

October 9, 2020

MEETING NOTICE

WATER STORAGE EXPLORATORY COMMITTEE

Board Members of the Water Storage Exploratory Committee

Director Gary Kremen, Committee Chair

Director Richard P. Santos

Director John L. Varela

Staff Support of the Water Storage Exploratory Committee

Rick Callender, Esq., Chief Executive Officer

Melanie Richardson, Assistant Chief Executive Officer

Rachael Gibson, Interim Chief of External Affairs

Aaron Baker, Interim Chief Operating Officer, Water Utility

Sue Tippets, Interim Chief Operating Officer, Watersheds

Stanly Yamamoto, District Counsel

Brian Hopper, Senior Assistant District Counsel

Gregory Williams, Interim Deputy Operating Officer, Raw Water Division

Don Rocha, Interim Deputy Administrative Officer, Office of Government Relations

Jerry De La Piedra, Interim Deputy Operating Officer, Water Supply Division

Heath McMahon, Deputy Operating Officer, Water Utility Capital Division

Christopher Hakes, Deputy Operating Officer, Dam Safety & Capital Delivery Division

Emmanuel Aryee, Interim Assistant Officer, Dam Safety & Capital Delivery Division

Erin Baker, Asset Management Manager

Cindy Kao, Imported Water Manager, Imported Water Unit

Ryan McCarter, Pacheco Project Manager, Pacheco Project Delivery Unit

Charlene Sun, Treasury and Debt Manager

Metra Richert, Unit Manager, Water Supply Planning & Conservation Unit

Samantha Greene, Senior Water Resources Specialist, Water Supply Planning & Conservation Unit

A regular meeting of the Santa Clara Valley Water District (SCVWD) Water Storage Exploratory Committee is to be held on **Wednesday, October 14, 2020, at 1:00 p.m.** [Join Zoom Meeting https://valleywater.zoom.us/j/99035683167.](https://valleywater.zoom.us/j/99035683167)

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting.

Enclosures



Water Storage Exploratory Committee Meeting

Join Zoom Meeting

<https://valleywater.zoom.us/j/99035683167>

Meeting ID: 990 3568 3167

One tap mobile

+16699009128,,99035683167# US (San Jose)

Dial by your location

+1 669 900 9128 US (San Jose)

Meeting ID: 990 3568 3167



Santa Clara Valley Water District Water Storage Exploratory Committee Meeting

Teleconference Via Zoom

Join Zoom Meeting

<https://valleywater.zoom.us/j/99035683167>

REGULAR MEETING AGENDA

Wednesday, October 14, 2020
1:00 PM

District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.

WATER STORAGE EXPLORATORY
COMMITTEE

Gary Kremen, Chair, District 7
Richard P. Santos, District 3
John L. Varela, District 1

All public records relating to an item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend the committee meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

JERRY DE LA PIEDRA
Committee Liaison

GLENNA BRAMBILL
Management Analyst II
Office/Clerk of the Board
(408) 630-2408
gbrambill@valleywater.org
www.valleywater.org

Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown Act.

Santa Clara Valley Water District
Water Storage Exploratory Committee
REGULAR MEETING
AGENDA

Wednesday, October 14, 2020

1:00 PM

Teleconference Via Zoom

IMPORTANT NOTICES

This meeting is being held in accordance with the Brown Act as currently in effect under the State Emergency Services Act, the Governor's Emergency Declaration related to COVID-19, and the Governor's Executive Order N-29-20 issued on March 17, 2020 that allows attendance by members of the Committee, staff, and the public to participate and conduct the meeting by teleconference, videoconference, or both.

Members of the public wishing to address the Committee during a video conferenced meeting on an item not listed on the agenda, or any item listed on the agenda, should use the "Raise Hand" or "Chat" tools located in Zoom meeting link listed on the agenda. Speakers will be acknowledged by the Committee Chair in the order requests are received and granted speaking access to address the Committee.

Santa Clara Valley Water District (Valley Water) in complying with the Americans with Disabilities Act (ADA), requests individuals who require special accommodations to access and/or participate in Valley Water Committee meetings to please contact the Clerk of the Board's office at (408) 630-2711, at least 3 business days before the scheduled meeting to ensure that Valley Water may assist you.

This agenda has been prepared as required by the applicable laws of the State of California, including but not limited to, Government Code Sections 54950 et. seq. and has not been prepared with a view to informing an investment decision in any of Valley Water's bonds, notes or other obligations. Any projections, plans or other forward-looking statements included in the information in this agenda are subject to a variety of uncertainties that could cause any actual plans or results to differ materially from any such statement. The information herein is not intended to be used by investors or potential investors in considering the purchase or sale of Valley Water's bonds, notes or other obligations and investors and potential investors should rely only on information filed by Valley Water on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures and Valley Water's Investor Relations website, maintained on the World Wide Web at <https://emma.msrb.org/> and <https://www.valleywater.org/how-we-operate/financebudget/investor-relations>, respectively.

1. Roll Call.

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON THE AGENDA. *Notice to the Public: Members of the public who wish to address the Committee on any item not listed on the agenda should access the "Raise Hand" or "Chat" tools located in Zoom meeting link listed on the agenda. Speakers will be acknowledged by the Committee Chair in order requests are received and granted speaking access to address the Committee. Speakers comments should be limited to two minutes or as set by the Chair. The law does not permit Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Committee action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Committee may take action on any item of business appearing on the posted agenda.*

3. APPROVAL OF MINUTES:

3.1. Approval of Minutes.

[20-0837](#)

Recommendation: Approve the August 21, 2020, Meeting Minutes.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: 08212020 DRAFT Mins](#)

Est. Staff Time: 5 Minutes

4. ACTION ITEMS:

4.1. Semitropic Groundwater Bank Update.

[20-0839](#)

Recommendation: Receive, review, and discuss information regarding the status of Semitropic Groundwater Bank and operational uncertainties, particularly in relation to implementation of the Sustainable Groundwater Management Act.

Attachments: [Attachment 1: Sample Sustainable Management Criteria Hydrogra](#)
[Attachment 2: PowerPoint](#)

Est. Staff Time: 20 Minutes

4.2. Potential Groundwater Banking Projects (Comparison Matrix).

[20-0840](#)

Recommendation: Receive and discuss information regarding staff development of a comparison matrix used to analyze and compare potential groundwater banking projects.

