

# STAFF REPORT

## City of Lancaster

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Date: October 9, 2007

To: Mayor Hearn and City Council Members

From: James R. Williams, Public Works Director

Subject: **Status Report of Water Supply Programs in the Antelope Valley**

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### **Recommendation:**

Receive and file this report. Give direction to staff as it may pertain to City of Lancaster interests in water supply and availability. The Council may wish to schedule a workshop during the next several weeks to hear in more detail some of the immediate and long-term water challenges and to brainstorm policy direction that may be appropriate to improve water supply for Lancaster citizens and business interests.

### **Fiscal Impact:**

No currently identifiable fiscal impact to the City of Lancaster.

### **Background:**

Water use in the Antelope Valley has been largely dependent upon the extraction of groundwater until the 1970's when the State Water Project began to deliver water from Northern California through the California Aqueduct system. Past periods of drought have had minimal direct impact on residents of the Antelope Valley – even when importing water through the California Aqueduct was curtailed because of state-wide drought – as groundwater was plentiful and there was little concern about over-pumping of the aquifers.

A water rights argument in the mid to late 1990's resulted in a lawsuit that changed a few years ago to become an adjudication of the groundwater basin of the Antelope Valley. The adjudication, although few decisions have as yet been made by the judge hearing the case, has focused the Antelope Valley on the overdraft conditions of the basin, and put all of us on notice that continuing to overdraft the basin will not be allowed once the court has decided how the groundwater basin will be managed. With unlimited groundwater extraction no longer an option, the impact of drought conditions in other parts of California will be felt by all of us unless significant steps are taken first to stabilize and then to expand water supply availability in our region.

Many positive steps have been taken by Antelope Valley water supply agencies and other parties since the Lancaster City Council held its workshop on water in May of 2005. Regrettably, the individual steps have to date not yet improved water supply realities so the immediate challenges at hand may require drastic action. Before enumerating some of the drastic steps that may need

to be taken in the near term, discussions of the extent of the current water supply challenge and progress by Antelope Valley water interests are needed.

Water Supply Challenge:

The three State Water Contractors in the Antelope Valley (Antelope Valley East-Kern Water Agency, Palmdale Water District, and Littlerock Creek Irrigation District) combined have entitlements to approximately 160,000 acre feet of imported water in a given water year. This amount is a maximum, but the reality is that on average – because of the fluctuations of water available from natural runoff – only approximately 70% of the maximum (112,000 acre feet) is allocated to the Antelope Valley State Water Contractors. Unusually dry conditions and a judicial decision to protect an endangered fish, the Delta Smelt, by reducing the volume of water that can be pumped into the California Aqueduct for consumption have the current effect of reducing water available for import by another 37%. This means that the annual supply available to be allocated to Antelope Valley State Water Contractors has been reduced to approximately 70,560 acre feet. The projections for next year allocations may be even less. Also important is to remember that the 70,560 acre feet of State Water Project allocation is used not only by Lancaster residents, but throughout the Valley. Further, water agencies are reluctant to pump more groundwater than when the lawsuit was first filed because the adjudication process could look upon such actions unfavorably and reduce for the long term the annual amount allocated for a particular agency.

Because of the uncertainties of State Water Project deliveries for the foreseeable future, Los Angeles County Waterworks District 40 recently announced they will not be able to complete favorable water supply assessments for development projects that currently have environmental impact reports in preparation. Water supply assessments are needed for projects that exceed 500 service connections. The absence of favorable assessments would, in general, prevent such projects from being approved for construction.

Water Supply Progress Since May 2005:

Among many opportunities to better manage water supply in the Antelope Valley, two stand out as offering the greatest return in the least amount of time: the recharge and banking of water supplies in the natural aquifer and direct reuse of recycled water. These opportunities have been known in the community for decades but water agencies have been reluctant to act on their own – except for immediate, local benefit within the service area boundaries of their agency – and there has been no regional agency to act universally for the benefit of all water users in the Antelope Valley. Beginning with concurrence of the Lancaster City Council on June 26, 2006, and the later agreement by resolution or other action of the other primary water interests / using agencies in the Valley, the Antelope Valley State Water Contractors Association Joint Powers Authority (JPA) was designated and accepted responsibility to enter into water banking programs for the benefit of the region.

Banking of imported water requires three essential components. First, there must be extra water available to bank. Second, there must be land available for spreading / infiltration land that is geologically suitable for recharge activities. Third, there must be a delivery system and other infrastructure improvements in place to get the “surplus” water to the banking area. These

components each require monetary investment. Obviously, there are many procedures to create and institutionalize to protect the rights and interests of the parties involved in banking activities. None of these requirements to bank water were in place last summer at the time the Joint Powers Authority agreed to assume responsibility for regional water banking.

