CITY of OAKLEY
CALIFORNIA
A PLACE for FAMILIES in the HEART of the DELTA

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STAFF REPORT

Approved and Forwarded to City Council:

Bryan H. Montgomery, City Manager

Date: Tuesday, May 12, 2015

To: Bryan H. Montgomery, City Manager / City Council

From: Kevin Rohani, Public Works Director/City Engineer
Len Morrow, Parks and Landscape Division Manager

SUBJECT: Parks and Landscape Division Water Conservation/Management Strategies

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BACKGROUND

The mission of the City of Oakley Parks and Landscape Division is to provide clean, safe, well-maintained, inviting, and sustainable parks, landscape areas, and recreation facilities for the enjoyment of Oakley residents and visitors.

Under the direction of the Public Works Department, the Parks and Landscape Division is **responsible for maintaining some of the most visible property in the City**; with over **105 acres** of developed park land in the system, that include many modern park amenities and provide many options for varied recreation uses, almost **40 acres** of unimproved park land and open spaces, and approximately **57 acres** of landscaped street medians, planters, and streetscapes, including just under **10,000 trees**, with the majority of the maintenance and operation costs funded through Landscape and Lighting Assessment Districts.

Everyone is aware that Governor Brown proclaimed a State of Emergency and issued an Executive Order due to the severe California drought conditions. The State Water Resources Control Board quickly followed with the adoption of expanded emergency regulations and prohibited water uses. Contra Costa Water District and Diablo Water District are also in the process of adopting mandatory conservation measures with the ability to fine violators.

Please know that the drought restrictions will have pronounced impact and affect to the appearance and quality of the landscape as we currently know it.

Water conservation is a key objective in developing water conservation/management strategies. In preparing this report, the Parks and Landscape Division took into consideration various factors, including short term and longer term measures and strategies for reduced water use, the need to establish priorities and protect certain resources and facilities, modification to irrigation infrastructure where practical (and affordable), and make programmatic changes which could conserve water. Staff will be carefully managing how and where water is used and will also be closely monitoring the water accounts with respect to water use.

Below is an outline (general framework) of an initial action plan to guide the Parks and Landscape Division in its planning and management response to the drought. It identifies activities and strategies to be implemented and is seen as a tool that will be amended and added to as we move forward.

Proposed Actions (inclusive, but not limited to):

To address the drought restrictions (and discuss some of the impacts that will be seen), the following strategies encompass a substantial part of our action plan.

Compliance with Diablo Water District Water Use Policy and Prohibitions:

- 28-40% reduction in (gross/overall) of POTABLE water usage
- No washing down sidewalks, surfaces etc. with potable water
- No Excess run-off (Not including overspray due to wind)
- No decorative fountains, unless on re-circulatory system (Nunn-Wilson and Creekside Spray Fountains are CLOSED)
- Irrigation limited to 3 days per week; Twice on the day maximum
- No irrigation within 48 hours after measurable rain
- No irrigating between 9 am - 5 pm

Fountains and Spray Features:

The spray fountain features at Nunn-Wilson Family Park and Creekside Park, along with the individual spray feature poles at Shady Oak Park and Cypress Grove Park are CLOSED.

The two City decorative fountains, one located at the City Hall Civic Center, and the other at the Oakley Plaza Shopping Center, are both on re-circulating systems. There is some water loss due to overspray and evaporation. Operating hours for the Oakley Plaza Fountain has been reduced to only operate daily between 5 pm and 8 pm, and 11:30 am – 8 pm on weekends.

Computerized Central Control Irrigation System (in-progress):
As with many operational areas, the advancement of technology has opened the door to increased water efficiency. This month the City brought on-line a sophisticated, centrally controlled, computerized irrigation system that allows communication to currently 26 (and about 100 in the coming months) irrigation controllers in the field or from the office. It provides the highest irrigation efficiencies in the landscape industry.

The weather station operates in conjunction with the Central Control Irrigation System through continual weather data collection using evapotranspiration rates, commonly known as "ET," which is the loss of water from the soil surface into the atmosphere. The system automatically adjusts irrigation schedules to match actual landscape water requirements and will terminate (or pause) irrigating during rain or higher winds.

Staff can make immediate changes to the programs without having to go to individual sites and programming each controller. The technology detects problems and provides alerts immediately of breaks or leaks, and automatically shuts problem areas down until repairs are made. This system covers about 40% of our landscaped areas. Older parks and landscaped areas are not equipped and can possibly be included in this program if funding becomes available.

Mulching
Mulch will be added where needed around plants and trees to keep plant roots cool, minimize evaporation, and reduce weeds.

"Moisture Manager"
Moisture Manager is a newer product being used on turf areas to reduce water use. The product captures and retains available moisture on the root surfaces, keeping some moisture that is consistently lost both to gravity (quickly in Oakley sandy soils) and evaporation. The City is testing the product to determine if it will be beneficial in cutting water usage and keeping turf sites greener.