Manager: Vincent Gin, 408-630-2633

Attachments: [Attachment 1: Matrix Comparison of Groundwater Banking Projec](#)
[Attachment 2: Groundwater Banking Objectives and Evaluation C](#)

Est. Staff Time: 20 Minutes

4.3. Standing Items Information.

[20-0841](#)

- Recommendation:
- A. This agenda item allows the Committee to receive verbal or written updates and discuss the following subjects. These items are generally informational; however, the Committee may request additional information from staff:
 - B. This is informational only and no action is required.
Staff may provide a verbal update at the 10-14-2020, meeting if there is reportable/updated information.
 - 1. Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities
 - 2. Lake Del Valle
 - 3. Del Puerto
 - 4. Water Banking Opportunities including but not limited to Pleasant Valley Water District (*10-14-2020, agenda item*)
 - 5. Pacheco/San Luis Reservoir Low Point (discuss Pacheco Authority)
 - 6. Semitropic (*10-14-2020, agenda item*)
 - 7. Sites
 - 8. B.F. Sisk Dam Raise Project
 - 9. Shasta

Manager: Michele King, 408-630-2711

Est. Staff Time: 15 Minutes

4.4. Review Water Storage Exploratory Committee Work Plan and the Committee's Next Meeting Agenda.

[20-0842](#)

Recommendation: Review the Committee's Work Plan to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: WSEC 2020 Work Plan](#)

Est. Staff Time: 5 Minutes

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.

This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.

6. ADJOURN:

6.1. Adjourn to Regular Meeting at 12:00 p.m., Friday, October 30, 2020.



Santa Clara Valley Water District

File No.: 20-0837

Agenda Date: 10/14/2020
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Approval of Minutes.

RECOMMENDATION:

Approve the August 21, 2020, Meeting Minutes.

SUMMARY:

A summary of Committee discussions, and details of all actions taken by the Committee, during all open and public Committee meetings, is transcribed and submitted for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into the District's historical records archives and serve as historical records of the Committee's meetings.

ATTACHMENTS:

Attachment 1: 08212020 WSEC Draft Mins

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711



SANTA CLARA VALLEY WATER DISTRICT (VALLEY WATER)
WATER STORAGE EXPLORATORY COMMITTEE

DRAFT MINUTES

**FRIDAY, AUGUST 21, 2020
12:00 PM**

(Paragraph numbers coincide with agenda item numbers)

A regular meeting of the Water Storage Exploratory Committee (Committee) was held on August 21, 2020, via Zoom Meeting at Valley Water, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER

The Water Storage Exploratory Committee was called to order by Chair Director Gary Kremen at 12:00 p.m.

1.1 ROLL CALL

Board Members in attendance were: Director Gary Kremen-District 7, Director Richard P. Santos-District 3, and Director John L. Varela-District 1.

Valley Water Staff in attendance were: Erin Baker, Lisa Bankosh, Glenna Brambill, Debra Butler, Vincent Gin, Andrew Gschwind, Brian Hopper, Katrina Jessop, Michele King, Eric Leitterman, Bill Magleby, Michael Martin, Ryan McCarter, Steven Peters, Metra Richert, Donald Rocha, Charlene Sun and Beckie Zisser.

Guests in attendance were: Jerry Brown (Sites Authority), Paul Sethy (Alameda County Water District-ACWD), Maureen Martin, Ph.D., and Marguerite Patil (Contra Costa Water District-CCWD), Steve Jordan (BAWSCA), David Niese, Jim Bowley, Nancy Walker, L. Chau, Katja Irvin, and Matteo Palacios.

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON AGENDA

Directors Richard P. Santos and John L. Varela reported on the special Anderson Dam meeting on August 20, 2020 with San Jose City Council Person Hon. Sergio Jimenez.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Director Richard P. Santos, seconded by Director John L. Varela, and unanimously carried to approve the minutes of the July 13, 2020, meeting of the Water Storage Exploratory Committee as presented by roll call vote and all Directors voting yes!

4. ACTION ITEMS

4.1 UPDATE ON LOS VAQUEROS RESERVOIR EXPANSION PROJECT: 2019 MULTI-PARTY AGREEMENT AMENDMENT

Ms. Metra Richert reviewed the materials as outlined in the agenda item.

The Committee (Directors Kremen, Santos and Varela) discussed the following: look at administrative costs for those that drop out.

Mr. Steve Jordan inquired about the total cost per 8 agencies (\$760k, \$869k and \$1.01m-dropping out).

Ms. Marguerite Patil was available to answer questions.

The Committee took no action.

4.2 SECOND AMENDMENT TO 2019 RESERVOIR PROJECT AGREEMENT FOR CONTINUED PARTICIPATION IN THE SITES RESERVOIR PROJECT

Ms. Katrina Jessop reviewed the materials as outlined in the agenda item.

The Committee (Directors Kremen, Santos and Varela) discussed the following: minimum credible participation, staff's recommendation, consideration of moving the water north to south, probability of conveyance, State and Federal level of modeling and evaluation, semitropic-what are we storing, minimum investment as opposed to higher level, looking at project wet year or critical dry year, added pumping costs, knowing the project risks if moving through SBA, state project suffering, continue with staff's Recommendation C {Recommend to Board to Direct Valley Water staff to continue engagement in Sites Reservoir Committee and negotiate future parameters for participation}, when is the deadline, need a cost analysis, committee agreed to having all issues, questions and concerns answered before taking action, coordinate with other agencies to see where they are in their participation, questions on some of the financial data similar to LVE and asked for any modeling, standardized assumption data (inflation 3%) coming to the Committee via Non Agenda.

Mr. Steve Jordan inquired about SBA conveyance, agencies having same level of participation, 480 AF drought year lowered SBA-less utilized in drought years.

Director Paul Sethy inquired about the cost of AF, sale of water, capital investment and what is the actual number.

Mr. Vincent Gin, Mr. Andrew Gschwind, Ms. Metra Richert and Ms. Charlene Sun were available to answer questions.

The Committee by unanimous consensus agreed to have Committee Chair Director Gary Kremen work with Board Chair Director Nai Hsueh to have a Sites Agenda Item placed on

September 8, 2020, board meeting in the event there needs to be a decision made to meet the September 10, 2020, deadline. However, the Committee would like to have answers to their issues, questions and concerns with the project, agreement, and efforts from the other participating agencies.

