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DEPARTMENT OF PARKS
AND COMMUNITY SERVICES

CITY OF SACRAMENTO
CALIFORNIA

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CROCKER ART MUSEUM
HISTORY AND SCIENCE
METROPOLITAN ARTS
SACRAMENTO ZOO
PARKS AND RECREATION

- NORTH
- SOUTH
- CITY-WIDE

June 28, 1990

Budget and Finance/Transportation and Community
Development Committee
Sacramento, California

Honorable Members in Session:

SUBJECT: Water Conservation Measures

SUMMARY

This report provides information regarding the Department of Parks and Community Services' efforts to comply with the Water Conservation Ordinance. This report also recommends that an exception be made in the watering schedule to avoid conflict with heavy use days by the public. Additionally, this report recommends that funds be appropriated to upgrade and retrofit faulty irrigation systems at seven highly visible problem areas.

BACKGROUND INFORMATION

The Department of Parks and Community Services is a major user of water at facilities and in areas that are highly visible to the public. To ensure compliance with the Water Conservation Ordinance effective June 1, 1990, the Department has taken deliberate measures at all of its parks and facilities.

Old Sacramento

Washing of sidewalks, driveways, alley ways, and parking areas is prohibited except to alleviate sanitation hazards (i.e., horse-drawn vehicle or trash compactor areas).

Prinkler heads have been adjusted to prevent excessive runoff of water on sidewalks and street areas.

Staff is complying with the odd/even schedule for watering unless a conflict with a special event occurs.

Irrigation controllers are set between 10:00 p.m. and 6:00 a.m. with the length of watering reduced.

Maintenance persons are present during all manual irrigation of street and potted trees in Old Sacramento.

Sacramento Zoo

Hosing down walkways no longer takes place except in case of a health or hazard condition. For sanitation and health reasons, staff continues to hose down concession stand areas.

All irrigation of gardens/grass areas complies with the Conservation Ordinance.

Two exhibits that required a great deal of water, the hippo and elephant, have been altered. The hippo pool must be drained daily for the health and safety of the animal. However, the pool will be filled only to half of its capacity each day. The elephant trough previously had water flowing continuously and overflowing to prevent stagnation. Staff now fills the trough three times per day and there is no overflow.

Many exhibits must be hosed down daily for obvious reasons; however, every effort is made by staff to use as little water as possible and still maintain healthy, sanitary conditions for the species on exhibit. It should be noted that three major water intensive exhibits have already been removed due to renovation: the pelican pond, koi pond, and monkey island.

Fairytale Town

A new automatic irrigation system costing \$58,000 is now functioning allowing night time watering and computer controlled watering and puts Fairytale Town in compliance with the Conservation Ordinance.

The upper and lower moats have been emptied of water and the concession water wheel has been deactivated. The cleaning of the moats, sidewalks, and pathways will be accomplished with blowers rather than hosing down. Water will be used only in those cases of washing away animal waste generated primarily by geese/ducks.

Parks and Recreation Divisions/South and North

The upgrade of park irrigation systems has been the primary thrust in meeting the ordinance requirements. The North Division purchased approximately \$30,000 in irrigation supplies while the South Division expended \$40,000 in emergency funds provided by the City Council at mid-year review. These supplies and equipment have been used to upgrade and retrofit irrigation systems in many of the parks. Sprinkler heads, valves, lines, clocks, etc. are being replaced. The additional workload is being accomplished in both divisions by a total of ten Utility Workers, a limited-term Park Maintenance Worker I, and two Irrigation Specialists.

Irrigation at some of the more popular areas (i.e., portions of Land Park, McKinley Park, East Portal Park, etc.), which have particularly heavy weekend use is rarely possible on weekends. In those cases, a limited amount of irrigation is necessary on Mondays around picnic and ball diamond areas. Otherwise, the three days without water could result in irreparable damage.

