



Santa Clara Valley Water District

File No.: 22-1268

Agenda Date: 11/22/2022

Item No.: 2.7.

BOARD AGENDA MEMORANDUM

SUBJECT:

Receive Information on the Annual Work Study Session on Water Supply Master Plan Monitoring and Assessment Program Update - Drought Response Actions and the Long-term Water Supply Planning.

RECOMMENDATION:

- A. Receive Information on the Annual Work Study Session on Water Supply Master Plan Monitoring and Assessment Program Update - Drought Response Actions and the Long-term Water Supply Planning; and
- B. Provide direction to staff.

SUMMARY:

Santa Clara County (County) has been in an extreme drought since 2020, with limited local surface runoff, reduced imported water supply, and low surface reservoir storage levels. In responding to the drought condition, the Santa Clara Valley Water District (Valley Water) declared a water shortage emergency condition in June 2021 that called for 15% water use reduction to minimize water shortage risk. The call for water conservation has been instrumental in reducing county-wide water use and helps alleviate the negative consequence of the ongoing drought. Since the call, county-wide water use has been reduced by 6% cumulatively against a 2019 baseline.

Since the current situation reflects past planning and implementation efforts and future conditions will be impacted by present day planning, the need to describe the link between short-term drought response actions and long-term water supply planning was raised by the Water Conservation and Demand Management Committee. This includes whether the need to call for water use reduction during droughts could be prevented by better long-range water supply planning. This memorandum provides rationales for short-term water use reduction calls within the context of long-range water supply planning. It also discusses the selection of the base year for the reduction call, as well as current efforts and next steps for enhancing future drought response actions.

Goals of Water Supply Planning

Valley Water's long-range water supply planning is to evaluate its future needs and develop investment strategies to ensure water supply reliability for the County. The Water Supply Master Plan 2040 (WSMP), adopted by the Valley Water Board of Directors (Board) in 2019, is the most recent plan from the planning process. As part of the WSMP, the Board established Valley Water's Level of

Service (LOS) goal “to develop water supplies to meet 100 percent of annual water demand during non-drought years and at least 80 percent demand in drought years.” This goal was established based on a community survey and cost/benefit analysis and balances the need to provide sufficient water for the County while minimizing overall costs.

Driven by this LOS goal, water supply planning efforts has been focusing on developing projects and programs to minimize water shortages to no more than 20% during droughts. This means Valley Water would implement calls and actions to achieve a 20% water use reduction during droughts to address short-term water shortages. A water reduction call during droughts, therefore, is factored into long-range planning by design and embedded in Valley Water’s LOS goal. As such, Valley Water’s call for 15% of reduction for this drought meets its LOS goal.

Because of Valley Water’s past planning and investment, Valley Water was able to meet annual demand during normal years, but drought remains the biggest challenge, especially now Anderson reservoir is drained to deadpool. While droughts may increase in severity, duration, and frequency, maintaining affordable water rates makes it economically impractical to meet 100% of demand during droughts. Water conservation remains the most cost-effective approach to address short-term water shortages associated with droughts.

Water Conservation Part of WSMP Strategy

Expanding water conservation is one of the WSMP’s three strategies to meet county-wide demands through 2040. The WSMP sets conservation targets of 99,000 acre-feet (AF) by 2030 and 109,000 AF by 2040 from a 1992 baseline and meeting these conservation goals is critical for achieving water supply reliability for the County. To achieve these targets, Valley Water has launched more than 20 programs, including metering incentives, public education and outreach, indoor conservation services, landscape and irrigation rebates, free water use surveys and consultations, to permanently reduce water use in the County. Because of investments in water conservation over the past 20 years and new technology, water use in the county has remained relatively flat despite a 25% increase in population over the same period.

During droughts, when other sources of supply become increasingly expensive and difficult to secure, water conservation is often one of the few remaining options to bring water use down. Therefore, extensive efforts are put in place to bring focus on those ongoing programs to drive up participation as well as to increase short term savings through behavior change (e.g., letting lawns go brown). Within the context of the WSMP, droughts provide an opportunity to intensify existing conservation efforts to drive toward long-term conservation goals. Droughts also tend to help drive permanent behaviors changes that result in long-term water saving.

