



## MEMORANDUM

FC 14 (01-02-07)

**TO:** Board of Directors

**FROM:** Water Conservation and Demand Management Committee

**SUBJECT:** Water Conservation and Demand Management Committee Meeting Summary for June 18, 2019

**DATE:** June 25, 2019

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This memorandum summarizes agenda items from the meeting of the Water Conservation and Demand Management Committee held on June 18, 2019.

**Attendees:**

Board Members in attendance were: Director Nai Hsueh-District 5, Director Linda J. LeZotte-District 4, and Director Richard P. Santos-District 3.

Staff members in attendance were: Neeta Bijoor, Glenna Brambill, Jerry De La Piedra, Vanessa De La Piedra, Samantha Greene, Karen Koppett, Roger Pierno, Metra Richert, Ashley Shannon, Stan Yamamoto and Beckie Zisser.

Guests in attendance were: Keith Bennett, Alexander Cao, Carl Darling, Kurt Elvert, Anthony Eulo, Tim Guster, Charles Ice, Doug Muirhead, Esther Nigenda, William Sherman, Bill Tuttle, Samantha Vu and Gregory Zicarelli.

**PUBLIC COMMENT:**

Ms. Esther Nigenda spoke on, Green Building Workshop in Palo Alto and the comments someone made regarding Valley Water's Landscape Program.

**ACTION ITEMS**

**4.1 EVALUATION ON THE EXTENT OF SHALLOW GROUNDWATER DEWATERING BY OBTAINING AND ANALYZING INFORMATION FROM LAND USE AND REGULATORY AGENCIES**

Mr. Roger Pierno reviewed the following:

**Agenda Memo Summary:**

Shallow groundwater occurs naturally throughout Santa Clara County, with depth to water less than 10 feet in many locations. This condition exists due to local geology and because there is little demand for water from these zones. Where excavations or infrastructure intersect shallow groundwater, temporary or ongoing dewatering may be required. Despite temporary and ongoing dewatering, groundwater conditions are sustainable in the Santa Clara and Llagas subbasins.

At the October 31, 2018 Committee meeting, staff presented information on potential Santa Clara Valley Water District (Valley Water) actions related to dewatering including well permitting, metering, imposing groundwater charges and exploring expanded reuse. At that meeting, the Committee supported the following staff recommendations, requesting periodic updates as the work progresses:

- A. Evaluate the extent of dewatering by obtaining and analyzing available information from land use and regulatory agencies.
- B. If ongoing dewatering sites with significant and consistent yield are identified, determine what resources would be needed to explore potential reuse options and related environmental impacts.
- C. Further explore shallow groundwater interactions with surface water and with principal aquifers in coordination with stakeholders as part of Sustainable Groundwater Management Act (SGMA) compliance.
- D. Encourage land use agencies to minimize dewatering discharges and require reasonable reuse in permitting activities requiring dewatering.

This agenda item provides an update on recommendation A above. After reaching out to land use agencies and the San Francisco Bay Regional Water Quality Control Board (Regional Board), staff has received records of over 200 potential dewatering sites in Santa Clara County. Data was provided by the Regional Board, City of Palo Alto, City of San Jose (which also includes sites in Santa Clara, Milpitas, and Cupertino), City of Sunnyvale, and Santa Clara County Roads and Airports Division.

Staff from the cities of Campbell, Morgan Hill, and Gilroy, along with the West Valley Sanitation District reported that dewatering within their jurisdictions was either very rare or had not occurred within the last five years.

The data provided varies significantly in terms of the specific information and date range. Due to the complexity of and variations in the data, staff has completed only a preliminary analysis, which is summarized below.

1. Most available records from cities relate to permitting functions, and some do not appear to be dewatering discharges.

For most cities, available data relates to permits issued for short-term sanitary sewer or storm drain discharges, with a typical, maximum permitted duration of one year. Dewatering projects that need to discharge for more than one year generally apply for an NPDES permit from the Regional Board for discharge to storm drains and/or creeks. A review of the site location data provided by some cities suggests that some are contaminant release sites. At these sites, the purpose of pumping is to treat contaminated groundwater rather than to prevent flooding from shallow groundwater. Therefore, these sites should not be considered as dewatering sites. Additional effort is needed to screen out these and other non-dewatering sites from further evaluation.

