



Mary Ruth Carter, Leslie O. Carter

The Palmdale Water District was fortunate to have Les Carter serve as Director for 33 years and serving as President of the Board for several of those 33 years. He began his involvement in 1971 when the District was still an "Irrigation" District.

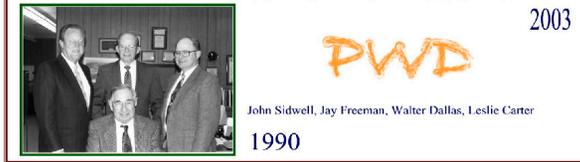
Les Carter guided the District to meet increasing water demands through the construction of key projects including the construction of a 12-million gallon per day water treatment plant, which was expanded to a 28-million gallon per day plant in the early 1990s.

His personal knowledge of the controversy surrounding the original Littlerock Dam structure was invaluable in the rehabilitation and renovation of the Dam and recreation area during the mid-1990s and he helped ensure numerous water main and reservoir projects were completed.

When Les first came on the Board, the District had approximately 43 miles of pipeline in the ground. The District now has almost 350 miles of pipeline and over 40 million gallons of water storage capacity to serve its customers. He was also a key player in legislative and personnel issues, in the formation of the District's water conservation program, and served as an alternate commissioner for the Antelope Valley State Water Contractors Association.



Dennis LaMoreaux, Nolan Negaard, Lynn Coffey, Leslie Carter, Ron Cunningham, Jay Freeman, and Jess Senecal



John Sidwell, Jay Freeman, Walter Dallas, Leslie Carter

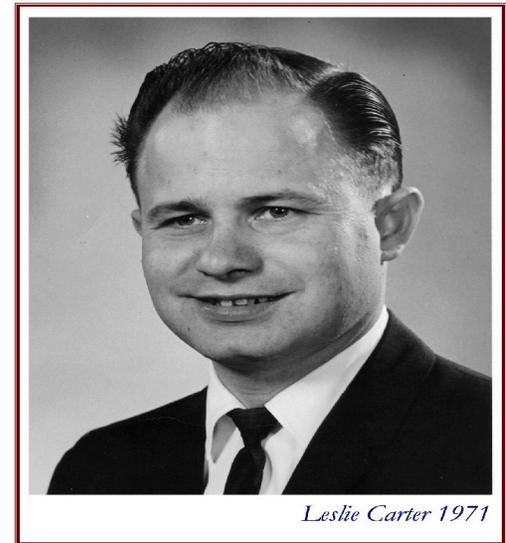
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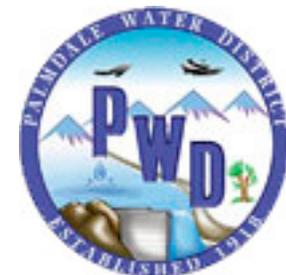
Jay Freeman, Nolan Negaard, Les Carter, Ron Cunningham, Lynn Coffey



## Dedication Ceremony The Leslie O. Carter Treatment Plant



Leslie Carter 1971



November 19, 2010

## *Water Treatment Plant History*

To keep up with demand, in 1987 the District constructed a water treatment plant that would process 12 million gallons of water per day. As Palmdale's population continued to grow, it was determined that the water treatment plant built in '87 would not support Palmdale's future water usage needs. An expansion of the facility was determined necessary and was completed in 1993 increasing the District's production capacity from 12 million to 30 million gallons of water per day.



*Treatment Plant in 1991*

## *Expansions & Up Grades*

In 2008, the District made significant improvements to the treatment plant to provide the highest water quality, possible. The installation of a self cleaning screen at the lake outlet, upgrades to influent piping, addition of a third stage of flocculation, inclined plate settlers and a new sludge removal system to the existing sedimentation basins as well as enclosing the sedimentation basin inside a new building. Also installed were new chemical feed equipment, a larger emergency power generator and sludge drying beds (lagoons). Two new filters were added as well as upgrades to the existing 10 filters.

## *Most Powerful Treatment*

The most significant change, however, is the addition of the Granular Activated Carbon (GAC) contactors. GAC is the perhaps the most powerful substance used to absorb impurities. One pound of GAC contains a surface area of roughly 125 acres and can absorb thousands of different chemicals. There are two principal mechanisms by which GAC removes contaminants from water; absorption, and catalytic reduction, a process involving the attraction or negatively-charged contaminant ions to the positively-charged GAC media. Organic compounds are removed by absorption while other chemical contaminants are removed by catalytic reduction. The primary reason for the addition of GAC contactors is to reduce the Total Organic Compounds (TOCS) that react with chlorine to produce Disinfection By Products (DBPs) such as trihalomethanes (THMs) which have been linked to liver, kidney, central nervous system problems, and an increased risk of cancer when water in excess of the Maximum Contaminant Level (MCL) is consumed over many years.

*These water treatment plant improvements will enable the Palmdale Water District to provide a high quality, healthy and aesthetically pleasing product to customers for years to come.*

## *Wind Energy*

*In August 2004, the Palmdale Water District held their dedication ceremony of the 950 kwh (kilowatt) wind turbine located on the site of the Palmdale Water District's water treatment plant. The system was constructed by Dressel Enterprises utilizing a NEG Micon NM54/950 Turbine. The purpose behind the wind turbine construction was to eliminate most of the need for grid electricity even though the plant would remain connected. Eventually the system is expected to decrease environmental impact and dependency on power from Southern California Edison. To assist the District in meeting this goal we have contracted with Oak Creek Energy Systems of Mojave, CA to monitor the performance of the wind turbine.*

*At the time of completion the District's wind turbine was the largest wind energy net metering project in the United States. The project was also the most cost effective ever to qualify for California's Self Generation Incentive Program.*



Directors Nolan Negaard, Leslie O. Carter, and Lynn Coffee