

Topic:	Cupertino Sanitary District and Emergency Preparedness
Speaker:	Richard Burton KE6RJY
Date:	Thursday, September 4, 2003, 7:30pm to 9:00pm
Event:	Cupertino ARES general meeting, Orientation Training, Cupertino City Hall

The following is a summary of the presentation made to CARES by Richard Burton KE6RJY on the Cupertino Sanitary District (CuSD) and how it prepares for and responds to emergencies.

History

- See the CuSD website for more information: www.cupertinosanitarydistrict.com.
- In December 1953, a group of citizens saw a need for a sewer line on Homestead Road. They approached the county and on December 28, 1953, the County Board of Supervisors created COUNTY SANITATION DISTRICT NO. 7 OF THE COUNTY OF SANTA CLARA.
- The district needed \$1.2 million to begin building a sewer system but the county had little funding for such an undertaking. The district tried to pass a bond measure to raise the needed funds but the bond measure failed. From the inception of the District through May 1956 the district was given a total of \$10,000 for operating costs.
- The engineer's feasibility study alone was \$12,000, leaving the district a little short.
- In April 1956 the board of directors voted to disband District 7 and on April 30, 1956, District 7 was reorganized and renamed Cupertino Sanitary District (CuSD).
- CuSD are what is known as a "Special District", that is, it has have a special purpose to offer to the residents of their area.
- CuSD is a public agency, and not part of the city or the county. It is governed by a Board of Directors, and has no employees.
- Staffing for CuSD is provided by Mark Thomas & Co., Inc., civil engineers (www.markthomas.com, Mark Thomas is the same company that did the initial feasibility study for the district in 1956).

Service Area

- While the CuSD is not part of the city or the county, they do cover certain areas within several cities and the county. The coverage areas includes:
 - Cupertino: south of Homestead Road, West of Tantau and Miller; North of Bollinger Road, West of DeAnza Blvd
 - Saratoga: northern portion, along Saratoga-Sunnyvale Road north of Big Basin way, and Pierce Road.
 - Los Altos; small eastern portion
 - See the service map at www.cupertinosanitarydistrict.com.
- CuSD serves approximately 20,000 residential and 1,600 commercial customers.
- Maintains just over 1,000,000 feet of pipe (190 miles).
- 14 pump stations
- 4 – 5 million gallons a day

Anatomy of a sewer system

- Three basic elements:
 1. Pipeline. Pipelines are the conduits that carry sewage away from your house to its final destination. They come in a variety of different materials, diameters, lengths, and shapes.
 2. Manhole. A manhole is a point of access used for the purpose of monitoring, cleaning and maintaining a pipeline.
 3. Pump Stations. While the Valley has a gentle slope to the bay, there are locations where pumps are required to pump over high points or return to a reasonable depth for the sewage to be on its way again.
- CuSD does not operate sewage treatment facilities, but ultimately feeds into facilities owned and operated by the Santa Clara Valley Water District (www.valleywater.org).

- The CuSD Board of Directors is environmentally conscious and proactive in preventative maintenance. Mark Thomas is knowledgeable and responsive to the problems associated with operating a sewer system.
- The cost of doing business: Annual Budget: \$6 million per year.

Anatomy of a spill

- SSO: Sanitary Sewer System. This is different from the storm drain system.
- When a call comes in that a sewer is overflowing, CuSD respond immediately. When they arrive at the site they may find something like this:
- Minor Spill: Example: This overflow occurred last December, just before Christmas. In this case, a 10” pipe on Foothill Blvd. stopped up, and overflowed in this drive way on Cupertino Rd. The spill area was the lowest point in that part of the system.
- Causes of a stoppage:
 1. Tree Roots: Roots grow in at the joints of the pipe. If not removed they grow into a ball until they choke off the pipe and cause a stoppage. Over time they increase in size and eventually break the pipe.
 2. Grease: Fats Oils and Grease are a major problem. Grease is not only a problem in the pipes, but also a problem at the treatment plant (the “digesters” can’t handle the volume of grease that comes in every day).

Restaurants are the major contributor of grease, but households also add to the problem. When you pour grease or oil down the drain it goes into the sewer in the street where it reacts with other elements that cause tiny particles of grease to rise through the atmosphere and stick to the top of the pipe. Once attached to the pipe, more molecules come along and attach to the existing buildup. The build-up grows until it finally chokes off the pipe and creates a stoppage. The message here is that grease is a huge problem. You can help by not pouring your grease drippings down the drain. Restaurants are required to install grease interceptors.

During a Disaster

- The major risk during an emergency is the loss of electrical power to the CuSD pump stations resulting in the wet wells filling up and overflowing onto the streets.
- Some of the 14 CuSD pump stations have permanently mounted generators in position that will switch on automatically in the event of a power loss. CuSD also owns and operates several portable generators. During a power loss, up to 4 crews of CuSD Field Inspectors would be deployed with portable generators to check on pump stations and wet well levels and power the pumps as required.
- CuSD does not operate on any dedicated radio channels. CuSD and CARES have established a Memorandum of Understanding where CARES will provide operators to staff the CuSD EOC radio and shadows for Field Inspectors as necessary.

Revision

04-Sep-03	Original
15-Nov-03	Update per CARES/CuSD drill.