4.3 REVIEW WATER STORAGE EXPLORATORY COMMITTEE WORK PLAN AND THE COMMITTEE'S NEXT MEETING AGENDA

Ms. Glenna Brambill reviewed the materials as outlined in the agenda item.

Staff will work with Chair Kremen on next meeting's agenda but Director Kremen would like to bring back the Standing Items as a regular agenda item. Have staff continue to look for water resources and for Valley Water to meet deadlines set forth

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE ACTIONS

Ms. Glenna Brambill noted there was one action item for Board consideration.

Agenda 4.2

The Committee took the following action:

The Committee by unanimous consensus agreed to have Committee Chair Director Gary Kremen work with Board Chair Director Nai Hsueh to have a Sites Agenda Item placed on September 8, 2020, board meeting in the event there needs to be a decision made to meet the September 10, 2020, deadline. However, the Committee would like to have answers to their issues, questions and concerns with the project, agreement, and efforts from the other participating agencies.

6. 6.1 CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION

Govt. Code Sec. 54956.9(d)(1)

SCVWD v. Jin, et al., Santa Clara County Superior Court, No. 19CV352227

6.2 DISTRICT COUNSEL REPORT ON CLOSED SESSION

Mr. Brian Hopper reported that direction was given to staff.

7. ADJOURNMENT

Chair Director Gary Kremen adjourned the meeting at 1:33 p.m.

Glenna Brambill
Board Committee Liaison
Office of the Clerk of the Board

Approved:



Santa Clara Valley Water District

File No.: 20-0839

Agenda Date: 10/14/2020

Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Semitropic Groundwater Bank Update.

RECOMMENDATION:

Receive, review, and discuss information regarding the status of Semitropic Groundwater Bank and operational uncertainties, particularly in relation to implementation of the Sustainable Groundwater Management Act.

SUMMARY:

On December 11, 2019, the Santa Clara Valley Water District (Valley Water) Water Storage Exploratory Committee was provided an update regarding the Semitropic Groundwater Bank (Semitropic). This memorandum provides additional information following further staff analysis of Semitropic Water Storage District's (SWSD) Groundwater Sustainability Plan (GSP) and the *1997 Agreement Between Santa Clara Valley Water District and Semitropic Water Storage District and Its Improvement Districts for a Santa Clara-Semitropic Water Banking and Exchange Program* (Agreement).

Staff had previously reported on challenges associated with withdrawing water from Semitropic in dry years due to limited exchange capacity with the State Water Project, potential water quality concerns due to arsenic concentrations identified in SWSD's groundwater wells, and general concerns regarding operational uncertainties associated with SGMA implementation. Additional, more specific, concerns related to the SWSD GSP are described below.

Concerns related to Semitropic GSP

- The SWSD GSP projects an average annual deficit of 166,000 acre-feet per year and corresponding depletion in groundwater storage. Semitropic predicts GSP implementation will effectively bring the deficit to 0 AFY by 2040. Historically, long term overdraft in the subbasin has been observed even with the offsetting effects of imported contract and banked supplies. Between Spring 2006 and Spring 2020, measured water levels declined an average of 7.6 feet per year in SWSD.
- No Sustainable Management Criteria were set specifically for water quality or land subsidence in the SWSD GSP, instead water levels are used as a proxy. The SWSD GSP proposes to continue allowing groundwater level decline past historic lows which could increase pumping energy costs and diminish groundwater quality, as discussed further below. No determination

has been made as to the potential for continued subsidence.

- The SWSD GSP restricts water allocations to landowners and requires following of land, but it also proposes to allow continued projected water level declines into 2030 and 2040, in some instances 160 to 260 feet below 2015 historic low water levels. A depth to water hydrograph is provided in **Attachment 1**. These measures could have operational implications on recovery of water by pump-back by local landowners on behalf of banking partners.
- For successful GSP implementation, Valley Water staff anticipates SWSD will need to navigate development, implementation, and enforcement of groundwater extraction fees and individual landowner water budgets as well as successfully secure at least 70,000 AF per year of supplemental supplies. SWSD is targeting appropriating this water from the Kings River.

California State Determination of Plan Adequacy

The Department of Water Resources (DWR) has two years to review submitted GSPs to determine whether the plan satisfies the SGMA requirements. Depending on DWR's review and final determination, several potential outcomes may unfold:

- a) DWR may approve SWSD's GSP as presented;
- b) DWR may deem the SWSD GSP's targeted water levels and action triggers not acceptable, in which case SWSD may need to apply more stringent measures or secure additional supplemental supplies to meet acceptable targets and avoid impact to the Semitropic banking operations;
- c) The State Water Resources Control Board may intervene and identify actions needed to correct undesirable results, which could include adjudication.

It is unclear how these outcomes may impact SWSD's groundwater banking operations. However, Valley Water legal counsel's assessment is that the agreement between Valley Water and SWSD has several protective provisions for recovery of Valley Water's stored water, and that Valley Water should expect the SWSD to fully comply with the Agreement, even with the implementation of the GSP. For example:

- the trust relationship provision(s) are for the benefit of Valley Water and protecting the ability to recover stored water,
- SWSD cannot enter into other agreements that interfere with the rights of Valley Water under the Agreement, and
- Semitropic must defend and indemnify Valley Water against claims concerning (a) the distribution of water; (b) any contest by a landowner concerning the allocation of benefits; and (c) SWSD's facilities or operations. Semitropic's obligation to defend and indemnify Valley Water could be interpreted as including claims related to SGMA operations or any water rights adjudication in the basin.
- If SWSD is unable to return stored water, SWSD is required to purchase the stored water that it is unable to return under the Agreement, but at a price that may be lower than the actual value of the water.

Detections of 1,2,3, TCP in groundwater wells

SWSD has reported elevated concentrations of 1,2,3 trichloropropane (TCP) in some of its groundwater wells. TCP is a chemical that was included in a nematode fumigant made by Shell Oil and Dow Chemical companies and applied liberally to the Central Valley's vast farmland from the 1950s through the 1980s. It is a persistent pollutant in groundwater and has been classified as "likely to be carcinogenic to humans" by the EPA. There is currently insufficient information to conclude whether the detections in the SWSD wells could impact banking operations over the long term. Staff is seeking additional information to better understand potential implications.