Uncertainty with Future Conditions

Long-range water supply planning is built on forecasting for future conditions (demands, supply, project implementation), which are based on best available information at hand. However, uncertainty is inherent in any forecast, and especially so in complex water resources planning that involves changing climate, human behaviors, and unforeseen factors (social, economic, environmental). Therefore, it is possible that long-range planning may not fully capture all possible future conditions especially unusual or emergency situations. Because of this, Valley Water may need to call for more

than 20% reduction as needed, as occurred during the last drought. The community demonstrated its ability to manage shortages by achieving water use reductions of almost 30% in the last drought.

Base Year Determination

Selecting a base year for the water reduction call during droughts is important in setting the stage for the conservation efforts and sparked debates for this drought. Due to interannual variability of water use for the County and among retailers, determining a proper base year for a drought reduction call is not straightforward and has to be handled case by case. The general procedure is to pick a recent year with normal water use, often a year or two before a drought, and the decision is made in consultation with Valley Water's retailers, and State guidance if available. For this drought, Valley Water made a call for conservation earlier than the State due to extremely limited surface water supplies and selected a 2019 baseline, the last normal year before the drought. The 2019 baseline is more stringent and results in greater water savings than the State baseline of 2020.

Valley Water's procedure to select a baseline year is generally consistent with practices of other agencies and the State. However, a more systematic and consistent approach would help minimize the discrepancy in required reductions among retailers and streamline drought messaging. Valley Water is currently developing a Drought Response Plan (DRP) to enhance its drought actions and provide guidance for future droughts. One of the recommendations from that plan will be criteria and a process for selecting a drought base year. In addition, the State Water Board is contemplating using the Urban Water Use Objectives required by the State's Conservation Framework (AB 1668/SB 606), which includes an indoor conservation standard calculated as gallons per capita per day (gpcd), as a reduction mechanism for future droughts. If materialized, this approach could eliminate the need for picking a particular year as the base year and establish a consistent standard/target across the State.

Next Steps

Valley Water has so far successfully managed the current drought, with groundwater levels stabilizing and water use declining due to our community's collective efforts to conserve water. But the drought is far from over. Valley Water will continue to work with retailers and stakeholders to find ways to achieve short-term water use reductions to address the current drought and promote long-term conservation savings to minimize water shortages in the future. Valley Water is currently developing a DRP to enhance its drought actions to improve water supply reliability in Santa Clara County during times of drought. The DRP will evaluate new approaches to determine when to request water use reductions from the public and what those requests might entail. When completed in 2023, the DRP will help Valley Water better prepare for and respond to future droughts.

In addition, as part of the DRP development, Valley Water has conducted a vulnerability assessment to evaluate the risks and impacts of droughts in the County. The vulnerability assessment identified key factors that exacerbate Valley Water's supply vulnerability during droughts and recommended continued evaluation and implementation of WSMP projects to address them. In the long run, continued water supply planning and planned investment is the key to mitigate drought risk and ensure County's long-term water supply reliability and meeting dry year demands a primary criterion for evaluating and prioritizing water supply projects.

ENVIRONMENTAL JUSTICE IMPACT:

Valley Water acknowledges that disadvantaged communities are disproportionately impacted by the effects of drought. To address these impacts, Valley Water promotes access to equitable and affordable water supplies (Water Supply Goal 2.6). Valley Water offers the Lawn Busters program to provide water-efficient landscapes to low-income, elderly, disabled or veteran homeowners and schools within disadvantaged communities. Valley Water currently provides the Low-Income Residential Water Rate Assistance Program to help low-income households impacted by the COVID-19 pandemic pay their water bills. To enable meaningful engagement in the decision-making process, Valley Water provides drought and conservation information in multiple languages, answers questions, and accepts feedback through Valley Water's BeHeard webpage, conservation and drought webpages, Speakers Bureau presentations, media outreach, public outreach presentations, hotlines, and email.

FINANCIAL IMPACT:

There is no financial impact associated with this item.

CEQA:

The recommended action does not constitute a project under CEQA because it does not have the potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

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