The Joint Powers Authority (JPA) has taken some steps toward water banking since last summer. They purchased and banked 100 acre feet of surplus water by introducing it to the Littlerock Creek natural streambed. This was done more as a show of good faith and was done with the financial assets of the JPA; no additional monetary contribution was sought. AVEK, the largest member of the JPA, took independent action in support of the long-term water banking interest of the JPA and purchased approximately 12,000 acres in Kern County, south of Rosamond. This is a significant step toward the second essential component for water banking as previously described but, in itself, generated wide-spread opposition from other Kern County property owners. Since then, the Rosamond Community Services District committed to contracting with Western Development, a private water banking company.

In a separate water supply program, Waterworks District 40 has been operating an Aquifer Storage and Recovery (ASR) system that injects treated State Water Project Water into the aquifer during winter months when there may be surplus supplies. The water is injected into the same well field where during summer months pumping is at its highest volume. Approximately 1,100 acre feet annually have been placed in the ground during the last two years.

Lancaster's Recycled Water Direct Reuse Program was conceived and approved by the City Council in December of 2004. Steady but slow progress has been made during the ensuing 30 months. Except for a major booster pump installation, the 4 ½ miles of 24-inch diameter pipeline has been constructed. As soon as the Sanitation Districts of Los Angeles County receives final approval from the State Public Health Department, they can begin to put water into our pipeline for Lancaster users.

The City of Lancaster initiated in FY 2005-2006 a report to identify the procedures and required elements of a proposed recycled water recharge program. This effort received financial and in-kind support from several water agencies of the Antelope Valley. The study was completed and the report finalized in May of 2007 at which time the next step was undertaken: to identify any fatal flaws in the approach before consolidating the financial resources of the Valley's water interests to fund a pilot project that would generate sufficient technical information to obtain permits to operate from the various state regulatory agencies. The pilot project is important because it could result in permits that would extend to multiple recharge locations throughout the Valley. The pilot project is planned to be constructed at the proposed storm water control basin consisting of approximately 100 acres on City of Lancaster property located at the southwest corner of 60<sup>th</sup> Street West and Avenue F. The pilot project is estimated to cost approximately \$5.6 million for capital expenses and could be operational by early 2010 - approximately one year later than the earliest estimated date for beginning banking of imported water. The pilot project could recharge / bank approximately 2,000 acre feet per year at annual operating and maintenance expenses estimated at \$790,000. This is a regional project that would continue to be funded by multiple agencies.

In June of 2006, the City of Lancaster joined ten other stakeholders in the water supply interests of the Antelope Valley to prepare an Integrated Regional Water Management Plan (IRWMP). This is significant because without an IRWMP, the region would not be eligible to receive grant and low-cost loan funds from the State. The first draft of the IRWMP was issued for public review and comment in July 2007 and was provided to the State Department of Water Resources. The final IRWMP will be presented to the governing bodies of all the stakeholders between November 20<sup>th</sup> and December 31<sup>st</sup> 2007.

Seven major water supply projects were identified as priority projects among the stakeholder representatives. The overall estimated water supply benefit for the seven projects totals 25,400 acre feet per year. The seven projects were submitted last month for funding consideration under the Proposition 50 Round 2 Grant Program. The Antelope Valley was one of 28 applicants for this Round 2 Grant Program. Only 17 of the applicants passed the first review; the Antelope Valley is one of those that passed. It is our expectation that we will be invited to submit some or all of our seven high-priority projects for a second review. The Lancaster Recycled Water Recharge / Banking project is one of the seven that were submitted and could receive up to 33% of its capital cost as a grant under the Proposition 50 Round 2 Grant Program.

The approach that has the greatest opportunity for meeting current near term water supply needs at least expense is water-use conservation. Both cities and all of the water districts have adopted water conservation ordinances. Each agency does a little to encourage water conservation but no one does it with the “teeth” necessary to achieve real progress. When it comes to enforcement, the water agencies look to the cities to take action and the cities consider enforcement to be in the realm of responsibility of the water agencies.

**Summary:**

Water supply projects take years to plan, finance, design, and construct. The Antelope Valley is well behind in developing projects to accommodate the growth in the Valley. Individually, the various water agencies have been undertaking small projects to enhance water supplies within the boundaries of their specific jurisdictions. The Integrated Regional Water Management Plan process has coalesced the various Antelope Valley agencies and water interests to identify and submit applications for projects that could generate 25,400 acre feet of additional supplies, but at a cost of more than \$206,000,000, approximately \$25 million of which we hope to receive in grant from the State’s Prop 50 Round 2 Call for Projects. At the present average rate of consumption, these additional supplies would be not quite the amount needed to service the new housing units that have been granted development entitlement in Lancaster and Palmdale. This includes only those projects that have tentative or final maps approved. State Water Project water supply is diminishing because of climatic and judicial drought conditions; at present there is no identified source of increasing water supplies for the Antelope Valley.