Other conservation methods are hosing down of walkways, bleacher pads, etc. only if necessary for health and sanitation reasons; manual irrigation systems are to be shut off by 11:00 a.m.; all irrigation heads bordering sidewalks and streets have been adjusted to avoid over-spray onto sidewalks and/or excessive runoff in gutters; and every effort is made to comply with the odd/even schedule for watering unless a conflict with mowing or park permits occurs.

In addition, one person in the Parks and Recreation/City-wide Division is responsible for handling all citizen complaints regarding violations of the Water Conservation Ordinance. A log is kept and is checked against other complaints that have originated in the field, allowing for almost immediate responses to problems.

Golf Division

The Golf Division is in its eighth year of a ten-year master plan to convert all City golf courses to computerized automatic irrigation. The purpose of the master plan is to conserve a minimum of 30% of the water requirements for the golf courses.

While the maintained areas of the courses have increased so has the efficiency of our once totally manual irrigation system. For example, the Bing Maloney Executive 9 course is totally automated and controlled by computer that provides for a 33% reduction in water use. All greens and tees on the Bing Maloney 18 and Haggin Oaks South courses have been automated as well as six of the nine holes at William Land Golf Course; all programmed and monitored for efficient use of water.

Although golf course landscaped areas have increased about 10%, less ground water is used today than during the 1977 drought. Furthermore, on-site wells which are the source of irrigation have not shown a depth drop in the water table for the past 15 years.

Other programs recently initiated to conserve additional water are:

- Reduction of irrigation on Bing Maloney and Haggin Oaks driving ranges.
- Curtail practice of irrigation with roller basin in perimeter areas.
- Irrigate "rough" areas only enough to maintain trees in the area.
- Dry up lake at Bing Maloney 18 course.
- Reduce the amount of time manual irrigation heads are in use.

Contract Maintenance Areas

The Special Services section of the City-wide Park and Recreation Division supervises six independent landscape contractors who maintain 92 separate locations throughout the City at a cost of approximately \$647,000 per year. Contract maintenance involves not only park medians and small parks but also landscaping around facilities operated by the Divisions of Water, Sewer, Police, Solid Waste, Parking, and Library.

Staff has met with each contractor and has thoroughly reviewed what is expected of them as it relates to water conservation. Attached are copies of how this was accomplished. As a follow-up for compliance, a Park Supervisor visually inspects contracted areas five days a week (seven, if necessary). Any problems are immediately reported to the appropriate contractor. Thus far, the contractors have been very responsive as they fully understand the need for conservation.

Staff are in the process of upgrading our contracted areas as funds become available. We have identified a need for \$216,000 in supplies and equipment for 38 sites.

Major Problems/Issues

The preceding briefly describes some methods used or to be used to conserve water. We do have specific problems, some of which will be identified, and we also have the possibility of major problems when we continue to retrofit and/or replace antiquated irrigation systems. For example, the Department of Parks and Community Services is responsible for the maintenance (this includes irrigation) of over 2,000 acres of landscaped area. Some of those 2,000 acres have automated irrigation systems which consist of 500 clocks which activate 5,800 valves which in turn activate approximately 46,600 sprinkler heads. Also within the 2,000 acres are approximately 5,000 non-automated heads, such as impact heads, roller basins, bubblers, etc. Rarely do all systems function correctly all the time. Reasons for malfunctions include vandalism, faulty clocks, power outages, wear and tear, human error, etc. Consequently, on any given day/night, the public will observe some form of water waste at a location for which our department is responsible. In these cases, we react as quickly as possible to fix the problem. Examples of problems and possible solutions are described in the following paragraphs.

Poorly designed streetscapes and antiquated irrigation systems often negate conservation efforts; however, re-design and upgrading of equipment will solve these problems. Two examples are the McKinley Park median between H Street and Alhambra in East Sacramento and Jack Rea Park in North Sacramento. Once the systems are activated, within five to ten minutes water begins to run off the lawn and into the gutter. The same is true on the 21st Avenue greenbelt, some sections of the Capitol Mall, H Street subway, San Francisco Boulevard, and several others. In these cases, staff must manually water and water more often but in shorter periods of time to prevent runoff. This conservation effort is expensive and labor intensive.