2. Records on dewatered volumes and specific discharge dates are not readily available.

The Regional Board maintains records of permitted (maximum) discharge volumes but does not require metering of actual discharges. To ensure adequate permit coverage for worst case conditions, dischargers presumably overestimate the dewatering rates. While information on discharge start and end dates are provided for each location, there is no information on the frequency or duration of discharges during those periods. Only the cities of Palo Alto and Sunnyvale were able to provide data on discharge volumes, but only the City of Palo Alto provided discharge volumes and dates.

3. Most data obtained relate to temporary (one-time) dewatering discharges as opposed to ongoing dewatering.

Per Recommendation B, there is an interest in identifying ongoing dewatering sites, where expanded reuse may be more feasible. This contrasts with temporary dewatering sites, where reuse beyond localized irrigation or fill stations is hindered by the lack of infrastructure to capture, store, and move water.

Many of the records obtained appear to relate to temporary discharges, but some are ongoing discharges. However, as noted previously, discharges from known contaminant release sites do not represent dewatering and will need to be excluded from further analysis. Valley Water staff also continue to seek relevant information from Caltrans, who is known to operate several ongoing dewatering systems to prevent shallow groundwater from surfacing on highways.

Based on the data provided and conversations with agency staff, the need for dewatering can vary significantly from year to year depending on the economy, approved projects, and the timing of construction activities.

Staff will continue to evaluate the data received to identify true dewatering discharges so that the extent of dewatering can be better described. Staff continues to seek relevant information from Caltrans. Per recommendation B, if dewatering sites with consistent yield can be identified, staff will evaluate the resources needed to explore related reuse while considering the potential environmental effects of lower dewatering discharges to creeks.

Work to further evaluate shallow groundwater interactions with surface water and with deeper aquifers as part of SGMA compliance (recommendation C) has not begun. In part, staff is awaiting the California Department of Water Resources assessment of the 2016 Groundwater Management Plan, which Valley Water submitted as an Alternative to a Groundwater Sustainability Plan for SGMA compliance. The DWR assessment is expected by June 2019 and may identify specific work needed related to groundwater/surface water interaction.

Staff will continue to keep the Committee updated as the evaluation of shallow groundwater dewatering progresses.

**Handout was received via email:**

**From:** Falecie Wang [mailto:faleciew@gmail.com]  
**Sent:** Monday, June 17, 2019 10:58 PM  
**To:** Glenna Brambill <GBrambill@valleywater.org>  
**Cc:** Melody Song <shanghaimelody@yahoo.com>; alex629@126.com; Keith Bennett <pagroundwater@luxsci.net>; E Nigenda <enigenda1@gmail.com>; Gregory Zicarelli <gregory.zicarelli@gmail.com>  
**Subject:** Save Palo Alto's Groundwater

Dear Water Conservation and Demand Management Committee,

We are writing regarding June 18th's meeting, Action Item 4.1. Evaluation on the Extent of Shallow Groundwater Dewatering by Obtaining and Analyzing Information from Land Use and Regulatory Agencies.

We are Falecie Wang and Melody Cao, two rising juniors at Palo Alto High School. As two residents of Santa Clara County, we are immensely interested in the issue of dewatering and its effects on our groundwater. Speaking on behalf of our community, we believe that preserving groundwater, one of our state's most valuable natural resources, is a matter that needs to be addressed immediately. Many Californians do not realize how much water is being wasted during the construction of basements: nearly 126 million gallons of water—in Palo Alto alone—was pumped from the area's shallow aquifer in 2015. While this number has decreased over the past four years, still not enough is being done to resolve our concern. Therefore, we hope the contents of our letter is taken into consideration, because it is the duty of each individual and society as a whole to take action to save groundwater now.

