

June 21, 2019

MEETING NOTICE & REQUEST FOR RSVP

TO: AGRICULTURAL WATER ADVISORY COMMITTEE

Jurisdiction

District 1
District 2
District 3
District 4
District 5
District 6
District 7
Santa Clara County Farm Bureau
Loma Prieta Resource Conservation District
Private Well Owner (Non Retail)

Representative

Russ Bonino, Mitchell Mariani
James Provenzano
William Cilker, David Vanni
Brent Bonino
Jan F. Garrod, Michael Miller
Robert Long
Sandra Carrico
Sheryl O. Kennedy
George Fohner
Dhruv Khanna

The regular meeting of the Agricultural Water Advisory Committee is scheduled to be held on **Monday, July 1, 2019, at 1:30 p.m.**, in the Headquarters Building Boardroom located at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California. Refreshments will be served.

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting. Additional copies of this meeting packet are available on our new website at <https://www.valleywater.org/how-we-operate/committees/board-advisory-committees>.

A majority of the appointed membership is required to constitute a quorum, which is fifty percent plus one. A quorum for this meeting must be confirmed at least 48 hours prior to the scheduled meeting date or it will be canceled.

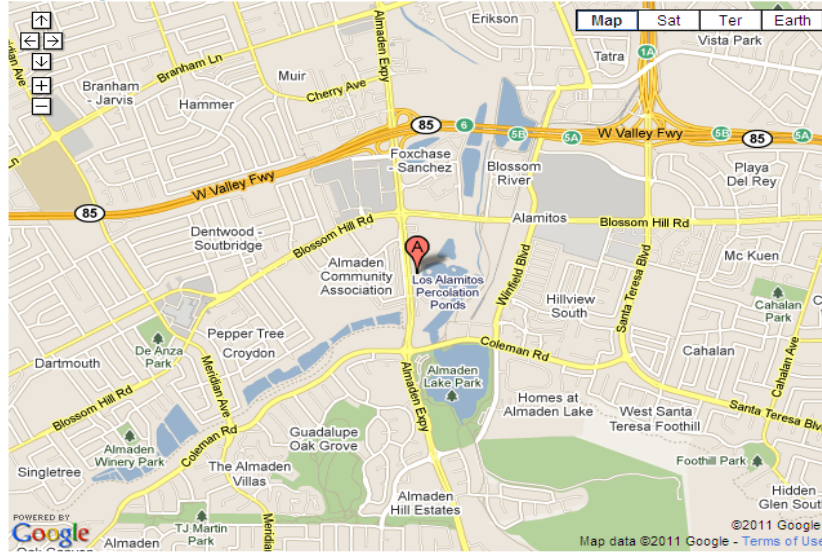
Further, a quorum must be present on the day of the scheduled meeting to call the meeting to order and take action on agenda items.

Members with two or more consecutive unexcused absences will be subject to rescinded membership.

Please confirm your attendance no later than **1:00 p.m., Thursday, June 27, 2019**, by contacting Ms. Glenna Brambill at 1-408-630-2408, or gbrambill@valleywater.org.

Enclosures

**Santa Clara Valley Water District - Headquarters Building,
5700 Almaden Expressway, San Jose, CA 95118**



From Oakland:

- Take 880 South to 85 South
- Take 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Morgan Hill/Gilroy:

- Take 101 North to 85 North
- Take 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- Cross Blossom Hill Road
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Sunnyvale:

- Take Highway 87 South to 85 North
- Take Highway 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From San Francisco:

- Take 280 South to Highway 85 South
- Take Highway 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Downtown San Jose:

- Take Highway 87 - Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (first traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Walnut Creek, Concord and East Bay areas:

- Take 680 South to 280 North
- Exit Highway 87-Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance



Santa Clara Valley Water District Agricultural Water Advisory Committee Meeting

HQ Boardroom
5700 Almaden Expressway
San Jose, CA 95118

REGULAR MEETING AGENDA

**Monday, July 1, 2019
1:30 PM**

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

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 Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

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
Agricultural Water Advisory Committee
REGULAR MEETING
AGENDA**

Monday, July 1, 2019

1:30 PM

HQ Boardroom

1. CALL TO ORDER:

1.1. Roll Call.

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

Notice to the public: This item is reserved for persons desiring to address the Committee on any matter not on this agenda. Members of the public who wish to address the Committee on any item not listed on the agenda should complete a Speaker Form and present it to the Committee Clerk. The Committee Chair will call individuals in turn. 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.

[19-0600](#)

Recommendation: Approve the April 8, 2019, Meeting Minutes.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: 040819 Ag Wtr DRAFT Mins](#)

Est. Staff Time: 5 Minutes

4. STANDING ITEMS REPORTS:

- Recommendation: A. For the Agricultural Water Advisory Committee to receive information on the Board's priorities on the following subjects:
1. Finalize the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). (Assigned to FAHCE) *Nothing to report at this time!*
 2. Actively Pursue Efforts to Increase Water Storage Opportunities. (Assigned to Water Storage Exploratory Committee) *See Attachment 1.*
 3. Actively Participate in Decisions Regarding the California Delta Conveyance. (Assigned to California Delta Conveyance Working Group) *Nothing to report at this time!*
 4. Lead Recycled and Purified Water Efforts with the City of San Jose and Other Agencies. (Assigned to Recycled Water Committee) *Valley Water and Cities of Palo Alto and Sunnyvale have been discussing recycled and purified water expansions. During the Joint Recycled Water Policy Advisory Committee meeting on Dec. 3, 2018, Cities of San Jose and Santa Clara have plans to expand the Recycled Water systems in their service areas as well as the City of Milpitas.*
 5. Engage and educate the community, local elected officials and staff on future water supply strategies in Santa Clara County. (Assigned to Water Conservation and Demand Management Committee) *Nothing to report at this time!*
 6. Advance Anderson Dam Seismic Retrofit Project. (Assigned to Capital Improvement Program Committee) *Nothing to report at this time!*
 7. Provide for a Watershed-Wide Regulatory Planning and Permitting Effort. (Assigned to FAHCE) *Nothing to report at this time!*
 8. Attain net positive impact on the environment when implementing Valley Water's mission. *Nothing to report at this time!*
 9. Promote the protection of creeks, bay, and other aquatic ecosystems from threats of pollution and degradation (E-4.1.3). (Assigned to Homeless Encampment Ad Hoc Committee) *Nothing to report at this time!*
 10. Advance Diversity and Inclusion Efforts. Carry forward to

FY20. (Assigned to Diversity and Inclusion Ad Hoc Committee) *Nothing to report at this time!*

11. Understand if the level of services Valley Water provides to the public are reasonable and the costs of providing services are affordable and effective. (Assigned to Revenue Working Group) *The Group has started working on this, however, there is nothing to report at this time!*

B. This is informational only and no action is required.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: #2 WSEC Report](#)

5. ACTION ITEMS:

- 5.1. Update on Water Supply Master Plan 2040 [19-0601](#)

Recommendation: This is a discussion item and no action is required. However, the Committee may make recommendations for Board consideration.

Manager: Jerry De La Piedra, 408-630-2257

Attachments: [Attachment 1: Staff Presentation](#)
[Attachment 2: Risk Ranking Report](#)
[Attachment 3: Draft Implementation Schedule](#)

Est. Staff Time: 20 Minutes

- 5.2. Discuss Proposed Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates. [19-0602](#)

Recommendation: This is a discussion item and no action is required. However, the Committee may make recommendations on the proposed collaborative process and membership.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: OSC Agenda Memo-Board](#)

Est. Staff Time: 25 Minutes

- 5.3. Discuss Agricultural Water Use Baseline Study. [19-0603](#)

Recommendation: This is a discussion item and the Committee may provide comments; however, no action is required.

Manager: Jerry De La Piedra, 408-630-2257

Est. Staff Time: 20 Minutes

- 5.4. Review Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda. [19-0604](#)

Recommendation: Review the Committee 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: 2019 Ag Water Work Plan](#)
[Attachment 2: 100719 Ag Wtr Draft Agenda](#)

Est. Staff Time: 5 Minutes

6. 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.

7. REPORTS:

7.1. Director's Report

7.2. Manager's Report

7.3. Committee Member Report

7.4. Links to Informational Reports

<https://www.valleywater.org/sites/default/files/2019-06/Wate%20June%202019.pdf>

8. ADJOURN:

- 8.1. Adjourn to Regular Meeting at 1:30 p.m., on October 7, 2019, in the Santa Clara Valley Water District (HQ Boardroom/Board Conference Room A-124), 5700 Almaden Expressway, San Jose, California.



Santa Clara Valley Water District

File No.: 19-0600

Agenda Date: 7/1/2019
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Approval of Minutes.

RECOMMENDATION:

Approve the April 8, 2019, 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: 040819 Draft Meeting Minutes.

