MEMO

TO: Board of Directors, Odd Fellows Sierra Park Assn.

SUBJ: Water Storage Recovery Rate

After evaluating the reports of the two engineers, Jorgensen Tolloday and M. E. Bell, I concur that the following conditions exist and some corrective action should be initiated as soon as possible.

1. Water storage based on full use of the park in the future, as well as required fire flow, is available with the existing storage IF they are kept full.
2. Recovery rate as shown on the flow charts submitted is inadequate even to keep up with present weekend use. One or two main breaks, or a major fire, could deplete our storage in a matter of hours. The flow rate per 24 hours of 16,092 gallons is over 3,000 gallons per day <u>less</u> than we use on a weekend. If all stored water was lost or used it would take 10 1/2 days to recover WITHOUT any usage at all. On an estimated non-weekend daily usage of 3,750 gallons this would increase the recovery time to about 14 days. If a normal weekend usage is included at 17,500 gallons per day for two days we can add an additional 2 1/2 or 3 days for a total of 16 1/2/17 days. This of course does not consider possible losses due to leaks or fire use.
3. Fire flow, while normally calculated at 500 GPM for

30 minutes in municipal residential areas is about right for flow in this area since the pumpers available to us, ours and Long Barn, only deliver 250 GPM each. However, the duration of the requirement because of our timber in the housing areas is inadequate. A more realistic figure would be the 3 hours suggested by Mr. Jorgensen.

Recommendations:

1. Provide a well that will deliver a minimum of 15 GPM, constant flow, for at least the time required to fill all the tanks. This would allow for total recovery AND normal use in approximately 7 days.
2. In evaluating the two proposals for maintaining all three tanks at maximum capacity, it was concluded that both ideas will work. The only drawback to the Cole plan is that the two small tanks will not fill until the big tank ~~is~~ level is high enough to push the water up over the fill line. A pump in the fill line would overcome this problem.

On the basis of projected use it would appear that dropping the level of the large tank to that of the small tanks would not lower the storage capacity below a full weeks requirements, even with full occupancy.

In summation, I would concur that a new 8" well providing a minimum of 15GPM flow is urgently needed. In my opinion, the

present 2 1/2 to 3 weeks recovery time is totally unacceptable in view of the extreme fire danger we have in our park. It ~~shoulxxx~~ ~~sholud~~ should also be kept in mind that any well that will deliver 15 GPM after two years of drought will certainly improve in normal years and should be expected to remain good even in dry years.

Respectfully Submitted

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