Foremost, we would like the Committee to enforce better construction practices. There are countless effective methods that will mitigate flow, but one that is particularly advantageous: the cut-off wall. To give some background, the cut-off wall method is ordinarily executed by stationing a barrier in the shape of a box around the affected area to prevent groundwater from seeping in. Cut-off walls are remarkably practical; in 2017, the City's Public Works Department released a chart showing that the use of cut-off walls led to pumping less than two percent of the amount of groundwater pumped without using the cut-off wall technique. In addition, there was little disturbance to the neighboring properties and none of the extracted groundwater was wasted. Aside from this, the use of the cut-off wall also enables convenience. One popular approach that architects commonly use for constructing basements in Palo Alto is the open basement excavation technique, a process that requires digging out and refilling soil before and after building interior walls. By utilizing the cut-off procedure, the process is sped up considerably through reducing the time of the refilling process. With a number of varying practices for the construction of cut-off walls at hand (including concrete, cement grouting, etc.), it would seem imprudent not to exploit this practice and install cut-off walls during dewatering.

Respectfully yours,

Falecie Wang and Melody Cao

Mr. Alexander Cao, Mr. Gregory Zicarelli, Mr. Keith Bennett, Ms. Esther Nigenda and Mr. Charles Ice addressed issues on, dewatering, construction practices, cut-off-walls, metering dewatering discharges, groundwater, sustainability. Shallow groundwater in Palo Alto, underground parking, water waste, contractor's actions, sea level rise, flooding, impacted areas, pumping issues, lack of land use, commercial studies, CEQA process, mitigating negative impacts, SGMA regulations and explained how Valley Water is a Special District along with our District Act regulations.

Committee discussion: taking a look at other alternatives-extending the list, current environmental issues, pursue costs and what other actions can be taken, engagement of other agencies/cities and when completed the report should go to the full Board.

The Committee took no action.

## 4.2 UPDATES TO ONGOING AND FUTURE WATER CONSERVATION PROGRAMS AND RESOURCES

Ms. Neeta Bijoor reviewed the following:

### Agenda Memo Summary:

Santa Clara Valley Water District (Valley Water) has a long-term water conservation goal of saving nearly 100,000 acre-feet per year by 2030 (base year of 1992). Through the current update to Valley Water's Water Supply Master Plan, the Board has approved additional water conservation and stormwater capture projects, increasing the long-term goal to nearly 110,000 acre-feet per year of water savings by 2040. To achieve this goal, Valley Water and its retailers partner to implement nearly 20 different ongoing water conservation programs that use a mix of incentives and rebates, free device installation, one-on-one home visits, site surveys, and educational outreach to reduce water consumption in homes, businesses and agriculture. Programs include replacing high-water using landscaping with low-water using landscape, installing efficient irrigation equipment, and offering incentives for graywater laundry-to-landscape systems. Valley Water also implements an annual water conservation campaign that typically includes an online component, social media, and traditional media ads.

In addition to the programs and efforts outlined in the attached Water Conservation Rebates and Programs Flyer (Attachment 1), Valley Water offers a variety of specialized programs including home water use reports (with participating water retailers), free showerhead and aerator distribution, a graywater laundry to landscape direct installation program, the Lawn Busters Program (described below), a water waste inspector program, a large landscape water management program, a landscape maintenance assistance program, an agricultural irrigation management program, workshops and classes, and a wide variety educational tools.

A few updates to on-going and future programs:

- Model Water Efficient New Development Ordinance (Model Ordinance) – The Office of Government Relations provided a rollout plan for local adoption at the April Committee meeting. Staff level conversations have occurred in Mountain View, Cupertino, and San Jose, and staff is scheduling meetings to begin discussing the ordinance adoption process for each city, town, and Santa Clara County, including each jurisdiction's timeline, policy development, public comment, Council processes, and implementation of the Model Ordinance. A copy of the Model Ordinance is provided in Attachment 2. Staff will work with Board Members so they may participate in the process for ordinance adoption, track progress, and inform strategic action.
- Lawn Busters Program – Valley Water partners with Our City Forest (OCF) to offer the Lawn Busters Program, which replaces high water using landscape with low-water using landscape for low-income residents, seniors, disabled persons, and veterans. OCF staff has requested a time extension as the current agreement is set to expire in June 2019. As of April 30, 2019, 189 projects have been completed, for a total of 182,845 square feet of turf replaced. Extending the term will allow OCF reach their goal of 225,000 square feet of turf replacement.
- AMI and Water Use Reports Program – Staff presented a draft set of guidelines to this Committee in April 2019 and has since brought the draft guidelines to the Water Conservation Subcommittee (of the Retailers Committee). Staff is working to finalize the guidelines by the end of the Fiscal Year.
- Leak Assistance Program – This program is currently in early development as staff is seeking input from water retailers on design and implementation options. Staff will present a draft framework of the program to the Committee at a future meeting.
- Water Conservation Strategic Plan – A [Water Use Efficiency Strategic Plan](#) was created in 2008, which analyzed options for meeting Valley Water's long-term savings goal as well as strategies for addressing a water shortage. Staff is planning on updating this Strategic Plan in FY 20.
- Baseline Study for Agriculture – To better understand current practices as well as identify areas for potential water savings, staff is proposing Valley Water develop a baseline study for agriculture. Staff will reach out to the Farm Bureau and the County on potential partnerships, with a goal of completing the study in FY 20.