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711



AGRICULTURAL WATER ADVISORY COMMITTEE MEETING

DRAFT MINUTES

MONDAY, APRIL 8, 2019
1:30 PM

A regularly scheduled meeting of the Agricultural Water Advisory Committee was held on April 8, 2019, in the Headquarters Building Boardroom at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

Chair David Vanni called the meeting to order at 1:32 pm.

Members in attendance were:

Jurisdiction

District 1

District 3

District 4

District 5

District 6

District 7

Private Well Owner (Non Retail)

Santa Clara County Farm Bureau

Loma Prieta Resource Conservation District

Representative

Russ Bonino

William Cilker

David Vanni

Brent Bonino

Jan Garrod

Michael Miller

Robert Long

Sandra Carrico*

Dhruv Khanna

Sheryl O. Kennedy

George Fohner

Member not in attendance was:

Jurisdiction

District 1

District 2

Representative

Mitchell Mariani

James Provenzano

*Committee members arrived as noted below.

Board members in attendance were: Director Nai Hsueh, Board Alternate, Director Richard P. Santos, and Director John L. Varela, Board Representatives.

Staff members in attendance were: Hossein Ashktorab, Joseph Atmore, Lisa Bankosh, Glenna Brambill, Jerry De La Piedra, Vanessa De La Piedra, Samantha Greene, Eric Leitterman, Anthony Mendiola, Paul Randhawa, Afshin Rouhani and Darin Taylor.

New Member Mr. Brent Bonino of District 4 was introduced.

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

There was no one present who wished to speak.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Mr. Michael Miller, seconded by Ms. Sheryl Kennedy and unanimously carried to approve the January 7, 2019, Agricultural Water Advisory Committee meeting minutes, as presented.

4. STANDING ITEMS REPORT

Chair David Vanni and Director Nai Hsueh gave an overview of the new standing agenda item.

There was a question on Item #7 (Ensure Immediate Emergency Action Plans and Flood Protection are Provided for Coyote Creek), use of Hydro models, land uses, subsequent lands, use of ag lands and open space.

Mr. Afshin Rouhani was available to answer questions.

*Ms. Sandra Carrico arrived at 1:38 p.m.

The Committee took no action.

5. ACTION ITEMS

5.1 REVIEW AND COMMENT TO THE BOARD ON THE FISCAL YEAR 2019-20 PROPOSED GROUNDWATER PRODUCTION CHARGES

Mr. Darin Taylor reviewed the materials as outlined in the agenda. The Protection and Augmentation of Water Supplies (PAWS) report was distributed.

Mr. Dhruv Khanna, Ms. Sheryl Kennedy, Director Richard P. Santos, Ms. Sandra Carrico, Mr. Jan Garrod and Director John L. Varela spoke on the following: Anderson Dam Retrofit, public safety, bond measures, property taxes, recycled water usage, Williamson Act properties, lowering of rates, keeping rates equal, water supply, the ad valorem tax, and additional meetings on the proposed groundwater production charges.

Mr. Afshin Rouhani, Mr. Hossein Ashktorab, Mr. Jerry De La Piedra were also available to answer questions.

The Committee took the following action:

It was moved by Mr. Dhruv Khanna, seconded by Ms. Sheryl Kennedy and the motion failed to approve that the Board reject the Committee's opposition to staff's proposal of 19.3% increase of groundwater production charge rate.

The motion failed: 3 Ayes, 5 Nays, 3 abstained.

5.2 UPDATE ON OPEN SPACE CREDIT

Mr. Joseph Atmore reviewed the materials as outlined in the agenda.

Ms. Sandra Carrico, Mr. Jan Garrod, Ms. Sheryl Kennedy, Mr. George Fohner, Directors John L. Varela and Richard P. Santos and Mr. Russ Bonino spoke on the following: growing leafy greens indoor; Valley Water putting pressure on retailers to keep rates low on water bills, staff was thanked for a thorough response on this issue, comprehensive ag land and flood protection value, is 10% a hard number, ag community taking the brunt of the increase, more Board hearings (meetings) on this issue, delaying increase for 2 years and concern about the Williamson Act properties.

Mr. Darin Taylor was available to answer questions.

The Committee took the following action:

It was moved by Ms. Shery Kennedy, seconded by Mr. Michael Miller, and unanimously carried that the Committee approve submitting the following letter to the Board of Directors, April 8, 2019:

The AWAC opposes the proposed changes in the Open Space Credit policy at this time.

Members of the AWAC currently have the understanding that:

- 1) Valley Water apparently at this time does not have a precise, comprehensive valuation of the benefits that agricultural lands and open space provide in Santa Clara County with respect to mitigating flood risk,
- 2) Valley Water apparently at this time does not have precise estimates of the effect on flood risk that would result from various levels of urbanization of agricultural lands and open space in Santa Clara County,
- 3) Diverting funding from the Open Space Credit for the purpose of flood control may be counterproductive, and maintaining agricultural lands and open space may be among the most cost effective means of mitigating flood risk,
- 4) Agricultural land that is not under Williamson Act or conservation easement is the land that is most at risk for conversion to non-agricultural use.
- 5) At the moment when the County of Santa Clara has just launched a comprehensive Agricultural Plan with state and county funding to sustain agriculture and retain its many important benefits, this would be an unfortunate time to raise the cost of groundwater to most agricultural producers by almost 20%, and would undermine the hoped-for trust and collaborative spirit among diverse interests that will be needed for success of the plan.
- 6) Headlines about the proposed reduction in Open Space Credit might well read: Valley Water hits farmers with 20% increase in water costs at time when county launches major effort to preserve threatened farming and open space and Valley Water's price hike to farmers in response to 2017 flooding may increase flood risks and costs.

The Committee took the following action:

It was moved by Ms. Shery Kennedy, no second was received, therefore, the motion failed, that the Committee approve urging the Valley Water Board to freeze agricultural groundwater production charges unless and until there are corresponding and material reductions in the county's land use development regulations of ag land.

5.3 USING OPEN SPACE TO CAPTURE AND RECHARGE STORMWATER

Ms. Samantha Greene reviewed the materials as outlined in the agenda

Mr. George Fohner and Mr. Jan Garrod spoke on the following: inviting staff to make a presentation on this topic at their agency and are there any studies on where the water goes.

Mr. Jerry De La Piedra and Ms. Vanessa De La Piedra were available to answer questions.

The Committee took no action.

5.4 REVIEW AGRICULTURAL WATER ADVISORY COMMITTEE WORK PLAN, THE OUTCOMES OF BOARD ACTION OF COMMITTEE REQUESTS; AND THE COMMITTEE'S NEXT MEETING AGENDA

Ms. Glenna Brambill Committee Liaison reviewed the materials as outlined in the agenda.

The Committee took no action.

6. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS TO THE BOARD

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

Agenda Item 5.2

The Committee approved to send a letter to the Board with the following information:
April 8, 2019

The AWAC opposes the proposed changes in the Open Space Credit policy at this time.

Members of the AWAC currently have the understanding that:

- 1) Valley Water apparently at this time does not have a precise, comprehensive valuation of the benefits that agricultural lands and open space provide in Santa Clara County with respect to mitigating flood risk,
- 2) Valley Water apparently at this time does not have precise estimates of the effect on flood risk that would result from various levels of urbanization of agricultural lands and open space in Santa Clara County,
- 3) Diverting funding from the Open Space Credit for the purpose of flood control may be counterproductive, and maintaining agricultural lands and open space may be among the most cost effective means of mitigating flood risk,
- 4) Agricultural land that is not under Williamson Act or conservation easement is the land that is most at risk for conversion to non-agricultural use.
- 5) At the moment when the County of Santa Clara has just launched a comprehensive Agricultural Plan with state and county funding to sustain agriculture and retain its many important benefits, this would be an unfortunate time to raise the cost of groundwater to most agricultural producers by almost 20%, and would undermine the hoped-for trust and collaborative spirit among diverse interests that will be needed for success of the plan.
- 6) Headlines about the proposed reduction in Open Space Credit might well read:
Valley Water hits farmers with 20% increase in water costs at time when county launches major effort to preserve threatened farming and open space and Valley

Water's price hike to farmers in response to 2017 flooding may increase flood risks and costs.

7. REPORTS

7.1 Director's Report

Director John L. Varela reported on the following:

- Meeting on 4/10/19, 6:30 p.m., at the Morgan Hill Community Center to discuss an update on the Anderson Dam
- A public hearing on 4/11/19, 7:00 p.m. on groundwater production charges at the Morgan Hill City Chambers

Director Nai Hsueh reported briefly on the following:

- The Committee's July Agenda will discuss the Water Supply Master Plan which connects with the Board's 2020 focus

Director Richard P. Santos reported briefly on the following:

- Staff does a great job of providing information but ultimately, the Board, as elected officials, make decisions for Valley Water and are the ones to be held accountable

7.2 Manager's Report

Ms. Vanessa De La Piedra reported on the following:

- Water Supply and groundwater basins are in great shape

7.3 Committee Member Reports

Mr. Jan Garrod reported on the following:

- Concerned about the District and County not working together in land use matters. It was moved by Mr. Jan Garrod, second by Ms. Sandra Carrico, unanimously carried to have the Board of Directors be more proactive in working with the County regarding land use issues. Director Richard P. Santos advised the Committee that the Board of Directors will need to be advised about County meetings on these issues to be engaged.

