RESOLUTION NO. 72-44

STATING POLICY OF
SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT
REGARDING RECREATION USES OF GROUNDWATER
RECHARGE FACILITIES

WHEREAS, groundwater recharge facilities, consisting of spreading basins or percolation ponds, have and will be constructed, operated and maintained by this District in order to supplement the natural recharge of the underground water basins of Santa Clara County; and

WHEREAS, such facilities provide an opportunity for water-oriented, public recreation; and

WHEREAS, a public recreation use of groundwater recharge facilities can only be compatible with the recharge function under certain restrictions upon such recreation use all as more fully set forth in "Statement Regarding Recreation Use of Groundwater Recharge Facilities" of June 1972 to which reference is hereby made; now, therefore, be it

RESOLVED, by the Board of Directors of Santa Clara County Flood Control and Water District that the following statement of policy regarding recreation use of this District's groundwater recharge facilities shall be and the same is hereby adopted:

1. Compatible public recreational use of the lands adjacent to, and of the water surface of, groundwater recharge facilities is favored.

2. Said facilities shall be so operated and maintained as to permit such joint use wherever feasible.

3. The provision of recreational structures, facilities and amenities and their maintenance for safety and sightliness, together with the control of the recreation use, shall be wherever possible the responsibility of an appropriate public agency by contract with this District.

4. The following recreational activities are incompatible with the water conservation objective of the facilities and will be prohibited:

a. Swimming and wading.

b. Motorboating.

c. The operation of motor vehicles or the presence of large animals within, on or immediately adjacent to the side slopes of a recharge basin.

5. District water supply revenues will not be used to meet the cost of such recreation uses as on-shore facilities, fish stocking and replacement, public liability insurance, policing and supervision.

PASSED AND ADOPTED by the Board of Directors of Santa Clara County Flood Control and Water District this 13th day of June 1972,

Resolution No. 72-44, STATING POLICY OF SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT REGARDING RECREATION USES OF GROUND-WATER RECHARGE FACILITIES, by the following vote:

AYES: Directors J. CHIRI, V. F. CORSIGLIA, M. E. DULLEA, J. J. LENIHAN, R. T. SAPP, R. J. STURLA, F. A. WILCOX

NOES: Directors NONE

ABSENT: Directors NONE

SANTA CLARA COUNTY FLOOD CONTROL AND WATER DISTRICT

By: Maurice E. Dullea
Chairman of the Board of Directors

ATTEST: VIOLET V. ENANDER

Violet V. Enander
Clerk of said Board of Directors

STATEMENT REGARDING RECREATION USE OF GROUNDWATER RECHARGE FACILITIES

June 1972

The Santa Clara County Flood Control and Water District has been asked to discuss the cost or policy matters relating to the use of groundwater recharge ponds for recreation. It is clear from our studies and those of others that some aspects of recreation and groundwater recharge conflict with each other. However, this does not mean that groundwater recharge ponds cannot be used for recreation. Groundwater recharge ponds can be used for recreation provided that appropriate coordinated efforts are made by the respective jurisdictions handling groundwater recharge and recreation, and further, that appropriate cost allocations are made between these two purposes.

For example, the recreation activity must accept full responsibility for the handling of people who would use the groundwater recharge facility, such as accepting liability responsibility, taking care of policing, and providing parking facilities. As in all recreation areas, there is the problem of trash and litter which requires continual attention. The use of groundwater recharge facilities for recreation provides greater opportunities for vandalism of the control works necessary to the basic function of groundwater recharge. Some recreation users plug outlets, change controls, block overflow weirs, and break valves and other

control mechanisms. The cost of preventing this type of vandalism together with the repair of such damages can be appropriately shared by the recharge and recreation agencies.

Wading or swimming in groundwater recharge ponds is not acceptable and must be prohibited. These types of activities break down the agglomerated particles and stir up the fine soil materials which settle to create a thin film of relatively impermeable material over the sides and bottoms of the ponds. This prevents infiltration of water and therefore reduces, by a considerable amount, the groundwater recharge capability. In addition, there is a public health problem which arises from the fact that the recharge water is not chlorinated and a concentrated use of the facility by swimmers creates an unsanitary condition which is not acceptable to the Public Health regulatory agencies.

The passive recreation uses such as aesthetic enjoyment, fishing, perhaps some forms of model boating or even sailing and rafting (which may not be exactly passive in themselves) can be considered compatible to some extent with groundwater recharge under appropriate regulations. It is clear that any recreation activity in and around the percolation ponds provides an opportunity for the disposal of trash and litter into the water system. This trash and litter has a tendency to seal off the sides and bottom of the ponds, reducing the total amount of groundwater recharge. In order to maintain the groundwater recharge capability

the ponds would have to be cleaned more often at an increased cost.