Many of the clocks, valves, and heads are at an age where they frequently malfunction and need replacement. As mentioned earlier, in contract maintenance alone we have identified 38 sites needing upgrading at an estimated cost of \$216,000 (see attachment) The majority of contracted areas are highly visible to the public as are irrigation system malfunctions. The most visible problem areas are #4 - Del Paso Boulevard; #7 - Florin; #14 - H Street subway; #'s 22 and 23 - T Street; #31 - 21st Avenue; and #36 - 65th Street Expressway. In addition, each controller (120+) under contract maintenance should be fitted with a "rain gauge," an instrument mounted on the controller that will de-activate the irrigation system in the event of rain.

Also mentioned earlier was the fact that approximately \$70,000 was appropriated in emergency funds to begin to retrofit and upgrade irrigation systems in various parks. These funds will provide somewhat of a bandaid approach and in the interim, staff is preparing an accurate list of equipment needs and costs in order to budget accordingly.

Watering is prohibited on Mondays and unfortunately, heavily used picnic, ball diamond, park and golf areas cannot survive the weekend use unless heavily irrigated on Mondays.

FINANCIAL DATA

Emergency funds in the amount of \$70,000 were appropriated at mid-year which are now being used to retrofit and upgrade irrigation systems in various parks. Approximately \$216,000 is needed to correct deficiencies in areas under contract maintenance. Additional funding will be needed in the near future to retrofit all faulty equipment.

POLICY CONSIDERATIONS

Failure to correct deficiencies would result in wasted water, shutting down of irrigation systems, poor public relations, and in general, violation of the adopted Water Conservation Ordinance.

MBE/WBE EFFORTS

Every effort will be made to conform with the City's MBE/WBE goals.

RECOMMENDATION

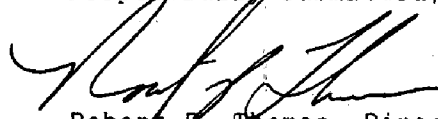
It is recommended that the Budget and Finance/Transportation and Community Development Committee approve this report and forward it to the full City Council for action. Further, it is recommended that City Council, by resolution:

1. Authorize Department to water selected parks as necessary and golf course areas on Mondays to avoid conflict with the heavy use by the public on Saturdays and Sundays, and

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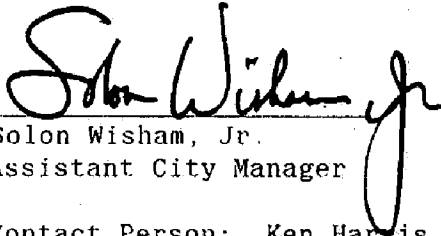
2. Have staff report back in August with a priority list and phased funding plan for parks and medians in need of equipment and retrofitting.

Respectfully submitted,



Robert P. Thomas, Director
Parks and Community Services

Recommendation Approved:



Solon Wisham, Jr.
Assistant City Manager

Contact Person: Ken Harris, Parks and Recreation Manager/City-wide - 449-5384.

RPT:ja

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July 17, 1990
All Districts

RESOLUTION NO.

ADOPTED BY THE SACRAMENTO CITY COUNCIL

ON DATE OF _____

RESOLUTION APPROVING THE FOLLOWING POLICIES REGARDING
WATER CONSERVATION FOR THE DEPARTMENT OF
PARKS AND COMMUNITY SERVICES

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

1. That the Department of Parks and Community Services is authorized to water selected parks as necessary and golf course areas on Mondays to avoid conflict with the heavy use by the public on weekends.
2. That staff will report back with a complete inventory of equipment needs to more efficiently conserve water.