Mr. Robert Long reported on the following:

- Planting of alfalfa—water wasn't pure enough for eating
Like to plant with clean water and how it's processed

7.4 Committee Member Reports

- None
- The Committee would like to receive Water Tracker reports in the future

8. ADJOURNMENT

Chair David Vanni adjourned at 3:44 pm to the next regular meeting on Monday, July 1, 2019, at 1:30 pm, in the Santa Clara Valley Water District Headquarters Building Boardroom.

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

Approved:



Santa Clara Valley Water District

File No.: 19-0605

Agenda Date: 7/1/2019

Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Standing Items Report.

RECOMMENDATION:

- A. For the Agricultural Water Advisory Committee to receive information on the Board's priorities on the following subjects:
1. Finalize the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). (Assigned to FAHCE) *Nothing to report at this time!*
 2. Actively Pursue Efforts to Increase Water Storage Opportunities. (Assigned to Water Storage Exploratory Committee) *See Attachment 1.*
 3. Actively Participate in Decisions Regarding the California Delta Conveyance. (Assigned to California Delta Conveyance Working Group) *Nothing to report at this time!*
 4. Lead Recycled and Purified Water Efforts with the City of San Jose and Other Agencies. (Assigned to Recycled Water Committee) *Valley Water and Cities of Palo Alto and Sunnyvale have been discussing recycled and purified water expansions. During the Joint Recycled Water Policy Advisory Committee meeting on Dec. 3, 2018, Cities of San Jose and Santa Clara have plans to expand the Recycled Water systems in their service areas as well as the City of Milpitas.*
 5. Engage and educate the community, local elected officials and staff on future water supply strategies in Santa Clara County. (Assigned to Water Conservation and Demand Management Committee) *Nothing to report at this time!*
 6. Advance Anderson Dam Seismic Retrofit Project. (Assigned to Capital Improvement Program Committee) *Nothing to report at this time!*
 7. Provide for a Watershed-Wide Regulatory Planning and Permitting Effort. (Assigned to FAHCE) *Nothing to report at this time!*
 8. Attain net positive impact on the environment when implementing Valley Water's mission. *Nothing to report at this time!*
 9. Promote the protection of creeks, bay, and other aquatic ecosystems from threats of pollution and degradation (E-4.1.3). (Assigned to Homeless Encampment Ad Hoc Committee) *Nothing to report at this time!*
 10. Advance Diversity and Inclusion Efforts. Carry forward to FY20. (Assigned to Diversity and Inclusion Ad Hoc Committee) *Nothing to report at this time!*
 11. Understand if the level of services Valley Water provides to the public are reasonable and the

costs of providing services are affordable and effective. (Assigned to Revenue Working Group)
The Group has started working on this, however, there is nothing to report at this time!

B. This is informational only and no action is required.

SUMMARY:

The Agricultural Water Advisory Committee was established to assist the Board with policy review and development, provide comment on activities in the implementation of the District mission, and to identify Board-related issues.

On March 12, 2019, the Board of Directors approved aligning the Board Advisory Committees' agendas and work plans with the Board's yearly work plan.

The new agenda format will allow regular reports on the Board's priorities from the Board's committees and/or Board committee representative and identify subjects where the committees could provide advice to the Board on pre-identified subjects in a timely manner to meet the Board's schedule, and distribute information/reports that may be of interest to committee members.

ATTACHMENTS:

Attachment 1: Standing Items Report

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711

Los Vaqueros Reservoir Expansion Project

Background

Los Vaqueros is an off-stream reservoir located in the foothills west of the Delta in Contra Costa County. Los Vaqueros was initially constructed by the Contra Costa Water District (CCWD) in 1998 with a capacity of 100,000 acre-feet (AF) and then expanded to 160,000 AF in 2012. The original reservoir and first expansion were completed on time, within budget, and without opposition. The Los Vaqueros Expansion (LVE) Project would increase the reservoir capacity to 275,000 AF and build the Transfer-Bethany Pipeline, which would connect CCWD's system to the California Aqueduct at Bethany Reservoir. Regardless of whether the Santa Clara Valley Water District (Valley Water) stores water in the expanded Los Vaqueros Reservoir, imported water could be moved from CCWD's intakes in the Delta to Valley Water's system without relying on the South-of-Delta pumps. Water delivered through the Transfer-Bethany Pipeline would then continue through the South Bay Aqueduct (SBA) to Santa Clara County. Valley Water staff are evaluating the water supply benefit of the LVE Project and Transfer Bethany Pipeline and the conveyance capacity of the SBA and Valley Water facilities for conveying LVE Project water.

Project Participants

The LVE Project started with 14 Local Agency Partners (LAP). Since then, Eastern Contra Costa Irrigation District has left the project and four members have consolidated under the San Luis & Delta Mendota Water Authority. Therefore, there are currently nine (9) LAPs (not including CCWD), and they are:

1. Alameda County Water District
2. Bay Area Water Supply & Conservation Agency
3. City of Brentwood
4. East Bay Municipal Utility District
5. Grassland Water District
6. Santa Clara Valley Water District
7. San Francisco Public Utilities Commission
8. Zone 7 Water Agency
9. San Luis & Delta Mendota Water Authority
 - 9.1. Byron Bethany Irrigation District
 - 9.2. Del Puerto Water District
 - 9.3. Panoche Water District
 - 9.4. Westlands Water District

Total Project Cost

The total project implementation cost of the LVE Project based on assumptions made in the Proposition 1 Water Storage Investment Program (WSIP) application is approximately \$980 million in 2015 constant dollars. LVE Project Cost in 2018 constant dollars is \$864 million. The LVE Project costs have decreased due to the elimination of project elements no longer needed, such as the East Contra Costa Irrigation District interconnection pipeline and an improved alignment for the Transfer-Bethany Pipeline. CCWD received the maximum eligibility award for WSIP funding of \$459 million. In addition, California Water Commission (CWC) authorized \$13.65 million in early funding for planning and design and CCWD received an eligibility award of \$2.15 million in federal funding for planning and design through the Water Infrastructure Improvement for the Nation Act (WIIN Act).

In 2016, Valley Water Board of Directors authorized the CEO to execute an agreement to participate in the LVE Project and contribute \$100,000 to support CCWD's Proposition 1 WSIP application. In 2019, the Board authorized the CEO to execute an agreement to continue its participation in the LVE Project and contribute \$315,000 to continue various planning, permitting and design efforts. Additionally, some of these funds will be used as matching local funds required by WSIP and the WIIN Act.

Project Governance

The LVE Project currently is being led by CCWD. CCWD's financial consultant will work with the LAPs to develop a JPA agreement, anticipated to be established in 2020. The LAPs are planning to hire independent special counsel to represent them during JPA formation (Attachment 2). To participate in the special counsel selection process, each LAP and CCWD can designate an attorney or senior manager to serve on the ad hoc legal work group. Once the JPA is in place, responsibilities such as project financing and executing agreements will transition from CCWD to the JPA.

Potential Valley Water Benefits

The LVE Project water supply and operational benefits could be realized by diverting State Water Project (SWP), Central Valley Project (CVP), and/or surplus water without relying on the South-of-Delta pumps for direct delivery through Transfer Bethany Pipeline or pumped into an expanded Los Vaqueros Reservoir for later delivery. Pending further analysis, the LVE Project may provide the following benefits to Valley Water:

- An increase in water supply, primarily in dry years;
- Banking capacity of SWP and CVP contract supplies in an expanded Los Vaqueros Reservoir;
- Alternate points of diversion during periods when SWP and CVP exports are restricted by regulatory requirements that do not apply to CCWD diversions;
- Operational flexibility by conveying imported water from the California Aqueduct through the Transfer-Bethany Pipeline; and
- Improved operational flexibility of regional projects (e.g., desalination, refinery recycled water exchange, Bay Area Regional Reliability water market) by providing an additional conveyance path via Transfer-Bethany Pipeline.

The extent to which these benefits may be realized depends on several issues that have yet to be resolved, including the level of participation (i.e., with or without storage in Los Vaqueros), permit requirements, regulatory conditions, adequate conveyance capacity in the SBA and Valley Water infrastructure, integration of operations with SWP and CVP, and integration of operations with existing and proposed Valley Water operations and infrastructure.

