



APPLE VALLEY HEIGHTS COUNTY WATER DISTRICT

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July 23, 2019

Eric J. Zúñiga P.E., District Engineer
State Water Resources Control Board
Division of Drinking Water, District 13
464 West 4th Street, Suite 437
San Bernardino, CA 92401

Subject: Apple Valley Heights County Water District (System No. CA3600009)
Corrective Action to Sanitary Survey dated April 24, 2019

Dear Mr. Zúñiga,

The Apple Valley Heights County Water District thanks you and your staff for the recent review of the AVHCWD potable water system. This document serves to update and inform the District 13 office of the corrective actions taken and planned by AVHCWD in response to the subject Sanitary Survey. The following content is presented to mirror the "Significant Deficiencies Identified" section of the Sanitary Survey. Many of the identified deficiencies will be addressed in the construction phase of AVHCWD's capital improvements project, which is anticipated to be funded by the State Water Resources Control Board's Division of Financial Assistance. AVHCWD is currently in the design phase, utilizing funds from the Division of Financial Assistance (FA No. D17-02032).

Potential Health Hazard Deficiencies Identified:

Mesa Vista Tanks

This deficiency noted several issues with the existing Mesa Vista Tanks, including chipping and rusting (interior and exterior), poor storage capacity, and significant corrosion.

The design of the replacement of the Mesa Vista tanks is nearing completion. This proposed design replaces the existing three tanks with two new bolted steel tanks with a combined effective capacity of approximately 108,000-gallons. The proposed volume includes an increase of 20% from the volume noted in the upcoming capital improvements project's initial Preliminary Engineering Report (PER), as requested by the SWRCB (Teleconference Meeting, August 2018). This increase in volume would accommodate potential spikes/rises in the maximum day demand. The CEQA review process has been completed and NEPA documentation has been submitted to BLM. Prior to construction, the design plans will be submitted for review to the District 13 office.

Minor Deficiencies Identified:

Capacity

This deficiency's description stated that AVHCWD is at risk of not meeting the maximum day demand (MDD) with current capacity if the highest producing well is inoperable.



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The capacity deficiency identified in the Sanitary Survey is contingent on AVHCWD production data from a single day (April 18, 2015) which reported that Well No. 3 produced 0.39 MG. AVHCWD currently reads its well meters manually, and these readings are not always taken on a precise 24-hour interval from the previous reading. The production recorded for this day indicates that the value obtained was not representative of the demand over a 24-hour period, as it is significantly higher than the production recorded on the previous and following days. Including this period, gaps in reading totalized production at individual wells sometimes extended for several days. Well No. 3's totalized production was not read on the previous day (April 17). Well No. 4's totalized production was not read on the previous three days. Production values measured for April 2015 show an average daily production of 0.05 MG at each well, which is approximately 25% of the production noted in the Sanitary Survey for April 18. Therefore, AVHCWD believes the production noted on April 18, 2015 was for a period substantially greater than 24 hours, and does not represent the system demand for a maximum day scenario. Improvements proposed to existing wells include new flowmeters and a data recording system that will automatically record daily flow measurements, providing AVHCWD with better production data and consistent measurement intervals.

Section 64554(b) of the California Drinking Water Standards (DWS) specifies the method of calculating the MDD by utilizing annual water usage data. Data for annual water sold was collected by AVHCWD for years 2013 through 2016. These values were used to calculate the average day demand for each year. This average day demand for each year was multiplied by 2.25 (per DWS) to obtain the calculated MDD for the system for each year. The highest of these values (for year 2013) was approximately 200,000 gpd, or 139 gpm over a 24 hour period.

As noted in sections 3.3.1.5, 3.3.1.6, and 4.1 of the Preliminary Engineering Report (PER) (NV5, October 2018), AVHCWD's existing source capacity is sufficient to supply the MDD with the highest producing source out of service. Based on the method specified by the DWS, AVHCWD's MDD is calculated to be approximately 200,000-gallons (139-gpm). Well No. 3 can produce 285 gpm while Well No. 4 can produce 275 gpm. With Well No. 3 out of service, Well No. 4 can supply 196,000 gallons more than the calculated MDD required per day.

Section 5.6 of the PER proposes a reduction in size of the pumps and motors in the existing wells, each to 40 HP from 75 HP. This reduction would result in a flowrate of approximately 155 gpm supplied by each existing well (223,000 in a 24 hour period). With the proposed sizing, the MDD of 139 gpm can be supplied with the highest producing source out of service while allowing for an 11% increase in the calculated MDD of the system.

Furthermore, the proposed well site improvements will incorporate an interconnection with Golden State Water Company (Apple Valley South). This interconnection will be designed



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to deliver the same flow as one of AVHCWD's wells (155 gpm following HP reduction), and is to be used as an emergency source connection in the event that one or both of AVHCWD's wells is inoperable. The interconnection design is being developed and will be presented to the District 13 office for review. Construction funding for these improvements is anticipated from the State Water Resources Control Board's Division of Financial Assistance.

Well No. 3

The statement of deficiency for Well No. 3 noted that the well should have a pedestal at least 24 inches high or above the known flood line and that the ground should slope away from the well. Flush to waste pipes should be modified to have an appropriate air gap and the broken pressure gauge should be repaired.

These deficiencies will be addressed under the design by NV5 of well head improvements under the current funding agreement (D17-02032). AVHCWD aims to include construction of these improvements in the anticipated construction funding agreement with the Division of Financial Assistance, with the well head raising occurring simultaneously with the pump and motor replacements. These improvements will be reviewed with the District 13 office prior to construction.

Well No. 4

The statement of deficiency for Well No. 4 noted that the well should have a pedestal at least 24 inches high or above the known flood line and that the ground should slope away from the well. Also, flush to waste pipes should be modified to have an appropriate air gap.

These deficiencies will be addressed under the design by NV5 of well head improvements under the current funding agreement (D17-02032). AVHCWD aims to include construction of these improvements in the anticipated construction funding agreement with the Division of Financial Assistance, with the well head raising occurring simultaneously with the pump and motor replacements. These improvements will be reviewed with the District 13 office prior to construction.

Treatment:

Quarterly MRDL forms are missing from 2011-2015. AVHCWD has incomplete data to fill out and submit these documents.

Central Tank:

AVHCWD will at the next tank inspection and cleaning will address having separate inlet and outlet piping.

Monitoring, Reporting, and Data Verification:

Well #4 water samples EDB, DBCP, and Secondary constituents have been taken and results were submitted in June 2019



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Missing CCR:

The 2013 CCR was uploaded to the DRINC portal in June 2019.

Missing Radiological Sample Results:

AVHCWD will complete initial round of radionuclide monitoring to determine radionuclide monitoring frequency. These samples were taken in June 2019

System Management and Operation:

Flushing data records verification for 2018 have been sent as an attachment.

AVHCWD has developed a complaint program for recordkeeping purposes. AVHCWD will retain any complaint information in the customers file for a minimum of 5 years. Attached is Policy #1030 Public Complaints

Resiliency and Preparedness:

AVHCWD has cut and removed vegetation 100' around all district facilities to protect from the threat of wildfires. Attached are photos as evidence.

Sincerely,
Apple Valley Heights County Water District

Daniel B. Smith
General Manager

C: James F. Owens, NV5 (226817-0000211)