Conversion of Ornamental Turf to Drought Tolerant Landscaping
Removing/Eliminating ornamental turf grass in numerous locations throughout the city will save both water and money. Grass looks nice, but requires significant amounts of water and is more costly to maintain. The landscape conversion process involves removing the turf, changing the irrigation to low volume and/or low precipitation nozzles, installing attractive low-use, drought tolerant plants, and adding bark/mulch. The end result is new landscape which uses 40-50% less water than turf, and less labor and cost to maintain. Water will be shut off and turf will be allowed to die now, with conversions scheduled to occur in the Fall, when less water will be needed for the plant

establishment. The following is a list of sites where this conversion process will take place:

- Civic Center Park (Stopped irrigating portion of no-mow grass. Renovate in future)
- Oakley Town Center (Lucky's) Shopping Center street perimeter
- Claremont Bay Park (eliminate turf)
- Heather Park (Stop irrigating turf. Renovate in future)
- Harvest Park (eliminate turf)
- Marsh Creek Park (eliminate portions of turf)
- Gull View Court walkway
- Snowy Egret Court walkway
- Merganser Court walkway
- East Cypress Road (lower priority)
- Main Street (west side, north and south of Shady Oak Drive)
- Shady Oak Drive (north and south sides from Main Street to Morning Glory)
- Simoni Ranch Road (portions of north and south sides Main Street to Rose)
- Rose Ave (east side Simoni Ranch Road to Barn Dance Way)
- Brownstone (south side O'Hara east to end of subdivision)
- Neroly Road (north and south sides O'Hara east to end of subdivision)
- Heartwood Park (portions)
- Live Oak Ranch Park (portion)
- Simoni Ranch Park (portions)
- Riata Park (evaluate potential areas to be converted)
- Magnolia Trail (all turf along trail)
- Novarina Park (portions on non-use areas)
- Daffodil Park (evaluate potential areas to be converted)
- Sycamore Park (eliminate turf)
- Summer Lake Park (evaluate potential areas to be converted)
- Catamaran Park (moratorium on grass being installed at this time)

Potable and Non-Potable Water Use:
The Division uses both potable and non-potable water to irrigate parks and landscaping. Turf irrigation is the largest water user. In all instances potable water is used in restrooms, drinking fountains, and spray fountains.

Recognizing years ago that water is a limited resource and a major utility expense for irrigating parks and landscape, the City began efforts to install wells, when possible and

practical, at parks when they are developed. This greatly saves on the potable water use consumption.

The prioritizing potable water use on park turf takes into consideration the issues of safety, use, cost, importance and/or newness of landscape, and aesthetics. Water resources will be directed first to higher priority sites. For simplification, we have categorized turf as either:

- **Essential** – high priority (includes active organized play or event locations); versus
- **Non-Essential** turf (and distinguished as to priority - Lower Priority and Lowest Priority). Non-Essential turf areas will have their water reduced a minimum of 30%, up to 100% (off at a few select locations) by frequency, duration, and coverage.

Parks utilizing Non-Potable water (Exempt from State and District Provisions):

Briarwood	NON-POTABLE (Well -soon)	
Cypress Grove Pond	NON-POTABLE (Well -soon)	
Cypress Grove	NON-POTABLE (Well -soon)	
Magnolia	NON-POTABLE (Well)	
Nutmeg	NON-POTABLE (Well)	
Laurel Ballfields	NON-POTABLE (Well)	Essential/High Priority
Freedom Basin	NON-POTABLE (Well)	Essential/High Priority
Creekside	NON-POTABLE (Well)	Essential/High Priority
Shady Oak	NON-POTABLE (Well)	
Crockett	NON-POTABLE (Well)	
Holly Creek	NON-POTABLE (Well)	

Parks utilizing Potable water:

- Summer Lake (On a well; but considered Potable) — Essential (Part)/Non- Essential (Part)
- Riata — Non-Essential/Lower Priority
- Harvest — Non-Essential/Lowest Priority
- Marsh Creek Glenn — Non-Essential/Lower Priority
- Live Oak, Simoni Ranch — Non-Essential/Lower Priority
- Heartwood — Non-Essential/Lower Priority
- Manresa and Sycamore — Non-Essential/Lowest Priority
- Lakewood, Leeward, Lakeside — Non-Essential/Lower Priority
- Nunn-Wilson Family — Non-Essential/Lower Priority
- Civic Center — Essential/High Priority
- Novarina — Non-Essential/Lower Priority

- Daffodil — Non-Essential/Lower Priority
- Oak Grove — Non-Essential/Lower Priority
- Main Street — Non-Essential/Lower Priority
- Claremont — Non-Essential/Lowest Priority
- Heather — Non-Essential/Lowest Priority
- Dewey — Non-Essential/Lower Priority

Note: Oakley Union Elementary School District also utilizes well water to irrigate its school grounds and school parks, such as O'Hara Park, Vintage Park, Gehringer Park, and Oakley Elementary School Park. Freedom High School also uses well water to irrigate its school grounds and ball fields.

Trees:

As mentioned, the Parks and Landscape Division is responsible for an urban forest of just under 10,000 trees. The loss of trees can have detrimental effects to the community, including wildlife habitat loss, reduced air quality, reduced wind and shade, increased erosion, just to name a few.

New trees are regularly watered the first three years to establish the root systems. The Division does not wish to experience loss. Young trees will need to be monitored to determine if supplemental watering (with non-potable water) will be necessary so the tree's growth will not be adversely affected. The general strategy will be to limit stress or loss of these valuable resources.

Planning and Design Opportunities (examples under consideration):

- Marsh Creek Glenn Park – Add a ½ basketball court
- Novarina Park – Install a sand volleyball court
- Other potential amenities whose additions would eliminate turf: Outdoor Fitness park component; Gazebo, etc.
- Explore potential use of artificial turf in certain circumstances/areas.
- Evaluate conversion of some irrigation to low precipitation nozzles, etc.

Other Practices and Strategies:

- Continue to encourage Oakley residents to inform the City of irrigation issues (leaks, breaks, etc.).
- Train/educate City employees to understand and be able to communicate with pubic about Potable versus non-Potable water; Difference in definition between overspray and excessive run-off; and the mandates.
- Any new planting projects will generally be delayed until the Fall and/or the drought conditions improve. Annual color planting may also be deferred.

This report is for informational purposes only.

Example Photographs attached:

Photo #1 – BEFORE with turf

Photo #2 – AFTER with low water use landscape of bark and drought tolerant plants

Attachment 1