MAYOR

ATTEST:

CITY CLERK

FOR CITY CLERK USE ONLY

RESOLUTION NO.: _____

DATE ADOPTED: _____

CONTRACT MAINTENANCE AREAS

<u>Location</u>	<u>Upgrade Costs</u>
1. Capital Mall A. Add two new solar controllers and two B. New electric valves	\$ 1,200.00
2. Center Parkway A. Center Parkway B. Add two new solar continuous rollers and eight electric valves. C. Change two regular controllers	2,600.00
3. Crescent Park A. Install high pop up heads	800.00
4. Del Paso Blvd. A. Add 14 new solar controllers and 14 electric valves.	9,800.00
5. Exposition Blvd. Area A. Install high pop up heads, one new solar controller and valve and 6 new regular valves.	5,800.00
6. Fair Oaks Blvd. A. 1 new valve	200.00
7. Florin (I-5) A. 2 new solar controllers and eight valves	3,900.00
8. Florin (Amherst) A. 17 new solar controllers B. 17 new valves	15,300.00
9. Franklin Blvd. A. 1 new controller (replacement)	800.00
10. Freeport (Blair) A. 2 new solar controllers B. 2 valves	2,400.00
11. Freeport (Sutterville) No Water Now A. New lines, new taps, new electric, new heads, new controllers	50,000.00
12. Fruitridge (James) A. 4 new solar controllers B. 10 new valves	6,400.00

CONTRACT MAINTENANCE AREAS

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<u>Location</u>	<u>Upgrade Costs</u>
13. Fruitridge R/R A. Change irrigation line B. 6 new (replacement) vales C. 60 high pop heads D. 1 new controller	5,000.00
14. H Street Subway A. 2 solar controllers B. 2 electric vales C. Add irrigation lines and heads	3,800.00
15. Howe Avenue Area A. 4 replacement controllers B. Change to high pop heads	6,000.00
16. J Street Subway A. New battery system being installed at this time.	16,500.00
17. La Riviera A. Change to high pop heads	1,500.00
18. Northgate Island A. Change to high pop heads	800.00
19. Riverside (Sutterville) A. Install additional controller B. 3 valves split line C. add booster pump	13,300.00
20. Riverside (Pocket) A. Change to high pop heads	1,700.00
21. San Francisco Blvd. A. 12 solar controllers B. 12 valves	10,800.00
22. Sierra Vista (T Street) A. Change to high pop heads	1,100.00
23. Sunset (T Street) A. Change to high pop heads	1,100.00
24. Santa Ynez A. Additional controller B. New line and heads	3,000.00
25. 3rd Street A. 2 solar controllers B. 2 valves	2,400.00

CONTRACT MAINTENANCE AREAS

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<u>Location</u>	<u>Upgrade Costs</u>
26. 12th St. Underpass A. New controller B. Abandon some valves C. Repair others	1,200.00
27. 14th St. and D Street A. New controller B. New valve, line and heads C. Replant area	1,500.00 ✓
28. 14th St. and 1st Avenue A. 1 solar controller B. 1 new valve C. High pop heads	1,300.00
29. 21st St. and Freeport A. High pop heads	200.00
30. 21st St. and 2nd Avenue A. 12" Risers heads	500.00
31. 21st Avenue and Perry Avenue A. Add 6 new controllers B. Split lines	6,000.00
32. 21st St. and 22nd St. A. New controller - replace old valves B. New pop up heads	6,000.00 ✓
33. 24th St. Bypass A. Add pop up heads	600.00
34. 33rd St. and 5th Avenue A. 1 solar controller B. 1 valve and pop up heads	1,200.00
35. 48th and M Streets A. 1 solar controller and valve B. Change to pop up heads	1,200.00
36. 65th St. Expressway A. Change all heads (bad spray pattern)	3,000.00
37. 12th St. Assessment District A. Most of system not working due to construction B. New lines, heads, repairs C. Add controllers, taps, electrical	20,000.00 ✓
38. Laguna Creek A. Separate system from nature area B. Add three controllers - electrical on C. Add 4 solar controllers	8,000.00
Grand Total	\$ 216,900.00