Background

The Semitropic Groundwater Bank provides storage for Valley Water's wetter year supplies and is a primary source of supplemental dry year supplies. Valley Water has rights to 350,000 acre-feet (AF) of storage capacity (a 35 percent share of the total capacity) within the Semitropic bank. Since 1997, Valley Water has spent approximately \$116 million towards storage and recovery operations, storing nearly 600 thousand acre-feet (TAF) and recovering 260 TAF of supplies, primarily in wet and dry years, respectively. By the end of 2020, 340 TAF of SWP and CVP supplies will be held in Valley Water's storage account for withdrawal during future dry years.

Valley Water relied on the Semitropic Groundwater Bank for a majority of its supplemental water supplies during the critically dry years of 2014 and 2015 and may need to rely on Semitropic to provide supplemental supplies during the pending drawdown of Anderson Reservoir and the resulting limited access to local surface supplies and emergency supplies.

Next Steps

Semitropic has proven to be a cost-effective way to regulate wet year supplies to provide critical dry year water, but there are several risks associated with its continued operation. Valley Water would benefit from diversifying its storage programs to invest in other banking programs that may have fewer or different risks to increase its overall supply reliability.

- Valley Water should continue to utilize the Semitropic Groundwater Bank in the near term and potentially long-term, as development and implementation of the SWSD GSP and evolution of water quality issues are closely followed.
- Considering increased risks, Valley Water should explore additional new banking programs that are cost-effective and have reliable dry-year delivery mechanisms.

ATTACHMENTS:

Attachment 1: Sample Sustainable Management Criteria Hydrograph
Attachment 2: PowerPoint

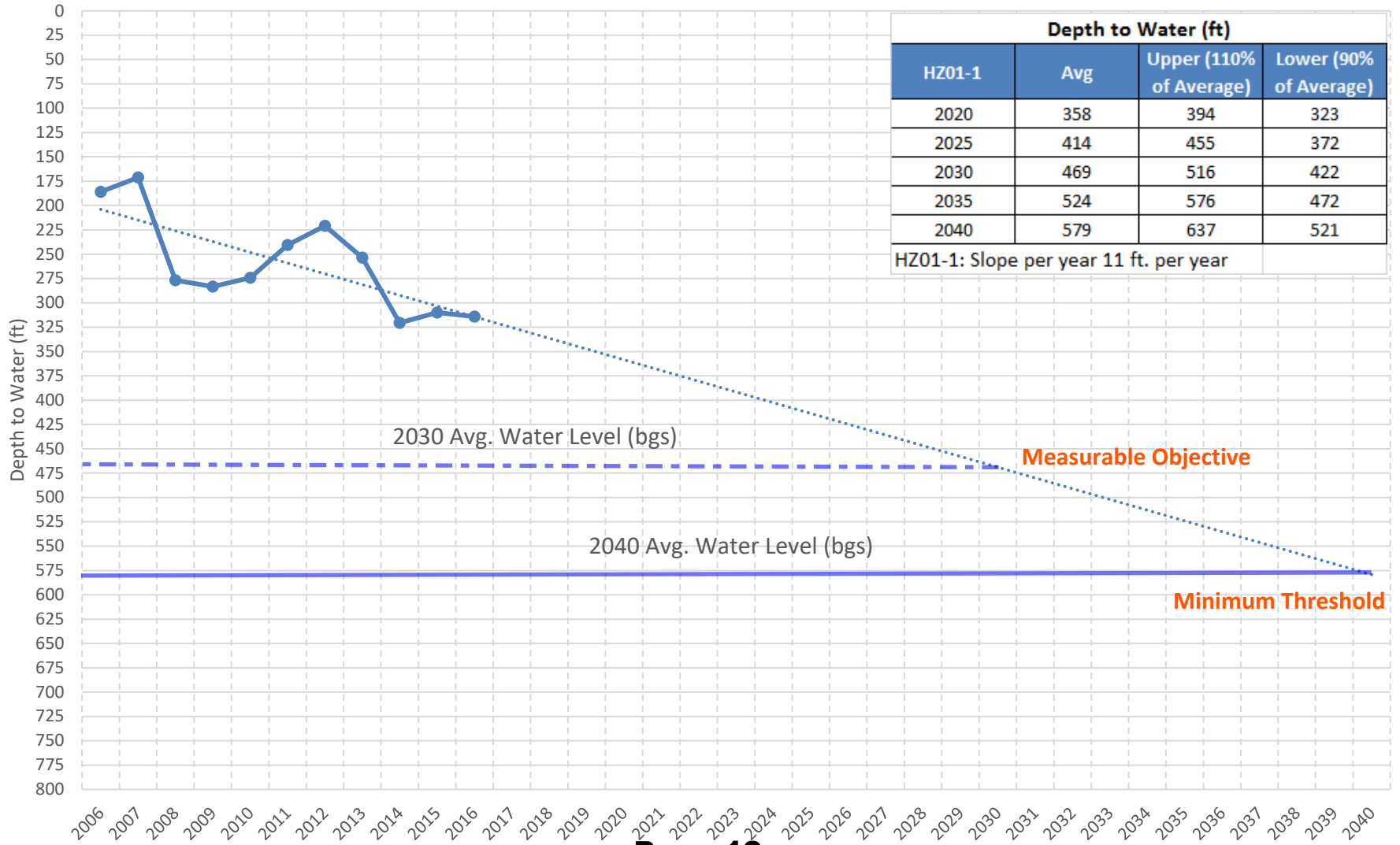
UNCLASSIFIED MANAGER:

File No.: 20-0839

Agenda Date: 10/14/2020
Item No.: 4.1.

