

# **Water Management Plan**

Kyle Canyon Water District

**June 17, 2003**

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## **INTRODUCTION**

The Las Vegas Valley Water District (LVVWD) has made every effort to incorporate the input of local Kyle Canyon residents and property owners into this Water Management Plan (Plan). During the months of March and April 2003, a series of eight (8) workshops were conducted to solicit feedback and/or additional recommendations on the Plan. Over 60 households, comprised of 32 full-time, 9 part-time, 8 weekend and 11 other (residential), participated in and contributed to the water conservation and water management measures detailed herein.

It is important to note that similar conservation efforts are being conducted on a regional basis as part of the Southern Nevada Water Authority's (SNWA) Drought Plan. Because Kyle Canyon's system operating conditions are determined by water levels within its three groundwater wells, and SNWA drought conditions are determined by Lake Mead water levels, these efforts should not be confused; this Plan was designed for the unique nature of the Kyle Canyon water system, its climate and other related factors.

This Water Management Plan serves as a tool to help Kyle Canyon residents reduce the impacts of the drought on Kyle Canyon's water supplies. As operating conditions become more severe, a higher level of response will be required to help ensure adequate drinking water supplies are available.

The Kyle Canyon Water Management Plan will become effective upon its adoption by the Kyle Canyon Water District Board of Trustees.

### **History:**

The Kyle Canyon Water District was formed on December 5, 1973 when Clark County adopted Ordinance Number 419, pursuant to NRS Chapter 318, General Improvement Districts. Since 1974, the LVVWD has operated and managed the affairs of the Kyle Canyon Water District pursuant to an Interlocal Agreement between the two entities. Under the terms of the agreement and the requirements for General Improvement Districts, the Kyle Canyon Water District is responsible for bearing all costs of services rendered in conjunction with the administration, operation and maintenance of the water system.

When the Kyle Canyon water system was formed, it was comprised of 74 service connections; today, the system serves 349 residential accounts. Over time, a variety of reliability and distribution issues have challenged the system, including rapid growth, a series of well and reservoir outages, and broken distribution lines due to freezing and age.

Historically, Kyle Canyon's ability to be proactive in new system improvements has been limited by zero cash reserves, insufficient revenue streams, and higher operational costs that must be distributed among the system's very small service group. Because of these constraints, management of the system has typically been one of repair and maintenance. Several improvements have been recommended to help bring the water system up to Nevada operating standards. These improvements and their potential funding sources are discussed at length in the latter portion of this document.

#### Kyle Canyon Water System Condition:

In addition to infrastructure needs, the drought currently affecting much of the western United States continues to have a significant impact on the Kyle Canyon water system. For example, one of the primary drinking water wells serving the system (Echo Well No. 3) experienced two separate partial well failures last summer. Testing indicated that the water table dropped approximately 40 feet lower than what was expected for that time of year. Low precipitation and higher than normal water demands contributed to the severity of the water system's condition.

Under normal operating conditions, a well will not run continuously and flows in excess of demands are available to refill storage reservoirs. However, in June 2002, LVVWD's remote monitoring system indicated a zero-loss, zero-gain in production for Echo Well No. 3. This means that demands were equal to what the well could produce. The demands for water continued without interruption, resulting in excessive drawdown in the well. As a result of the lower water level, clay and other ground materials were drawn into the well and water supply.

Water quality standards were never compromised by the situation, but the aesthetic concerns associated with an increase in turbidity prompted the LVVWD to make bottled water available to residents at the local library. To address declining water levels and excessive demands on the well, the LVVWD notified residents, the local Town Advisory Board and fire-fighting agencies with a hand delivered "urgent water advisory," asking residents to immediately curtail water use.

LVVWD Operations staff has indicated that similar or worse conditions can be expected in 2003. Historically low precipitation for several years has resulted in a lowering of water tables, locally and throughout the southwest. This situation, paired with higher than average water use in Kyle Canyon, contributes to significant system reliability concerns for spring, summer and fall of 2003.

#### Water Management Plan:

As a result, the LVVWD has developed this Water Management Plan in an effort to reduce water demands, promote conservation and prepare Kyle Canyon residents for potential water shortages and service interruptions. The Plan identifies several mitigation measures that will serve to improve water use efficiency in the area, and promote more aggressive and practiced water conservation in an effort to extend the utilization of local groundwater supplies.

Given the current situation, it is essential to recognize that reducing Kyle Canyon's vulnerability to service interruptions will require a sustained conservation effort by residents, vacationers and other visitors.