Committee discussion: lawn busters is continuing, new strategic plan for FY20, “instant hot”, new technology, and question on tankless water heaters.

Mr. Doug Muirhead spoke on, Recycled Water, Water Reuse Master Plan and Model Ordinance.

The Committee took no action. However, staff supplied the following links to the committee and guests via email:

Study looking into Sensor Activated Fixtures

<http://www.allianceforwaterefficiency.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=5026>

More information about Sensor Activated Faucets are located here:

<http://www.allianceforwaterefficiency.org/1Column.aspx?id=1822&LangType=1033&terms=sensor>

Excellent article in the *LA Times* about manual vs sensor flush toilets:

<https://www.latimes.com/opinion/op-ed/la-oe-shioiri-clark-drought-phantom-flushes-20150510-story.html>

#### **4.3 DISCUSS AGRICULTURAL WATER USE BASELINE STUDY**

Ms. Ashley Shannon reviewed the following:

##### **Agenda Memo Summary:**

At the April 26, 2019 Water Conservation and Demand Management Board Advisory Committee (Committee) meeting, the Committee discussed the need to better understand the conservation potential in the agriculture sector, including potentially developing a baseline study of agricultural water use. This memo summarizes the proposed components of a Santa Clara Valley Water District (Valley Water) Agriculture Baseline Study (Study), as well as possible next steps.

##### Background

The goal of the Study is to better understand current agricultural water use practices and identify opportunities for additional water conservation. Staff's proposal is to hire a contractor or consulting firm to develop and complete the Study. Staff will also coordinate with the local Farm Bureau and Santa Clara County staff.

Staff reviewed baseline studies completed for other sectors and developed a preliminary list of topics the Study may address:

- 1) Types of crops and associated acres of crops in Santa Clara County
- 2) Types of irrigation systems used, by crop type
- 3) When available, water use by crop type and by irrigation method, including potentially comparing to crops' water budgets
- 4) Geographical distribution of agricultural practices in Santa Clara County
- 5) Agricultural producers' water use knowledge and mindsets
  - a. Concerns related to water supply
  - b. Knowledge/mindset related to water use and water conservation
  - c. Knowledge and opinions of Valley Water's conservation programs
- 6) Recommendation of potential projects or programs to increase agricultural water use efficiency

##### Next Steps

Staff plans to present the preliminary list of topics for the Study to the Agricultural Water Advisory Committee (AWAC) for feedback. After presenting to the AWAC, staff will finalize the list of topics the Study will cover and develop a Scope of Work to incorporate into a Request for Proposals. Staff will coordinate with the local Farm Bureau and Santa Clara County staff throughout the process. Staff will update the WCDM Committee as the Study progresses.

Committee discussion: what are ag users' 'real' water use, mobile lab rebates, open space credit concerns and the consultant's scope of work and review process.

Mr. Doug Muirhead spoke on, what institutional knowledge still exists, 2011 Farm Bureau Irrigation Efficiency Final Report, 2014 Technical Memo Crop Irrigation Update, 2016 Annual Report Valley Water and Loma Prieta RCD and what has been covered over the years and would the purpose of this study be to start over.

Mr. Anthony Eulo spoke on, fallow land and potential compensation during drought.

The Committee took no action.

If you have any questions or concerns, you may contact me at, [gbrambill@valleywater.org](mailto:gbrambill@valleywater.org) or 1.408.630.2408.

Thank you!

Glenna Brambill, Management Analyst II,  
Board Committee Liaison  
Office of the Clerk of the Board