Vincent Gin, 408-630-2633

Hydrogeologic Zone 01 - 1 (Average Spring Measurements)



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Valley Water

Clean Water • Healthy Environment • Flood Protection



Update on Semitropic Groundwater Banking Program

Presented by: Imported Water Unit



Historic Use

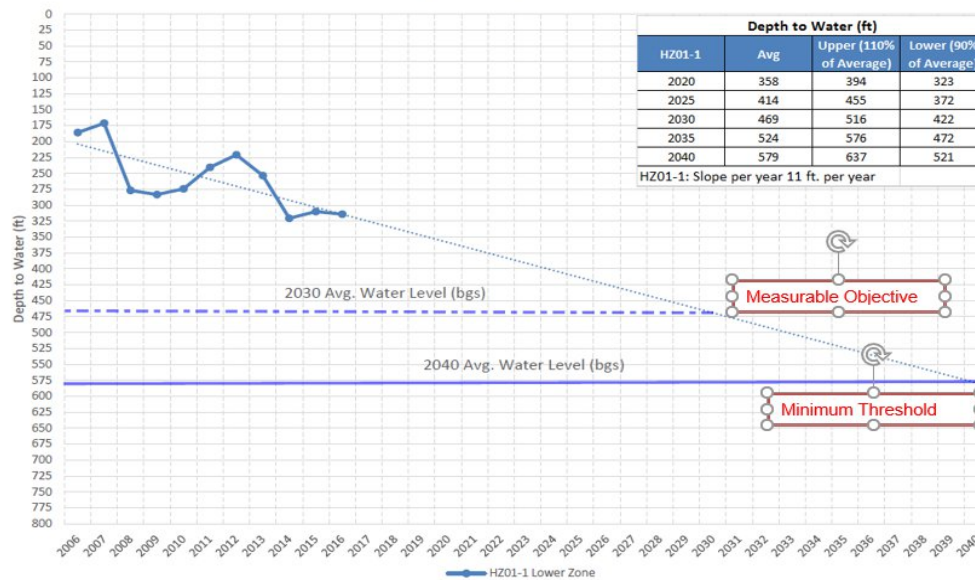
- Total Stored: ~600,000 Acre-Feet (AF)
- Total Recovered: ~260,000 AF
- 2020 Total Storage: ~340,000 AF of SWP + CVP supplies
- Drought: Returned ~125,000 AF including 80,000 AF during critically dry years (2014,2015)
- Banking: Outperformed, banking ~65,000 AF in a single year
- Recovering: Outperformed, even during the drought, recovering ~45,000 AF in 2015

Groundwater Sustainability Plan

Change In Storage

- 166 AFY average annual deficits + depletion in groundwater storage, pre-GSP
- Reduce deficit to ~0 AFY by 2040
- Groundwater level decline could increase costs and diminish water quality

Hydrogeologic Zone 01 - 1
(Average Spring Measurements)



Groundwater Sustainability Plan

Sustainable Management Criteria

- None for Water Quality or Land Subsidence
 - Water levels as a proxy

Projects and Management Actions

- Landowner water budgets and land fallowing
 - Land fallowing may limit in-lieu recharge / pump-back recovery

Key Hurdles

- Groundwater extraction fees
- Individual landowner water budgets
- Secure supplemental imported supplies

CA Department of Water Resources GSP Review

6

Potential Outcomes

1. Approve as Drafted
2. Deem not Adequate
 - Update GSP, Management Actions or Projects
3. The State Water Resources Control Board Intervention
 - Potentially Adjudication

Water Quality

Arsenic

- Treating Arsenic, as needed

1,2,3 trichloropropane (TCP)

- Monitoring since 2017
- 89 out of 430 wells above the Title 22 Maximum Contaminant Level
- Insufficient information available to Valley Water to determine long-term impact to banking operations

Semitropic Banking Agreement Review

1997 Valley Water - Semitropic Banking Agreement

- Several protective provisions for recovery of stored water
- Expect compliance, even with the implementation of the GSP
- If unable to return stored water, Semitropic must purchase what it is unable to return
- Term of Agreement set to expire in 2035

Summary

Implications to Groundwater Banking Operations

- Effects remain unclear pending DWR's determination, to be completed by Spring 2022
- Near term and potentially long-term viability

Next Steps

- Closely follow GSP implementation and water quality issues
- Explore additional cost-effective, reliable banking programs



Valley Water

Clean Water • Healthy Environment • Flood Protection



Santa Clara Valley Water District

File No.: 20-0840

Agenda Date: 10/14/2020

Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Potential Groundwater Banking Projects (Comparison Matrix).

RECOMMENDATION:

Receive and discuss information regarding staff development of a comparison matrix used to analyze and compare potential groundwater banking projects.

SUMMARY:

Santa Clara Valley Water District (Valley Water) staff have been exploring different groundwater banking opportunities as well as surface storage projects to diversify and potentially expand its storage capabilities. This effort is relevant given that implementation of the Sustainable Groundwater Management Act (SGMA) and water quality issues may affect long term operations of the Semitropic groundwater bank, while projections of climate change impacts detailed in California's Fourth Climate Change Assessment Technical Reports indicate that future water supplies will likely come in concentrated and shorter wet periods that will result in large surpluses of water that may require additional storage facilities to capture. At the same time, sea level rise will likely increase salinity intrusion into the Delta, which may reduce the availability of SWP and CVP supplies during drier years, increasing Valley Water's reliance on stored supplies.

At the January 15, 2020 meeting of the Water Storage Exploratory Committee, a draft concept for a groundwater bank "comparison matrix" was presented, to help guide Valley Water's discussions and banking project review in a consistent format. Attachment 1 is an updated version of this comparison matrix incorporating information on four prospective projects that are currently under investigation:

- AVEK 'High Desert' Groundwater Bank
- Buena Vista WSD Groundwater Bank
- Pleasant Valley WD Groundwater Bank
- Mid-Valley Groundwater Bank

Each of these projects have been tentatively rated against one another based on the best available information using the evaluation criteria in Attachment 2. These ratings will be updated when better information becomes available and as Imported Water Unit staff work to refine banking project terms and the evaluation criteria.