Valley Water staff continues to participate in the LVE Project discussions and is working with regional partners to evaluate system constraints. Staff is collaborating with SBA contractors and neighboring LAPs to assess SBA and Valley Water infrastructure (e.g., water treatment plants, Milpitas Intertie) capacity requirements and availability to deliver LVE Project water to Valley Water and neighboring LAPs.

Next Steps

Key near-term meetings and decision points on the LVE Project include:

- Spring/Summer 2019 - Form committee to select outside counsel to form JPA
- Summer 2019 – Review of user fees by third party consultant
- 2019/2020 – Conduct and review various financial model scenarios
- 2020 – Formation of JPA

The Committee discussed the following: Contra Costa Water District's (CCWD) contributions, water rights, conveying water, project benefits, Purissima Hills Water District and California Water Service Company nexus and next steps.

The Committee took no action.



Santa Clara Valley Water District

File No.: 19-0601

Agenda Date: 7/1/2019

Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Update on Water Supply Master Plan 2040

RECOMMENDATION:

This is a discussion item and no action is required. However, the Committee may make recommendations for Board consideration.

SUMMARY:

The Water Supply Master Plan (Master Plan) is the Santa Clara Valley Water District's (Valley Water) strategy for providing a reliable and sustainable water supply in a cost-effective manner consistent with Board Policy E-2. - "There is a reliable, clean water supply for current and future generations." The current draft (hard copies to be provided at the meeting) is an update to the 2012 Water Supply and Infrastructure Master Plan. The plan informs investment decisions by describing the type and level of water supply investments Valley Water is planning to make through 2040, the anticipated schedule, the associated costs and benefits, and how Master Plan implementation will be monitored and adjusted.

This memorandum summarizes the water supply strategy for the Master Plan, updates to Valley Water's water supply reliability level of service goal, discusses the additional water supplies needs, proposed water supply investments, how the Master Plan will be monitored and assessed, and next steps.

Water Supply Strategy

The Master Plan builds upon the Board's 2012 investment strategy "Ensure Sustainability" which is comprised of three elements:

1. Secure existing supplies and infrastructure,
2. Expand water conservation and reuse, and
3. Optimize the use of existing supplies and infrastructure.

The three elements of the strategy work together to provide a framework for delivering a sustainable and reliable water supply. These elements protect and build on past investments in water supply reliability, leverage those investments, and develop alternative supplies and demand management measures to manage risk and meet future needs, especially during extended droughts in a changing climate.

Water Supply Reliability Level of Service Goal

The water supply reliability level of service goal is important because it guides long-term water supply planning efforts and informs Board decisions regarding long-term investments. Since 2012, the Board's adopted level of service goal was "to develop water supplies designed to meet at least 100 percent of average annual water demand identified in the District's Urban Water Management Plan during non-drought years and at least 90 percent of average annual water demand in drought years."

As part of the current Master Plan update, staff reviewed this level of service with stakeholders and the Board. Based on those discussions, as well as an internal analysis, staff recommended the following changes:

1. Reference the Master Plan demand projection rather than the Urban Water Management Plan projection because it is closer to historic trends and will be reviewed and updated annually as part of Master Plan monitoring.
2. Update the level of service goal to meeting 80 percent of demands in drought years because it strikes a balance between minimizing shortages and the costs associated with the higher level of service.

Further considerations included the fact that the community was able to reduce water use as much as 28 percent in 2015, indicating that shortages in the range of 20 percent are manageable. Additionally, the recommendation for reducing the level of service to meeting 80 percent of demands in droughts is consistent with the following:

- Telephone Survey of Santa Clara County Voters re: Water Conservation
- Stakeholder Input
- Incremental Benefit:Costs - The incremental costs of increasing the level of service from meeting 80 percent of demands in drought years to meeting 90 percent of demands in drought years exceed the value of benefits achieved by the increase.
- Frequency of Shortage - Modeling indicates that most scenarios that achieve the recommended level of service goal have shortages in less than 10 percent of years. By comparison, the District has called for mandatory water use reductions in about 30 percent of the last 30 years.
- Planning for Uncertainty - The water supply planning model evaluates water supply conditions under a variety of scenarios, but it cannot anticipate every potential scenario, and there is inherent uncertainty in projections.

In January 2019, the Board adopted the revised level of service goal "to develop water supplies designed to meet at least 100 percent of average annual water demand identified in the District's Water Supply Master Plan during non-drought years and at least 80 percent of average annual water demand in drought years."

Additional Water Supplies Needs

The Master Plan evaluates the baseline water supply system against projected water demands through the year 2040. The baseline water supply system includes current water supplies and

existing infrastructure. Baseline water supplies include natural groundwater recharge, local runoff, recycled water, imported water through the Central Valley Project (CVP) and the State Water Project (SWP), and imported water delivered by the San Francisco Public Utilities Commission (SFPUC). Existing infrastructure includes 10 dams, 17 miles of canals, four water supply diversion dams, 393 acres of recharge ponds, 91 miles of controlled in-stream recharge, 142 miles of pipelines, three drinking water treatment plants, one advanced water purification center, and three pump stations. The Master Plan assumes Valley Water will implement the dam seismic retrofits to remove operating restrictions, complete the Rinconada Water Treatment Plan reliability improvement project, implement the 10-year pipeline rehabilitation, complete the Vasona pumping plant upgrade, and increase water conservation savings to approximately 100,000 AFY by 2030. It also assumes that countywide non-potable recycled water use will increase to about 33,000 AFY by 2040.

The amount of total water supply varies greatly from year to year, based primarily on precipitation levels. In years where water supplies exceed water demands, Valley Water is able to store surplus water in local groundwater basins, the Semitropic Water Bank, or local and statewide surface water reservoirs for later use. In dry years, Valley Water draws on these reserves to meet local water demands.

Water demands are projected to increase from about 360,000 acre-feet per year (AFY) in 2020 to about 400,000 AFY in 2040. Average baseline water supplies in 2040 are projected to be about 368,000 AFY, resulting in a small shortfall of about 32,000 AFY between average demands and average baseline supplies. However, the projected shortfall during drought is more significant. Without new investments, reserves would be depleted during extended droughts, and short-term water use reductions of up to 50 percent would be needed to avoid land subsidence and undesirable groundwater conditions. Valley Water develops the Master Plan specifically for this reason: to identify and evaluate projects to fill gaps between supplies and demands, and to recommend a strategy for long-term water supply reliability.

Master Plan Methodology, Risk, and Recommended Projects

The purpose of the Master Plan is to present Valley Water's strategy and investments for ensuring a reliable, clean water supply to meet future demands. The methodology to determine those necessary investments includes identifying the water supply reliability goal (i.e., level of service), evaluating the current and future water supply and demand trends, identifying the water supply gap, and investigating potential projects to fill those gaps. Staff identified over 40 projects that could fill that gap between supplies and demands; evaluation included analyzing their water supply yield and their associated life-cycle costs. However, no individual project can address the county's future water supply needs; therefore, various combinations of projects were evaluated for their ability to meet Valley Water's reliability goal under various scenarios.

Next, staff performed a risk ranking of the Master Plan projects under consideration to assess their ability to provide the estimated water supply benefits on schedule and budget. The four different risk categories are stakeholder, implementation, operations, and cost. Stakeholder risks include public perception, regulatory restrictions, and partnerships. Implementation risks include construction complexity and phasing potential. Operation risks include climate change and uncertainty in long-term operations and maintenance. Cost risks include stranded assets and financing security. The

risk ranking report in Attachment 2 has more detailed information on the risk categories, the risk ranking methodology, and the results. Based on direction from the Board on November 20, 2018, staff performed an update to the risk analysis of the projects under consideration. This risk analysis considered the probabilities and consequences of projects not achieving their projected water supply yields by 2040. The results were similar to the results reported in the 2017 Risk Ranking Report. The notable difference was that the risk ranking for storage projects are lower than the 2017 result, going from a high risk to medium risk, due to increased certainty in funding (i.e., Proposition 1 funding) and additional information on project benefits.

Project	Average Annual Yield (AFY)	Valley Water Lifecycle Costs ²	Unit Cost (AF)	Risk
Delta Conveyance Project	41,000	\$630 million	\$600	High/Extreme
Additional Conservation & Stormwater Projects	11,000	\$100 million	\$400	Medium
Potable Reuse	19,000	\$1.2 billion	\$2,000	Medium
Pacheco Reservoir Expansion ¹	6,000	\$340 million ³	\$2,000	Medium
Transfer-Bethany Pipeline ¹	3,500	\$78 million	\$700	Medium
South County Recharge	2,000	\$20 million	\$400	Medium

The amount of project yield and benefit that is usable by Valley Water depends on the portfolio of water supply projects that Valley Water ultimately implements and the outcome of ongoing regulatory processes.

¹ Assumes Prop. 1 Water Storage Investment Program funding. Costs would roughly double without funding.

² Valley Water lifecycle costs are presented in 2018 present value dollars.

