and less expensive treatment that could be tried before moving up to SS-13.

We have been told that our lakes were treated with Bentonite by the developer, but we have no proof. A U. of Cal. publication describing this material is enclosed. I have been unable to ascertain the extent of the original treatment of the lake bottoms, but I do know that severe disturbances of the bottoms of the lower lake and the connecting stream bed occurred as a consequence of the removal of a severe infestation of cat-tails. As the effectiveness of the soda ash treatment is contingent on an unbroken presence of suitable clays, its applicability for our purpose is questionable.