ATTACHMENTS:

Attachment 1: Matrix Comparison of Groundwater Banking Projects

Attachment 2: Groundwater Banking Objectives & Evaluation Criteria

UNCLASSIFIED MANAGER:

Vincent Gin, 408-630-2633

Preliminary Matrix Comparison of Groundwater Banking Projects – October 2020

		Semitropic Groundwater Bank	AVEK 'High Desert' Groundwater Bank	Buena Vista WSD Groundwater Bank	Pleasant Valley WD Groundwater Bank	Mid-Valley Groundwater Bank
<i>Managing Agencies</i>		Semitropic Water Storage District	Antelope Valley East Kern Water Agency	Kern County Water Agency	Pleasant Valley Water District	McMullin Area Groundwater Sustainability Agency
<i>Location</i>		Northern Kern County	Antelope Valley/Mojave	Northern Kern County	Fresno County near Coalinga	Fresno County near Kerman
Status		Established/Functional	Proposed by AVEK/ Under development & review	Proposed by Buena Vista/ Under development & review	Proposed by PVWD/Under development & review	Proposed by MAGSA/Under development & review
<i>Direction (Convey Pathway)</i>		Direct/Exchange	Direct/Exchange	Direct/Exchange	Direct/Exchange	Direct/Exchange
<i>Participation Mechanism</i>		Existing Contract with Priority Rights	Contract (Priority)	Contract (Priority)	Contract (Priority)	Contract (Priority)
<i>Operations</i>	<i>Max Storage</i>	350,000 AF	<i>Tentative 200,000 AF plus (under evaluation)</i>	No Defined Limit	<i>Under development</i>	<i>Under development; estimated 200 TAF</i>
	<i>Put Limit</i>	31,675 AF/yr	<i>Tentative 40,000 AF/yr (under evaluation)</i>	<i>Proposed 120,000 AF/yr Maximum</i>	<i>Under development</i>	<i>Under development</i>
	<i>Storage Water Types</i>	SWP, CVP, Non-Project	SWP, CVP, Non-Project	SWP, CVP & CVP-Friant Non-Project	CVP & SWP, Non-Project	CVP & SWP
	<i>Take Limit</i>	31,675 AF/yr Minimum	<i>Tentative 40,000 AF/yr (under evaluation)</i>	<i>Proposed One-tenth of return obligation in a 'return year'</i>	<i>Under development</i>	<i>Under development</i>
	<i>Withdrawal Setup</i>	SWP Supply Exchange	SWP Supply Exchange	SWP Supply Exchange	CVP Supply Exchange w/other undefined water agency	<i>Under development, Exchange with Exchange Contractor and Refuge CVP supplies, SWP Supply Exchange</i>
<i>Losses</i>	<i>Storage</i>	10% Leave-Behind	10% Leave-Behind	<i>Proposed 50% to 75% Leave-Behind during 50%-80% SWP allocation years</i>	<i>Under development</i>	<i>Under development</i>
	<i>Conveyance</i>	None	None	None	5% Estimated	<i>Under development</i>
<i>Costs</i>	<i>Put Costs</i>	\$89/AF (CPI-adjust)	None	None	<i>Under development</i>	<i>Under development</i>
	<i>Take Costs</i>	\$89/AF (CPI-adjust)	<i>Proposed \$100/AF (CPI-adjust)</i>	None	<i>Under development</i>	<i>Under development</i>
	<i>Capital Investment</i>	None	<i>Under development – Est. \$60 - \$100 Mil</i>	<i>Estimated \$50 Mil not including permitting</i>	<i>Under development</i>	<i>Under development</i>
	<i>Recurring O&M</i>	Approx. \$2.4 Mil/yr Flat (Covers Put/Take Costs)	Approx. 10% capital costs/yr	None	<i>Under development</i>	<i>Under development</i>
	<i>Other Costs</i>	Variable pumping/ energy (credited back) treatment recovery costs	- Variable pumping/energy recovery costs - 'Minimum Recovery Usage Fees', proposed minimum annual rolling average \$715,000 - Annual Management Costs	Variable pumping/energy recovery costs	<i>Under development</i>	<i>Under development</i>
<i>Issues</i>	<i>SGMA</i>	Kern County SB 'High Priority'	Adjudicated, No Issues	Kern County SB 'High Priority'	Pleasant Valley SB 'Medium Priority'	Kings County SB 'High Priority'
	<i>Water Quality</i>	Moderate Quality (TDS/Arsenic)	Generally Good Quality	Poor Quality (High TDS/Nitrates/Arsenic)	Poor Quality (High TDS/Sulfates)	Under development – potential issues with Arsenic, TDS

Preliminary Matrix Comparison of Groundwater Banking Projects – October 2020

<i>Issues</i>	<i>Conveyance limitations</i>	SWP exchange capacity limitations in dry years; KCWA approval required	SWP exchange capacity limitations in dry years	SWP exchange capacity limitations in dry years; KCWA approval required	No direct connection to SWP or CVP facilities; will require an exchange partner and new facilities	None identified to date; Potential exchange capacity with Exchange Contractors and Refuges should be plentiful (estimate 18,000 AF/month May-September thru Mendota Pool)
<i>Real Property</i>	Owned		Land Acquisition / Negotiations Scheduled Summer 2021	To Be Determined	To Be Determined	Land / Easement Acquisition Scheduled 2022 - 2024
<i>Key Risks and Other Considerations</i>		<ul style="list-style-type: none"> - Effective operation over the past 23 years - Uncertainty regarding future reliability under SGMA - Limited exchange of KCWA Table A <ul style="list-style-type: none"> - Cost increases possible with energy/treatment - KCWA control of storage and recovery - Limited exchange capacity in dry years - Banking agreement expires in 12/31/35 - If Semitropic fails to perform, Semitropic may pay VW to retain VW's water supplies 	<ul style="list-style-type: none"> - Less groundwater management issues in adjudicated basin. - Direct partnership with SWP contractor, no need for KCWA approval - AVEK willing to exchange their entire Table A allocation - High energy costs with disputed cost allocation - Limited exchange capacity in dry years <ul style="list-style-type: none"> - Project is in initial stages; land acquisition, engineering design and construction has not yet been initiated; however, MWD is developing an adjacent bank with AVEK so information sharing can facilitate development. 	<ul style="list-style-type: none"> - Sound history of conjunctive management with adequate surface water supplies including Kern River entitlement - Minimal observed historical subsidence <i>Current Proposed Terms:</i> <ul style="list-style-type: none"> - Proposal is expensive in terms of dollars and water lost - Proposal commits first 120,000 AF/yr to be banked in BV thereby limiting 'flexibility' - Withdrawal of water is constrained and may not be aligned with VW needs - Unclear capital investment terms for \$50Mil estimate - Kern River flood control could impact storage and recovery 	<ul style="list-style-type: none"> - Not connected to SWP or CVP system, other water agency partner(s) needed for storage and recovery <ul style="list-style-type: none"> - Poor GW quality - Project is currently poorly defined 	<ul style="list-style-type: none"> - Good location adjacent to Mendota Pool and Delta Mendota Canal; allows for less extensive infrastructure and potentially lower costs - Plentiful CVP exchange capacity to support withdrawals - Project is in initial stages – additional analysis of geology, water quality, possible SGMA limitations is needed. <ul style="list-style-type: none"> - Land acquisition and other partnerships need to be developed - Banking terms are yet to be developed but allow for negotiation
<i>Tentative Rating – Subject to Change</i>			1	4	3	2

Note: Other promising but 'less defined' banking projects under investigation include Mojave Water Agency Groundwater Bank, San Joaquin Valley GW Banking Opportunities, and Sacramento Regional Water Bank.