³ Assumes Prop. 1 and WIIN funding, WIFIA loan, and partner agencies pay 20% of the project.

The suggested Master Plan projects (Delta Conveyance Project (SWP and CVP), 24,000 AFY of potable reuse, a package of additional water conservation and stormwater capture projects, South County Recharge, Transfer-Bethany Pipeline, and Pacheco Reservoir Expansion) exceed Valley Water's newly-adopted level of service goal. However, it is unlikely that all the projects will be implemented as currently planned and be able to deliver their assumed benefits by year 2040, the planning horizon for this Master Plan. For that reason, as well as the uncertainties of demand projections and climate change, staff has developed a Monitoring and Assessment Plan, as discussed below.

Master Plan Monitoring and Assessment Plan

A primary purpose of the Master Plan is to inform investment decisions. Therefore, a critical piece of the water supply plan is a process to monitor and report to the Board on the demands, supplies, and status of projects and programs in the Master Plan. The Board can then use this information in the annual water rate setting, Capital Improvement Plan (CIP), and budget processes, which typically begin in September of each year. Monitoring will identify where adjustments to the Master Plan might be needed to respond to changed conditions. Such adjustments could include accelerating and delaying projects due to changes in the demand trend, updating projects due to implementation challenges, adding projects due to lower than expected supply trends, etc. The monitoring and

assessment plan approach for the Master Plan includes the following steps:

1. Develop an implementation schedule (Attachment 3).
2. Manage unknowns and risks through regular monitoring and assessment.
3. Report to the Board on Master Plan implementation on at least an annual basis, usually in summer.
4. Adjust projects as necessary and recommend for Board approval.

Next Steps

Over the next few months, staff is scheduled to present the draft Master Plan to Board Advisory Committees, Board Committees, and conduct two workshops - one with water retailers and government agencies, and one with other interested stakeholders. Staff plans to present a final Master Plan to the Board in September 2019, with the first annual report being presented to the Board in Summer 2020. Any changes would then be incorporated into the FY 21 CIP, budget, and water rates setting processes.

ATTACHMENTS:

Attachment 1: Staff Presentation
Attachment 2: Risk Ranking Report
Attachment 3: Draft Implementation Schedule

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257



Valley Water

Clean Water • Healthy Environment • Flood Protection



Water Supply Master Plan

Presented by: Metra Richert, Unit Manager
Water Supply Planning & Conservation



Overview

- Master Plan Purpose
- Water Supply Strategy
- Water Supply Reliability Level of Service
- Master Plan Projects
- Monitoring and Assessment Approach
- Next Steps



- valleywater.org



Water Supply Strategy “Ensure Sustainability”

5

- Protects existing assets
- Leverage past investments
- Meets new demands with drought-resilient supplies
- Develops local and regional supplies to reduce reliance on the Delta
- Increase flexibility
- Increase resiliency to climate change



1.
Secure
existing
supplies and
infrastructure

2.
Expand
conservation
and reuse

3.
Optimize the
system

Water Supply Reliability Level of Service

Develop water supplies designed to meet 100 percent of demands identified in the ~~Urban Water Management Plan~~ Water Supply Master Plan in non-drought years and at least ~~90~~ 80 percent of average annual water demand in drought years.

Rationale

- 2017 Telephone Survey
- Stakeholder Input
- Incremental Costs
- Frequency of Shortage
- Planning for Uncertainty
- Conservation efforts

Master Plan Projects



Sustainability



Operational Flexibility



Yield



Local vs. Regional Supply



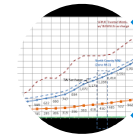
Environmental Impacts



Climate Change



Cost



Rate Impacts



Regulatory Restrictions



And more...

Master Plan Projects

- Baseline Projects¹
- Delta Conveyance Project
- Additional Conservation & Stormwater Projects
- Potable Reuse (Phase 1-24,000 AF by FY28)
- Pacheco Reservoir Expansion
- Transfer-Bethany Pipeline
- South County Recharge

¹ Dam seismic retrofits, Rinconada Water Treatment Plan reliability improvement project, 10-year pipeline rehabilitation program, Vasona pumping plan upgrade, 100,000 AFY water conservation savings, and assumes 33,000 AFY of countywide non-potable recycled water.



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The amount of project yield and benefit that is usable by Valley Water depends on the portfolio of water supply projects that Valley Water ultimately implements and the outcome of ongoing regulatory processes.

² Assumes Prop. 1 Water Storage Investment Program funding. Costs would roughly double without funding.

³ Valley Water lifecycle costs are presented in 2018 present value dollars.

⁴ Assumes Prop. 1 and WIIN funding, WIFIA loan, and partner agencies pay 20% of the project.

Monitoring and Assessment Plan



Next Steps

- Stakeholder outreach
 - Board Advisory Committees
 - Board Committees
 - Water retailers and government agencies
 - 2 stakeholder outreach meetings
- Present final Master Plan to Board in September 2019

QUESTIONS



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Results of Pairwise and Traditional Risk Analyses

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PROJECT RISK SUMMARY AND CONCLUSIONS 17

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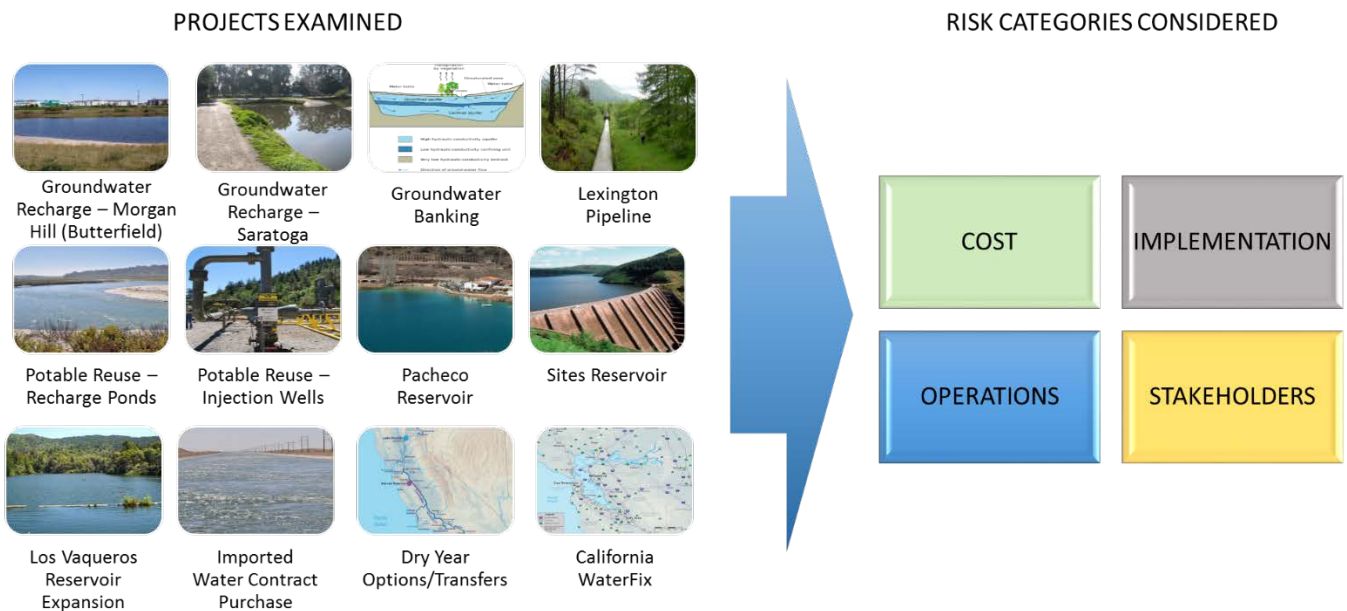
- A. Project Descriptions
- B. Methodology

OVERVIEW

Santa Clara Valley Water District (District) staff conducted a risk analysis of the projects being considered for inclusion in the 2017 Water Supply Master Plan (WSMP; Figure 1). The WSMP is the District’s strategy for providing a reliable and sustainable water supply in a cost-effective manner. The WSMP process includes assessing the existing water supply system, estimating future supplies and demands, identifying and evaluating projects to fill gaps between supplies and demands, and recommending a strategy for long-term water supply reliability. This risk analysis helps evaluate the types, severity, and likelihood of risk associated with each WSMP project so that the District Board of Directors and community better understand the uncertainties associated with each project’s ability to meet future water demands.

This report summarizes the results of the risk analysis developed to quantitatively assess the types and level of risk impacting each project. Project descriptions and cost estimates are in Appendix A - Project Descriptions. Appendix B details the methodology used to conduct the risk analysis.

FIGURE 1. PROJECTS AND RISK CATEGORIES – PROJECTS BEING CONSIDERED FOR THE 2017 WSMP AND THE TYPES OF RISK INCLUDED IN THE RISK ANALYSIS.



