

Villa del Monte Mutual Water Company

P.O. Box 862
Los Gatos, CA 95031-0862

Water treatment and water storage project update

October 14, 2019

Re-cap of Water Treatment issues

1. Our system

VDM's primary source water is from Laurel Creek using our own water treatment plant which uses chlorine disinfection treatment methods. Additionally, supplemental water is provided by SJWC distributed through the Montevina pipeline. This has worked well for more than 20 years.

2. What changed?

In 2017 SJWC notified us they would be changing from **chlorine**-based disinfection to **chloramine**-based disinfection later in the year. (Chloramine is a blend of chlorine and ammonia, specifically mono-chloramine)

3. Why the change?

- a. When Chlorine is used for disinfection, by products form that can be harmful to humans at certain levels. They are Trihalomethanes and Haloacetic acids (THMs and HAAs)
- b. By carefully administering the chlorine dosage, these byproducts are kept below the health risk levels.
- c. Chloramine disinfection is just as effective as chlorine disinfection and produce substantially lower concentrations of disinfection byproducts in the distribution system. So many believe this is a healthier approach.

4. The issue

- a. The new chloramine-based disinfection treatment method is not compatible with our chlorine-based treatment method. When the two waters blend together, the disinfection properties are reduced.
- b. Additionally, the effectiveness of the chloraminated water does not last as long in are large storage tank.
- c. As our water system cannot produce 100% of our water, we had to shut down our treatment plant switching solely to SJW purchased water.

Re-cap of our Water Storage Issue

1. The center support post of our 300,000-gallon water storage tank has failed.
2. We contracted Preferred Tank and Inspection company to come out and perform a complete tank inspection. In their report, they concluded the tank is beyond repair.

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Temporary Storage

1. We have completed a temporary storage tank farm utilizing (6) 5,000-gallon poly storage tanks placed up by the reservoir. The plan was reviewed and approved by the county and is now in operation.
2. This allows us to utilize the SJWC water without concerns about disinfection deterioration.
3. The temporary tanks were intended to allow us to replace the existing tank without interruption of service. (This has not worked out, see below)
4. The cost of all of the temporary system was covered by the VDM reserve funds.

Water treatment and storage solutions update

1. Our Board has concluded that we need to resolve both the water treatment issue and the water storage issue at the same time.
2. We hired Pacific Crest Engineering to perform a geotechnical report.
 - a. The report shows we can utilize the existing site for a replacement storage tank in the same location as the existing tank.
 - b. This report has been submitted to Santa Cruz County Environmental Planning department for review and is pending their response.
 - c. The engineering and SCCEP processing fee has been funded from our existing reserves.
 - d. **The county rejected the geotechnical report and insisted we provide a cross sectional exploratory trench. 60 feet long and 5 feet deep. After several phone calls and a site visit, we agreed to perform two 30 foot trenches for geotechnical review. We performed the excavations on July 23rd and found evidence of past vertical movement in the soil greater than 24". The structural engineer stated they cannot design the tank foundation to withstand this type of movement so the county will not allow us to utilize the existing tank site location.**
 - e. **We then worked with our geotechnical team to identify an alternate tank site location by the existing reservoir (Where the temporary tanks are currently located)**
 - f. **We performed another exploratory trench excavation on September 16th. This the Santa Cruz County geologist was on site and verbally agreed this site was acceptable.**
3. We have hired MNS Engineers to design a treatment system upgrade and compatible new water storage tank.
 - a. They have prepared their initial design for review.
 - b. They have prepared a preliminary budget associated with their design.
 - i. See the attached budget summary spread sheet
 - c. We have reviewed the engineering recommendations and determined the best approach.

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- d. We have authorized MNS engineering to create the engineering drawings for the California State Water Resources Control Board to review and approve.
 - i. These have been submitted are in review.
 - e. We have authorized MNS engineering to create permit drawings to submit to Santa Cruz County Building Department (Pending CSWRCB approval)
 - f. The engineering costs have been funded from our reserves.
 - g. We had to put the MSN engineering team on hold after receiving the geotechnical information about the planned site location.
 - h. We have just received an engineering change order for them to add the alternate tank location to their design and re-design the distribution drawings.
 - i. We authorized them to begin work on September 12th.
4. Our next steps
- a. Water Resource Control board design approval
 - b. Santa Cruz County Environmental review pending drawing submission.
 - c. MNS construction drawing completion (+/- 3-weeks after design approval)
 - d. Construction drawing submission to Santa Cruz County building department.
(Target December 2019)
 - e. Contractor bids
 - i. This is when our budget for the work becomes valid.
 - ii. Target February 2020
 - f. Get financing in place in order to fund construction.
There will be two options for our members.
 - i. Allow members to pay a one-time assessment.
 - Based on the projected budget of \$850K, each member's portion would be +/- \$6,750
 - Still variable until the contractor bids are received
 - ii. Take out a loan.
 - With support from California Rural Water, the Villa del Monte Mutual Water Company does qualify for financing without having any of our member homes become collateral.
 - This would be a 20-year loan for the entire amount of the project or a lesser amount if some of our members choose to pay the assessment upfront.
 - The members choosing the loan option would become part of a 20-year loan with monthly payments added to their individual monthly water bills.
 - The loan program does not allow for early payment payoff during the progress of the loan, so this should be weighed in the members decision
 - g. Begin construction
 - i. With contractor support create a construction schedule
 - ii. Target June 2020