

## CHAPTER 3

### **Water Conservation**

For the purpose of water management, the LVVWD will use four water supply conditions for Kyle Canyon, each tied to the water levels in Kyle Canyon's wells or other outside influences that have impacted or can potentially impact the water system. This Water Management Plan identifies the four stages of water supply conditions as follows:

1. **Sustainable** – The “sustainable” stage implies that water supplies from the groundwater aquifer are sufficient to meet the needs of the Kyle Canyon community. This stage is triggered when water supplies are being used at a rate which does not exceed the well's ability to naturally recharge, water levels in each of the community wells are stabilized within ideal operating range and there is no immediate concern of infrastructure failure.
2. **Concerned** – The “concerned” stage implies that water supplies from the groundwater aquifer are being used at a rate consistent with the well's ability to naturally recharge. Concerned indicates that there is a potential for well failure. This stage is triggered when water levels fall below the following operating stage:
  - a. Echo Well No. 3, 90 ft. from surface
  - b. Echo Well No. 4, 170 ft. from surface
  - c. Rainbow Well, 145 ft. from surface
3. **Critical** – The “critical” stage implies that water supplies from the groundwater aquifer are being depleted at a rate higher than that which can be naturally recharged. Critical indicates that there is a high or imminent potential for well failure. This stage is triggered when water levels fall below the following operating range:
  - a. Echo Well No. 3, 110 ft. from surface
  - b. Echo Well No. 4, 230 ft. from surface
  - c. Rainbow Well, 165 ft. from surface
4. **Emergency** – The “emergency” stage indicates that a well outage, infrastructure or water quality issue has occurred. During emergency conditions, all or part of the community water system has failed and resources are not adequate to meet the demands of the community. An emergency may/will result in supply shortages and/or service interruptions.

While well/aquifer conditions and water demands are defined as key indicators of elevating operating stages, other factors such as main breaks, well or reservoir outages, similar types of infrastructure failures or water quality issues may require that operating stages be elevated. Such occurrences can be more difficult and/or impossible to predict.

Stage	Trigger*	Water Availability/Response
<b>Sustainable</b> <i>(Ideal)</i>	Water supplies are being used at a rate, which does not exceed the well's ability to naturally recharge.	Water supplies are sufficient to meet demands.
<b>Concerned</b>	<p>Water supplies are being used at a rate consistent with the well's ability to naturally recharge.</p> <p>Water levels in one or more of the groundwater wells fall below:</p> <p>Echo Well No. 3, 90 ft. from surface Echo Well No. 4, 170 ft. from surface Rainbow Well, 145 ft. from surface</p>	Use water to meet all indoor demands and <u>reduce</u> outdoor demands.
<b>Critical</b>	<p>Water supplies are being depleted at a rate higher than that which the well naturally recharges.</p> <p>Water levels in one or more of the groundwater wells fall below:</p> <p>Echo Well No. 3, 110 ft. from surface Echo Well No. 4, 230 ft. from surface Rainbow Well, 165 ft. from surface</p>	<p>Water is available to meet all indoor demands if outdoor demands are <u>significantly reduced</u>.</p> <p>High or imminent potential for well/infrastructure failure.</p>
<b>Emergency</b>	A well/infrastructure failure has occurred, or water recourses are not adequate to meet needs.	Expect service interruptions, poor water quality and/or water shortages.

*\*The impact of other factors that may influence the availability of groundwater supplies will be considered in determining operating stages.*

Notification of Water Supply Conditions:

The LVVWD will make reasonable efforts to notify residents of any changes to water supply conditions and operating stages by way of phone calls, mailers, fliers, signs, email, or any combination thereof. The LVVWD will also provide information to the Mt. Charleston Library for posting on the local bulletin board.

If appropriate, declarations of operating stages will be made by the LVVWD Director of Operations. The declaration of a higher operating stage will require the Kyle Canyon community to immediately and significantly reduce indoor and outdoor water use. If conditions subside after an initial declaration, the declaration can be lifted and the level of response adjusted. If the conditions worsen or emergency conditions persist, the community may find that existing measures are not effective enough and more restrictive measures may be required. In that case, the LVVWD and Kyle Canyon community will work to tailor their responses to the actual conditions.