RISK CATEGORIES

During an Expert Panel meeting on June 8, 2017, staff and panel experts discussed different types of project risks. Afterwards, staff grouped the risks into four risk categories: Cost, Implementation, Operations, and Stakeholders. The types (or elements) of risk are summarized in Table 1 by risk category. At four meetings, one for each risk category, District subject matter experts discussed risk elements within the risk category and then conducted pairwise and traditional risk analyses of the 2017 WSMP projects. Many risks spanned the categories, but the aspects of the risk were distinct in each meeting. For example, the capital costs risk was considered during the Cost and Stakeholders risk meetings, but the Costs meeting considered the uncertainty of the capital cost estimates for each project while the Stakeholders meeting considered whether higher capital costs could result in greater stakeholder opposition. Table 1 summarizes the risks by risk category.

TABLE 1. RISK ELEMENTS BY CATEGORY. SUBJECT MATTER EXPERTS IN EACH RISK CATEGORY MET TO ASSESS PROJECT RISK WITH CONSIDERATION OF THE RISK ELEMENTS WITHIN EACH RISK CATEGORY. SEPARATE MEETINGS WERE HELD FOR EACH RISK CATEGORY.

Risk Category	Risk Elements
Costs	• Capital costs, including quality of cost estimate • Costs of regulatory compliance • Match requirements and cost-sharing • Counter-party risk/ability of partners to pay costs • Stakeholders and rate payer ability to pay • Financing and funding security • Scheduling issues • Economic fluctuations and instability • Potential for stranded assets
Implementation	• Phasing potential • Project duration and schedule • Reoperation requirements • Land availability • Constructability (e.g., structural issues, technology) • Managerial capacity (knowledge and resource availability) • Range of implementation options • Regulatory requirements • Project planning maturity
Operations	• Climate change • Yield variability and reliability • Operating Partnerships • Uncertainty of long-term operations and maintenance costs • Project inter-dependency • Environmental and water quality regulations • Control • Appropriate infrastructure • Redundancy • Emergency operations/asset failures
Stakeholders	• Public support • Permitting risks • Media • Internal stakeholder concerns • External stakeholder opposition • Environmental/special interest groups • Partnership risks • Government stakeholders • Costs

PAIRWISE RISK ANALYSIS

A pairwise risk analysis provides a quantitative approach for ranking projects by risk. Having projects ranked by riskiness improves the District Board's and community's ability to compare projects' ability to meet future needs. To complete the risk assessment, the project team assembled five to six subject matter experts from the District into four groups, one group for each risk category. The team chose District experts that had knowledge specific to their assigned risk category. Then, the subject matter experts compared each project against another project using the pairwise matrix in Table 2. The crossed-out boxes represent duplicate comparisons or compare the project against itself. The subject matter experts each determined which of the two projects being compared was a higher risk for the risk category. For example, the first comparison is Morgan Hill (Butterfield) Recharge and Groundwater Banking. If someone determined that Groundwater Banking has more risk, they would enter a "G" for Groundwater Banking

PAIRWISE RISK ANALYSIS BY RISK ELEMENT

Tables 3a-d provide the results of the pairings by risk category. Each project is represented by an abbreviation and the numbers indicate how many people chose it as the higher risk. For example, all six participants assessing cost risks thought that Imported Water Contract Purchase was higher risk than Morgan Hill (Butterfield) Recharge, so the associated cell is filled with "I6." Alternatively, two of the six participants thought Imported Water Rights Purchase (I) was higher risk than Groundwater Banking (G), so the associated cell is filled with "I2 G4."

TABLE 2. PAIRWISE COMPARISON MATRIX. EACH SUBJECT MATTER EXPERT COMPLETED THE PAIRWISE ANALYSIS BY ENTERING THE LETTER ASSOCIATED WITH THE HIGHER RISK PROJECT IN EACH EMPTY CELL.*** Morgan Hill (Butterfield) Recharge Pond**

	Dry Year Options/ Transfers D	Lexington Pipeline LX	Ground-water Recharge-Saratoga SP	Ground-water Recharge - Morgan Hill* B	Ground-water Banking G	Sites Reservoir S	Los Vaqueros Reservoir Expansion L	Potable Reuse – Los Gatos Ponds PL	Potable Reuse – Ford Pond PF	Potable Reuse – Injection Wells PI	Imported Water Contract Purchase I	Pacheco Reservoir PR	California Water Fix C
Dry Year Options/ Transfers D	X												
Lexington Pipeline LX	X	X											
Groundwater Recharge-Saratoga SP	X	X	X										
Groundwater Recharge - Morgan Hill* B	X	X	X	X									
Groundwater Banking G	X	X	X	X	X								
Sites Reservoir S	X	X	X	X	X	X							
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X						
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X					
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X				
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X			
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X		
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	
California Water Fix C	X	X	X	X	X	X	X	X	X	X	X	X	X

Water Supply Master Plan 2017 – PROJECT RISKS

TABLE 3A-D. PAIRWISE COMPARISON RESULTS. THE TABULATED RESULTS FOR THE COST (A), IMPLEMENTATION (B), OPERATION (C), AND STAKEHOLDER (D) PAIRWISE ANALYSIS. EACH LETTER PRESENTS A PROJECT AS SHOWN IN THE HEADER ROW AND COLUMN. THE NUMBER FOLLOWING THE LETTERS IN EACH CELL REPRESENTS THE NUMBER OF EXPERTS WHO THINK THE ASSOCIATED PROJECT IS RISKIER.

a.

COST RISKS	Dry Year Options/ Transfers	Lexington Pipeline	Ground- water Recharge Saratoga	Ground- water Recharge - Morgan Hill*	Ground- water Banking	Sites Reservoir	Los Vaqueros Reservoir Expansion	Potable Reuse – Los Gatos Ponds	Potable Reuse – Ford Pond	Potable Reuse – Injection Wells	Imported Water Contract Purchase	Pacheco Reservoir	California WaterFix
	D	LX	SP	B	G	S	L	PL	PF	PI	I	PR	C
Dry Year Options/ Transfers D	X	D2 LX2	D2 SP2	D2 B2	D2 G2	D0 S4	D0 L4	D1 PL3	D1 PF3	D1 PI3	D2 I2	D0 PR4	D0 C4
Lexington Pipeline LX	X	X	LX3 SP1	LX4 B0	LX1 G3	LX0 S4	LX0 L4	LX0 PL4	LX0 PF4	LX0 PI4	LX2 I2	LX0 PR4	LX0 C4
Groundwater Recharge- Saratoga SP	X	X	X	SP4 B0	SP1 G3	SP0 S4	SP0 L4	SP0 PL4	SP0 PF4	SP0 PI4	SP1 I3	SP0 PR4	SP0 C4
Groundwater Recharge - Morgan Hill* B	X	X	X	X	B0 G4	B0 S4	B0 L4	B0 PL4	BO PF4	B0 PI4	B0 I4	B0 PR4	B0 C4
Groundwater Banking G	X	X	X	X	X	G1 S3	G0 L4	G0 PL4	G0 PF4	G0 PI4	G1 I3	G0 PR4	G0 C4
Sites Reservoir S	X	X	X	X	X	X	S3 L1	S3 PL1	S3 PF1	S3 PI1	S3 I1	S0 PR4	S0 C4
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X	L3 PL1	L3 PF1	L3 PI1	L2 I2	L0 PR4	L0 C4
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X	PL1 PF3	PL0 PI4	PL2 I2	PL0 PR4	PL0 C4
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X	PF0 PI4	PF2 I2	PF0 PR4	PF0 C4
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X	PI2 I2	PI0 PR4	PI0 C4
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X	I0 PR4	I0 C4
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	PR1 C3
California WaterFix C	X	X	X	X	X	X	X	X	X	X	X	X	X

* Morgan Hill (Butterfield) Recharge Pond

b.