It may, in some locations, be possible to increase the number of percolation ponds so that the reduction in groundwater recharge caused by recreation activities is made up by the increased number of recharge facilities. However, it is clear that the cost of the increased number of recharge facilities required to make up the lost groundwater recharge capability should be assigned to the recreation users.

There are also operational problems which must be faced in a cooperative fashion by the recreation and water agencies. For example, it appears that a wet and dry cycling operation with the dry periods relatively frequent increases the total quantity of water recharged. It also reduces insect problems and algae and weed growth. It is also obvious that such a wet-dry operation would adversely affect any fish population and would cause complaints by the recreation users who desire to see the basins full of water at all times. It may be possible to operate the groundwater recharge facilities in a relatively continuous fashion; that is, keep them full until the groundwater recharge rates are reduced to the point of diminishing returns and then the ponds could be dried and cleaned in order to reestablish the recharge rates. Under this form of operation cleaning would normally be done about once or twice a year. During these cleaning operations the fish would have to be transferred into holding ponds in order

to maintain a fish population or the area restocked after cleaning. This can be done, but the cost of such handling and restocking are appropriately charged to the recreation users.

It is clear that a combined recreation-groundwater recharge facility would result in a less flexible operation from a water supply standpoint. The recreation user would be in large numbers and when recreation was adversely affected by some water supply operation you could expect considerable complaints. However, little or nothing is heard in the way of complaints over the lack of groundwater recharge. Recharge apparently is something that few people fully appreciate.

To make groundwater recharge facilities more acceptable for recreational use, it would be desirable if there were areas adjacent to the water suitable for parking, picnicking, and other recreation activities. Naturally, from a groundwater recharge standpoint, a minimum amount of adjacent land area is acceptable for operation and maintenance and, therefore, the area obtained for groundwater recharge is primarily the water surface. This adjacent land needed for recreational services can be obtained by the recreation agency either at the time of purchase of the recharge area or later if the area is undeveloped. In some cases it may be possible to add recharge facilities to existing park and recreation areas using some of the area already available if it is desirable to add a water body to the park.

From a groundwater recharge standpoint, a number of small ponds provide a greater ease and flexibility of operation as well as allowing them to fit in with the terrain. Therefore, small areas are more suitable for groundwater recharge, while larger water areas are more desirable from a recreation standpoint. It is also desirable to have groundwater recharge facilities that are easy to maintain and in the smaller facilities the rectangular units are preferable. However, the recreation users desire, from an aesthetic standpoint, curved ponds with projections and convolutions to improve the appearance of the water-land area. These types of aesthetic treatments are more adaptable to larger size ponds, considering maintenance problems, but the larger ponds have less flexibility of operation.

The deeper the groundwater recharge ponds are, the better they are for groundwater recharge; this parameter would appear to agree with the recreation uses of boating and fishing. The ponds should be shallower for wading or swimming but since these uses should be prohibited for other reasons then the depth of pond does not seem to be important from a recreation standpoint. However, deeper ponds do present a problem from a public safety standpoint.

The steeper the side slope of the recharge ponds the better it is for groundwater recharge while the flatter side slopes are more desirable from a public safety standpoint. If recharge facilities are to be used for recreation, then it would appear

desirable to add a benched trailway at or immediately above the water surface in the pond. This would provide a means for people who fall into the water to climb out of the ponds where otherwise they may not be able to climb the steep side slopes. This bench or trail adjacent to the water surface would also provide a safe means to meet the desire of people to get closer to the water. The cost of constructing a benched trailway on the side slopes of recharge ponds appears to be a recreation user cost.

It may be concluded, then, that in spite of the fact that recreation and groundwater recharge have some major areas of incompatibility, appropriate cooperation and allocations of cost between water and recreation agencies would permit groundwater recharge facilities to be used for recreation. This dual use requires a full recognition of the problems and appropriate cooperation between the responsible agencies. The recreation agencies should provide appropriate insurance protection, the necessary onshore facilities, fish stocking and replacement, and policing or supervision of the recreation activities at the groundwater recharge facilities. Swimming and wading would have to be prohibited, the use of motor boats on the water would be prohibited and the use of motor vehicles and horses, which cause erosion of the side slopes of the pond areas, would also be prohibited. The water agency would have to develop an appropriate operations program to provide maximization of the groundwater recharge while

at the same time considering the recreation needs, develop vandal proof operation devices and fence critical areas, and take appropriate measures to control insects and aquatic weeds as well as generally maintaining the groundwater recharge facility.

Lloyd C. Fowler
Director of Engineering
Santa Clara County Flood Control
and Water District
June 1972