GROUNDWATER BANKING PROJECT OBJECTIVES

1. **Cost (responsibility to our Customers)**

This objective relates to Executive Limitation 4.2 that the Board Appointed Officers shall “Spend in ways that are cost-efficient.” New banking projects should be competitive in price to other banking projects and other imported water supplies.

2. **Optimize Project Location**

To minimize conveyance and energy costs and operational constraints, a prospective water banking project would be south of the Delta, allow for direct conveyance to O'Neill Forebay and San Luis Reservoir.

3. **Minimize Regulatory Constraints**

Banking projects will have the most operational certainty with respect to existing regulations. This objective includes but is not limited to Sustainable Groundwater Management Act criteria related to water levels and general hydrogeologic conditions, groundwater in storage, water quality conditions, land subsidence, and potential limitations on banking operations. Additional consideration should be given to various water rights, storage, and conveyance agreements required for banking and banking operations.

4. **Technical Feasibility**

Upon completion of value engineering or feasibility studies, preferred water banking project(s) will be in areas with good water quality for constituents of concern, provide adequate storage capacity, allow for efficient storage and recovery of groundwater, and have a defined schedule for construction.

5. **Diversify storage portfolio moving into the future**

Groundwater storage outside of the county is open to several risks that could impede the ability to draw on stored supplies when they are needed. Diversifying the portfolio is a way to manage this risk while managing surplus supplies and providing dry-year regional reliability. Consideration should be given to potential recovery limitations in year types to ensure availability of supplies from at least one groundwater bank.

6. **Promote projects that increase operational flexibilities and supply management tools**

Integration with existing projects can improve current conjunctive management and provide extra certainty that the water supply benefits of the project will be realized when Valley Water needs them. An ideal groundwater banking project would offer the ability to store various water types and provide a synergistic effect with current or future projects.

7. **Provide sufficient District control over supplies and operations**

Water supply strategies should allow Valley Water to adapt to changes in water supplies by providing a high degree of District control including directly controlled supplies and supplies developed in partnership with other local and regional agencies.

CRITERIA FOR EVALUATING GROUNDWATER BANKING PROJECTS

Criteria	Scoring Guidelines (Assign Score of 1 to 5)
Synergy with Current or Future Projects	(5) Improves benefits or efficacy of current or future projects (3) Maintains benefits or efficacy of current or future projects (1) Reduces benefits or efficacy of current or future projects
Level of Regulatory Risk	(5) Minimal regulatory risks (3) Some regulatory risk (1) Significant regulatory risk
Optimize Project Location	(5) Located close to San Luis Reservoir AND Delta-Mendota Canal or California Aqueduct (3) Located close to San Luis Reservoir OR Delta-Mendota Canal or California Aqueduct (1) Located far from San Luis Reservoir or Delta-Mendota Canal or California Aqueduct
Maximize Operational Flexibility	(5) Allows storage of various water types (CVP/SWP/Other) AND direct withdrawal or project water (CVP/SWP) exchange with recovery in all water year types (3) Allows storage of various water types (CVP/SWP/Other) OR direct withdrawal or project water (CVP/SWP) exchange with recovery in all water year types (1) No direct project water (CVP/SWP) exchange and limited to no recovery in low project allocations.
Current Level of Project Development and Technical Feasibility	(5) Defined schedule and Feasibility Study complete (3) Defined schedule but technical feasibility not confirmed, no studies or exploratory work complete (1) Undefined schedule and/or no studies or exploratory work complete
Present Value Cost per Acre-Foot for Banking	(5) < \$400 (lower than dry year transfers) (3) \$400 - \$750 (comparable to SJREC dry year transfer program) (1) > \$750 (expensive but 'guaranteed' water)
Provide District Control Over Banked Supplies	(5) Valley Water owns and operates the banking project or share of banking facility AND directly controls supplies or supplies developed with other agencies (3) Valley Water owns and operates the banking project or share of banking facility OR directly controls supplies or supplies developed with other agencies (1) Valley Water is afforded limited or no control of stored water

How to use:

- Evaluate a groundwater project and assign it a score of 1 to 5 for each of the criteria based on the scoring guidelines.
- Sum the scores for each criterion to determine a project's score.
- Repeat process with other groundwater projects and compare the results. The higher a project's score the more suitable it is to Valley Water's needs.



Santa Clara Valley Water District

File No.: 20-0841

Agenda Date: 10/14/2020

Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Standing Items Information.

RECOMMENDATION:

- A. This agenda item allows the Committee to receive verbal or written updates and discuss the following subjects. These items are generally informational; however, the Committee may request additional information from staff:
 - B. This is informational only and no action is required.
Staff may provide a verbal update at the 10-14-2020, meeting if there is reportable/updated information.
1. Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities
 2. Lake Del Valle
 3. Del Puerto
 4. Water Banking Opportunities including but not limited to Pleasant Valley Water District (10-14-2020, agenda item)
 5. Pacheco/San Luis Reservoir Low Point (discuss Pacheco Authority)
 6. Semitropic (10-14-2020, agenda item)
 7. Sites
 8. B.F. Sisk Dam Raise Project
 9. Shasta

SUMMARY:

Standing Items will allow regular reports from staff on subjects that may be of interest to the committee members.

ATTACHMENTS:

None.

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711



Santa Clara Valley Water District

File No.: 20-0842

Agenda Date: 10/14/2020

Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM

Water Storage Exploratory Committee

SUBJECT:

Review Water Storage Exploratory Committee Work Plan and the Committee's Next Meeting Agenda.