IMPLEMENTATION RISKS	Dry Year Options/ Transfers	Lexington Pipeline	Ground-water Recharge-Saratoga	Ground-water Recharge - Morgan Hill*	Ground-water Banking	Sites Reservoir	Los Vaqueros Reservoir Expansion	Potable Reuse – Los Gatos Ponds	Potable Reuse – Ford Pond	Potable Reuse – Injection Wells	Imported Water Contract Purchase	Pacheco Reservoir	California WaterFix
	D	LX	SP	B	G	S	L	PL	PF	PI	I	PR	C
Dry Year Options/ Transfers D	X	D1 LX3	D2 SP2	D3 B1	D4 G0	D0 S4	D0 L4	D1 PL3	D0 PF4	D0 PI4	D4 I0	D0 PR4	D0 C4
Lexington Pipeline LX	X	X	LX3 SP1	LX3 B1	LX3 G1	LX1 S3	LX1 L3	LX1 PL3	LX1 PF3	LX1 PI3	LX3 I1	LX0 PR4	LX0 C4
Groundwater Recharge-Saratoga SP	X	X	X	SP3 B1	SP2 G2	SP2 S2	SP1 L3	SP1 PL3	SP0 PL4	SP0 PI4	SP3 I1	SP0 PR4	SP0 C4
Groundwater Recharge - Morgan Hill* B	X	X	X	X	B3 G1	B0 S4	B0 L4	B0 PL4	B0 PF4	B0 PI4	B3 I1	B0 PR4	B0 C4
Groundwater Banking G	X	X	X	X	X	G0 S4	G0 L4	G0 PL4	G0 PI4	G0 PI4	G3 I1	G0 PR4	B0 C4
Sites Reservoir S	X	X	X	X	X	X	S3 L1	S4 PL0	S3 PF1	S4 PI0	S4 I0	S0 PR4	S0 C4
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X	L3 PL1	L2 PF2	L3 PI1	L4 I0	L1 PR3	L0 C4
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X	PL3 PF1	PL0 PI4	PL4 I0	PL0 PR4	PL0 C4
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X	PF1 PI3	PF4 I0	PF0 PR4	PF0 C4
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X	PI2 I2	PI0 PR4	PI0 C4
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X	I0 PR4	I0 C4
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	PR0 C4
California WaterFix C	X	X	X	X	X	X	X	X	X	X	X	X	X

* Morgan Hill (Butterfield) Recharge Pond

Water Supply Master Plan 2017 – PROJECT RISKS

c.

OPERATION RISKS	Dry Year Options/ Transfers	Lexington Pipeline	Ground-water Recharge-Saratoga	Ground-water Recharge - Morgan Hill*	Ground-water Banking	Sites Reservoir	Los Vaqueros Reservoir Expansion	Potable Reuse – Los Gatos Ponds	Potable Reuse – Ford Pond	Potable Reuse – Injection Wells	Imported Water Contract Purchase	Pacheco Reservoir	California Water Fix
	D	LX	SP	B	G	S	L	PL	PF	PI	I	PR	C
Dry Year Options/ Transfers D	X	D3 LX2	D4 SP1	D4 B1	D3 G2	D0 S5	D2 L3	D3 PL2	D3 PF2	D2 PI3	D4 I1	D1 PR4	D0 C4
Lexington Pipeline LX	X	X	LX5 SP0	LX5 B0	LX0 G5	LX0 S5	LX0 L5	LX0 PL5	LX0 PF5	LX0 PI5	LX2 I3	LX0 PR5	LX0 C5
Groundwater Recharge-Saratoga SP	X	X	X	SP1 B4	SP0 G5	SP0 S5	SP0 L5	SP0 PL5	SP0 PF5	SP0 PI5	SP0 I5	SP0 PR5	SP0 C5
Groundwater Recharge - Morgan Hill* B	X	X	X	X	B0 G5	B0 S5	B0 L5	B0 PL5	B0 PF5	B0 PI5	B2 I3	B0 PR5	B0 C5
Groundwater Banking G	X	X	X	X	X	G0 S5	G0 L5	G3 PL2	G3 PF2	G1 PI4	G2 I3	G0 PR5	G0 C5
Sites Reservoir S	X	X	X	X	X	X	S5 L0	S5 PL0	S5 PF0	S4 PI1	S5 I0	S4 PR1	S0 C5
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X	L5 PL0	L5 PF0	L4 PI1	L5 I0	L5 PR0	L0 C4
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X	PL3 PF2	PL1 PI4	PL3 I2	PL0 PR5	PL0 C5
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X	PF0 PI5	PF3 I2	PF0 PR5	PR0 C5
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X	PI4 I1	PI0 PR5	PI0 C5
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X	I0 PR5	I0 C5
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	PR0 C5
California Water Fix C	X	X	X	X	X	X	X	X	X	X	X	X	X

* Morgan Hill (Butterfield) Recharge Pond

d.

STAKE-HOLDER RISKS	Dry Year Options/ Transfers D	Lexington Pipeline LX	Ground-water Recharge-Saratoga SP	Ground-water Recharge - Morgan Hill* B	Ground-water Banking G	Sites Reservoir S	Los Vaqueros Reservoir Expansion L	Potable Reuse – Los Gatos Ponds PL	Potable Reuse – Ford Pond PF	Potable Reuse – Injection Wells PI	Imported Water Contract Purchase I	Pacheco Reservoir PR	California WaterFix C
Dry Year Options/ Transfers D	X	D1 LX2	D1 SP2	D1 B2	D1 G2	D1 S2	D1 L2	D1 PL2	D1 PF2	D1 PI2	D2 I1	D0 PR3	D0 C3
Lexington Pipeline LX	X	X	LX2 SP1	LX3 B0	LX1 G2	LX0 S3	LX0 L3	LX1 PL2	LX1 PF2	LX1 PI2	LX1 I2	LX0 PR3	LX0 C3
Groundwater Recharge-Saratoga SP	X	X	X	SP3 B0	SP1 G2	SP0 S3	SP0 L3	SP0 PL3	SP0 PF3	SP0 PI3	SP1 I2	SP0 PR3	SP0 C3
Groundwater Recharge - Morgan Hill* B	X	X	X	X	B1 G2	B0 S3	B0 L3	B0 PL3	B0 PF3	B0 PI3	B2 I1	B0 PR3	B0 C3
Groundwater Banking G	X	X	X	X	X	G1 S2	G1 L2	G1 PL2	G1 PF2	G1 PI2	G2 I1	G0 PR3	G0 C3
Sites Reservoir S	X	X	X	X	X	S3 S0	S2 L1	S2 PL1	S2 PF1	S2 PI1	S2 I1	S0 PR3	S0 C3
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X	L1 PL2	L1 PF2	L1 PI2	L2 I1	L0 PR3	L0 C3
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X	PL1 PF2	PLO PI3	PL2 I1	PIO PR3	PLO C3
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X	PFO PI3	PF2 I1	PFO PR3	PFO C3
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X	PI2 I1	PIO PR3	PIO C3
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X	I0 PR3	I0 C3
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	PRO C3
California WaterFix C	X	X	X	X	X	X	X	X	X	X	X	X	X

* Morgan Hill (Butterfield) Recharge Pond

Water Supply Master Plan 2017 – PROJECT RISKS

PAIRWISE RANKING RESULTS

Table 4 shows the pairwise ranking results. The letter designation represents the riskier project based on the results of the four subject matter expert groups combined. The percentage indicates the amount of agreement between the four groups. 100% indicates that all four risk groups agree the project was riskier. Where 75 percent is indicated, three of four teams ranked it higher risk (where 75%* is noted, the result was three of four, and one tie). Where 66% is indicated, two of three groups agreed and a tie in the fourth group. Finally, 50 percent indicates an even split between the four risk categories. Most the comparisons had agreement among the four categories.

TABLE 4. PAIRWISE RANKING RESULTS

ALL RISK CATEGORIES	Dry Year Options/ Transfers	Lexington Pipeline	Ground-water Recharge-Saratoga	Ground-water Recharge - Morgan Hill*	Ground-water Banking	Sites Reservoir	Los Vaqueros Reservoir Expansion	Potable Reuse – Los Gatos Ponds	Potable Reuse – Ford Pond	Potable Reuse – Injection Wells	Imported Water Contract Purchase	Pacheco Reservoir	California WaterFix
	D	LX	SP	B	G	S	L	PL	PF	PI	I	PR	C
Dry Year Options/ Transfers D	X	LX 66%	D/SP 50%	D/B 50%	D 66%	S 100%	L 100%	PL 75%	PF 75%	PI 100%	D 75%	PR 100%	C 100%
Lexington Pipeline LX	X	X	LX 100%	LX 100%	G 75%	S 100%	L 100%	PL 100%	PF 100%	PI 100%	I 66%	PR 100%	C 100%
Groundwater Recharge-Saratoga SP	X	X	X	SP 75%*	G 75%*	S 75%*	L 100%	PL 100%	PF 100%	PI 100%	I 75%	PR 100%	C 100%
Groundwater Recharge - Morgan Hill* B	X	X	X	X	G 75%	S 100%	L 100%	PL 100%	PF 100%	PI 100%	B/I 50%	PR 100%	C 100%
Groundwater Banking G	X	X	X	X	X	S 100%	L 100%	PL 75%	PF 75%	PI 100%	G/I 50%	PR 100%	C 100%
Sites Reservoir S	X	X	X	X	X	X	S 100%	S 100%	S 100%	S 100%	S 100%	PR 75%	C 100%
Los Vaqueros Reservoir Expansion L	X	X	X	X	X	X	X	L 75%	L/PF 50%	L 75%	L 75%*	PR 100%	C 100%
Potable Reuse – Los Gatos Ponds PL	X	X	X	X	X	X	X	X	PL/PF 50%	PI 100%	PL 75%*	PR 100%	C 100%
Potable Reuse – Ford Pond PF	X	X	X	X	X	X	X	X	X	PI 100%	PF 75%*	PR 100%	C 100%
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	X	X	X	X	PI 50%	PR 100%	C 100%
Imported Water Contract Purchase I	X	X	X	X	X	X	X	X	X	X	X	PR 100%	C 100%
Pacheco Reservoir P	X	X	X	X	X	X	X	X	X	X	X	X	C 100%
California WaterFix C	X	X	X	X	X	X	X	X	X	X	X	X	X

* Morgan Hill (Butterfield) Recharge Pond

From the pairwise analysis results, California WaterFix is the riskiest project being considered, followed by the surface water reservoirs and potable reuse using injection wells. The two potable reuse projects using recharge ponds are tied, as are groundwater banking and the Lexington Pipeline. The least risky projects are the groundwater recharge projects.

