

CROSS CONNECTION SURVEY

For

ALTA SIERRA WATER COMPANY

Greenhorn Mountain

Wofford Heights, California

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#CN 01978

July 7, 2011

On July 7, 2011, a Cross Connection Survey was conducted by Specialist, Tom Sandlin and members of the Alta Sierra Mutual Water Company consisting of President, Robert Hand, Board Member Larry Hoops, and Bill Preston. The purpose of this survey was to determine the possibility of cross connection between Alta Sierra Water company and any unapproved source or sources. The goal of this survey is to maintain the potable drinking water of this water system, educate the water company and its end users as to cross connection and causes of backflow, and to comply with the rules and regulations of state and federal agencies.

The survey included the following; storage tanks, chlorination injection system, water distribution system above Pine Drive and Aspen, the horizontal tank and booster station on State Hwy #155, a fire suppression storage tank on Spruce and the fire sprinkler suppression system at Greenhorn Grill. A detailed map (ASMWC Site Plan 001) was provided by Mr. Bill Preston. The map and site plan show the water mains, valve arrangement, and hydrant locations throughout the system, including elevation changes.

Observation

1. Cross Connection between Alta Sierra surplus water and Sierra Bella Water System has an approved air gap type of backflow prevention.
2. Fire suppression water storage tank on Spruce does not have backflow protection (Air Gap or other).
3. Fire sprinkler suppression system at Greenhorn Grill has no back flow protection device between service connection and post indicator valve.
4. PVC water piping exposed above ground in several locations.
5. Most homes observed have no hose bib vacuum breakers.
6. Existing water mains throughout the system undersized.
7. Residences with booster pumps have no backflow protection.

Recommendations

1. Air Gap protection between Alta Sierra Water and Sierra Bella Water Co. should be inspected annually and reports of such inspections recorded.
2. Hose bib vacuum breakers should be considered for residences connected to this water system.
3. Fire suppression storage tank located on Spruce needs some form of backflow protection (Air Gap or other).

4. Greenhorn Grill fire sprinkler suppression system needs further research to determine if backflow prevention is needed.
5. At this time, Alta Sierra Water Co. is installing an 8" water main to accommodate supply water to fire hydrants. Consideration and planning should also include all water mains throughout system which at this time are undersized. Undersized water supply piping is a major cause of backflow in a water system along with a wide range of water pressure fluctuations. During periods of high water demand systems such as this will experience much higher incidents of backflow and back siphon.
6. The most import tool to use against cross connection and backflow prevention is education. An educated water user can do a lot to prevent these problems. This knowledge can be gained by visiting <http://www.cdph.ca.gov/certlic/drinkingweater/Pages/Lawbook.aspx>
7. Alta Sierra Water Company may wish to enact an Ordinance for Cross Connection Control along with General Policies and designated Water Supervisor recommended by agencies at the State and Federal level.

This survey is a start to a Cross Connection Program designed to recognize potential cross connection, educate the end user, and maintain the safe drinking water of the Alta Sierra Water Co. It is further recommended the Alta Sierra Water Co conduct close inspections by a Water Supervisor of all activities involving the water system and any work or repairs to water mains to insure no accidental cross connections or contaminations occur.

For any inquiries regarding this report please contact Alta Sierra Water Co.

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The Plumbing of Kernville
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References

1. 2009 Uniform Plumbing Code
2. Foundation for Cross Connection Control and Hydraulic Research
 - a. University of Southern California
 - b. Viterbi School of Engineering
3. Manual for Cross Connection Control tenth edition
 - a. University of Southern California
 - b. Viterbi School of Engineering
4. California Code of Regulations
 - a. Title 17
 - b. Title 22
5. Federal Safe Drinking Water Act
6. Cross Connection Control Specialist Manual
 - a. AWWA Edition
7. Alta Sierra Mutual Water Company Site Plan 001