RECOMMENDATION:

Review the Committee's Work Plan to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The Committee's Work Plan outlines the Board-approved topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendaized at each meeting as accomplishments are updated and to review additional work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:

The District Act provides for the creation of advisory boards, committees, or committees by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ATTACHMENTS:

Attachment 1: WSEC 2020 Work Plan

Attachment 2: Next Meeting's Proposed Agenda

File No.: 20-0842

Agenda Date: 10/14/2020
Item No.: 4.4.

UNCLASSIFIED MANAGER:
Michele King, 408-630-2711

2020 Work Plan: Water Storage Exploratory Committee

Update: October 2020

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting the District occur and are recommended for committee discussion.

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
1	<p>Standing Items:</p> <ol style="list-style-type: none"> 1. Update on Los Vaqueros Reservoir Expansion Project (LVE) Transfer Bethany Pipeline (TBP) and Update on Management of South Bay Aqueduct (SBA) Facilities 2. Lake Del Valle 3. Del Puerto 4. Water Banking Opportunities including but not limited to Pleasant Valley Water District 5. Pacheco/ San Luis Reservoir Low Point 6. Semitropic 7. Sites 8. B.F. Sisk Dam Raise Project 9. Shasta 	<p>1-15-2020 10-14-2020 10-30-2020</p>	<ul style="list-style-type: none"> • Receive quarterly reports on standing items. (Information) 	<p>Accomplished January 15, 2020: The Committee took the following action:</p> <ul style="list-style-type: none"> • That the Board consider the Committee's recommendation to the Board to accelerate the partnerships discussion for the Pacheco Reservoir Expansion Project. <p>Board received this information on February 25, 2020 and took the following action: Approved the Water Storage Exploratory Committee's recommendation.</p> <p>Pacheco and San Luis Reservoir Low Point Projects will be joined as one work plan item</p>
2	<p>Review of 2020 Water Storage Exploratory Committee Work Plan</p>	<p>1-15-2020 07-13-2020 8-21-2020 10-14-2020 10-30-2020</p>	<ul style="list-style-type: none"> • Review the Committee's 2020 Work Plan. 	<p>Accomplished January 15, 2020: The Committee reviewed the Committee's 2020 Work Plan and took no action.</p> <p>Accomplished July 13, 2020: The Committee reviewed the Committee's 2020 Work Plan and took no action.</p> <p>Accomplished August 21, 2020: The Committee reviewed the Committee's 2020 Work Plan and took no action.</p>

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1

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2020 Work Plan: Water Storage Exploratory Committee

Update: October 2020

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
3	Del Puerto Canyon Reservoir Update	07-13-2020	<ul style="list-style-type: none"> • Receive information regarding the status of Del Puerto Canyon Reservoir. 	<p>Accomplished July 13, 2020: Special guests Mr. Chris White and Ms. Anthea Hansen gave a presentation of the Del Puerto Canyon Reservoir. The Committee took no Action.</p>
4	Update on Los Vaqueros Reservoir Expansion Project: Storage, Transfer-Bethany Pipeline, and South Bay Aqueduct Capacity	07-13-2020 08-21-2020 10-30-2020	<ul style="list-style-type: none"> • Receive and discuss information regarding the Los Vaqueros Reservoir Expansion Project: Storage, Transfer-Bethany Pipeline, and South Bay Aqueduct Capacity • Recommend update as action item for next Board of Directors meeting. 	<p>Accomplished July 13, 2020: The Committee received an update on the Los Vaqueros Reservoir Expansion Project: Storage, Transfer-Bethany Pipeline, and South Bay Aqueduct Capacity and discussed taking the following action: The Committee recommended to approve staff's recommendation to bring Amendment to the 2019 Multi-Party Agreement to the Board of Directors for its consideration by roll call vote and all Directors voting aye! One footnote, Committee requested that updated information come back to the Committee before going to the full Board.</p> <p>Accomplished August 21, 2020: The Committee received an update on the Los Vaqueros Reservoir Expansion Project: Storage, Transfer-Bethany Pipeline, and South Bay Aqueduct Capacity and discussed and took no action.</p>
5	Update on the B.F. Sisk Dam Raise Project	07-13-2020	<ul style="list-style-type: none"> • Receive and discuss information on the B.F. Sisk Dam Raise Project. 	<p>Accomplished July 13, 2020: The Committee received an update on the B.F. Sisk Dam Raise Project and discussed without taking action.</p>

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1

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2020 Work Plan: Water Storage Exploratory Committee

Update: October 2020

ITEM	WORK PLAN ITEM	MEETING	INTENDED OUTCOME(S)	ACCOMPLISHMENT DATE AND OUTCOME
6	Second Amendment to 2019 Reservoir Project Agreement for Continued Participation in the Sites Reservoir Project	07-13-2020 08-21-2020 10-30-2020	<ul style="list-style-type: none"> Receive and discuss information regarding Sites Reservoir Project. 	<p>Accomplished July 13, 2020: The Committee received an update on the Sites Reservoir Project and discussed without taking action, however, before taking action, requested more information on the agreement/project for further discussion at the next meeting.</p> <p>Accomplished August 21, 2020: The Committee received an update on the Sites Reservoir Project and discussed and took no action. The Committee still has some concerns And questions so that staff will bring back for the Next meeting.</p>
7	Update on Pacheco/San Luis Reservoir Low Point Projects	07-13-2020 10-30-2020	<ul style="list-style-type: none"> Receive and discuss information regarding the status of Pacheco/San Luis Reservoir Low Point Projects. 	<p>Accomplished July 13, 2020: The Committee received an update on the Pacheco/San Luis Reservoir Low Point Projects and discussed without taking action.</p>
8	Semitropic Groundwater Bank Update	10-14-2020	<ul style="list-style-type: none"> Receive and discuss information regarding the status of Semitropic Groundwater Bank 	
9	Comparison of Proposed Groundwater Banking Projects	10-14-2020	<ul style="list-style-type: none"> Receive and discuss information regarding ongoing development of staff comparison tools to analyze and compare proposed groundwater banking projects. 	
10	Update on Conceptual Lake Del Valle Modifications	TBD	<ul style="list-style-type: none"> Receive and discuss information regarding the status of Conceptual Lake Del Valle Modifications. 	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1

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