TABLE 5. PAIRWISE COMPARISON RISK RANKING. Project pairwise rank determined using the count of comparisons for which each project was determined as the riskiest. The total votes by experts lists the sum of the raw scores for each project.

PAIRWISE TOTALS	PAIRWISE RANK	TOTAL VOTES BY EXPERTS
California WaterFix C	13	187
Pacheco Reservoir PR	12	165
Sites Reservoir S	11	146
Los Vaqueros Reservoir Expansion L	9	130
Potable Reuse – Injection Wells PI	10	120
Potable Reuse – Ford Road PF	8	96
Potable Reuse – Los Gatos Ponds PL	8	93
Groundwater Banking G	6	62
Imported Water Contract Purchase I	3	61
Dry Year Options/Transfers D	4	58
Lexington Pipeline LX	6	58
Groundwater Recharge - Saratoga SP	2	38
Groundwater Recharge Morgan Hill (Butterfield) B	1	23

Water Supply Master Plan 2017 – PROJECT RISKS

RISK SEVERITY AND LIKELIHOOD ANALYSIS

The four risk category teams also assessed the severity and likelihood of risk for each project. The goal of this risk scoring exercise is to help determine how much riskier one project is compared to another and to identify if the risk is primarily from the likelihood that the risk materializes, the severity of the outcome if the risk materializes, or both. The methodology and risk scoring criteria are included in Appendix B. Each risk category expert scored the risk severity and likelihood for each project on a scale from 1 to 4, with four (4) being the highest magnitude of risk. The definitions are summarized in Table 6. Table 7 presents the sum of the median score for each of the risk categories by project, from highest to lowest risk. The relative ranking of risk using the severity and likelihood is the same as when the pairwise results are used. Figure 2. Risk Matrix. illustrates the severity and likelihood analysis results in a risk matrix.

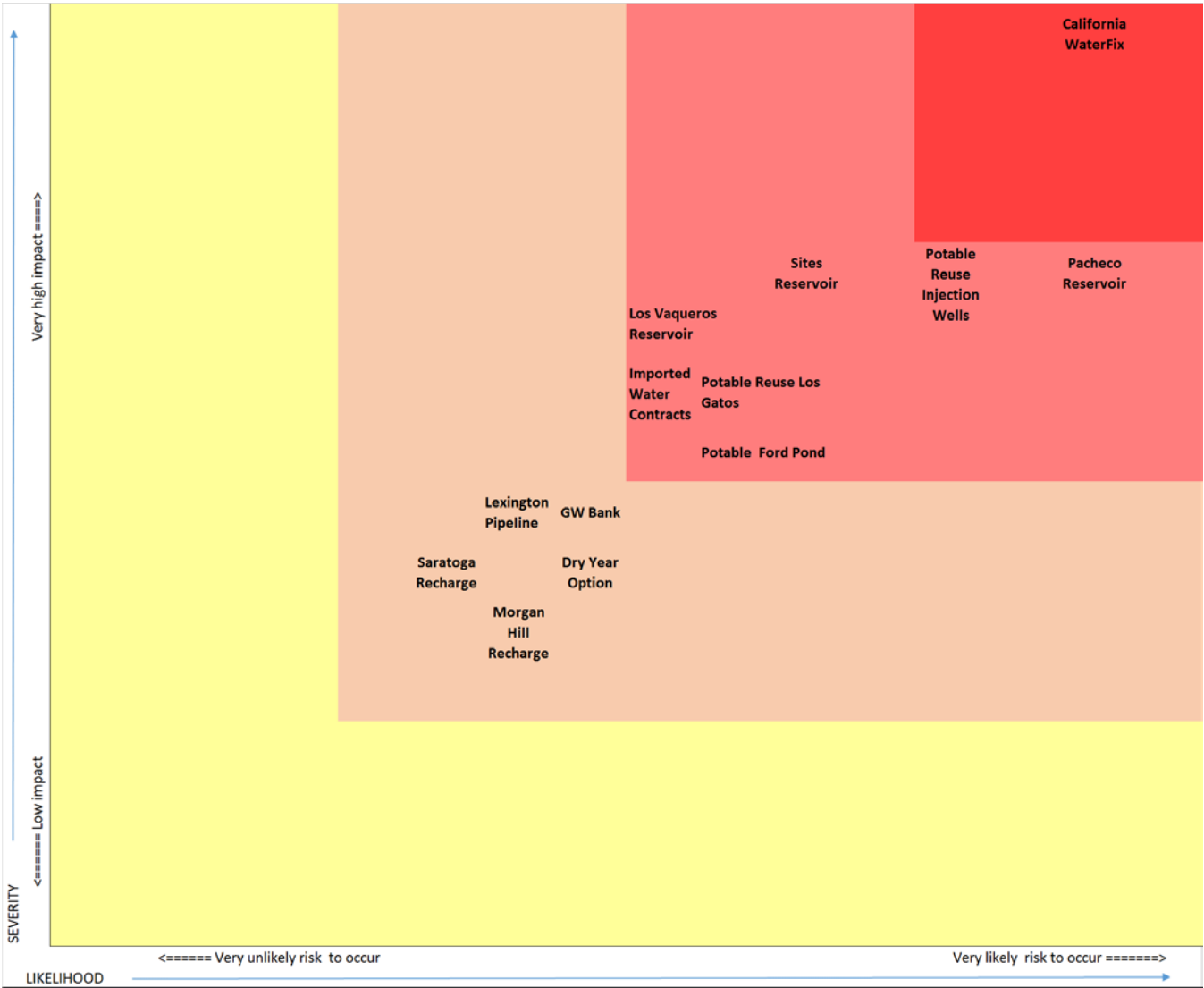
TABLE 6. RISK SEVERITY AND LIKELIHOOD DEFINITIONS

Severity	1. Low= low to no effect on project 2. Medium = minor to modest impacts 3. High = significant or substantial impacts 4. Very High = extreme potential impacts
Likelihood	1. Very Unlikely = Risks will not materialize 2. Unlikely = Risks probably will not materialize 3. Likely = Risks probably will materialize 4. Very Likely = Almost certain risks will materialize

TABLE 7. RISK SEVERITY AND LIKELIHOOD RESULTS

Project	Severity Score (Max. of 16)	Likelihood Score (Max of 16)
California WaterFix C	16	15
Pacheco Reservoir PR	12	15
Sites Reservoir S	12	11
Potable Reuse – Injection Wells PI	12	13
Los Vaqueros Reservoir Expansion L	11	9
Potable Reuse – Ford Road PF	9	10
Potable Reuse -Los Gatos Ponds PL	10	10
Groundwater Banking G	8	8
Lexington Pipeline LX	8	7
Dry year options/transfers D	7	8
Imported Water Contract Purchase I	10	9
Groundwater Recharge -Saratoga SP	7	6
Groundwater Recharge Morgan Hill (Butterfield) B	6	7

FIGURE 2. RISK MATRIX. LIKELIHOOD OF PROJECT IMPACT INCREASES UPWARD ALONG THE VERTICAL AXIS AND SEVERITY INCREASES ALONG THE HORIZONTAL AXIS. SEE TABLE 9 FOR THE RAW DATA USED TO DEVELOP THIS FIGURE.



TOTAL PROJECT RISK CALCULATION

Staff calculated the total project risk for each category by weighting the pairwise ranking by the severity and likelihood (equation 1).

Equation 1

$$Risk_{category} = \left(1 + \frac{Severity + Likelihood}{8}\right) \times Pairwise\ Ranking$$

The severity and likelihood score is divided by eight (the maximum possible combined score) to represent severity and likelihood as a portion of the maximum possible combined score. This proportion is then added to one (1) so that the pairwise analysis remains the primary driver of the order of risk, and then the severity and likelihood is a multiplicative factor that acts on the risk ranking. If the severity and likelihood is significant, it will substantially increase the total risk score. If the severity and likelihood score are small, there will be little impact on the total risk score. Alternatively, not adding one (1) to the severity and likelihood proportion would result in the severity and likelihood decreasing the ranking number unless the severity and likelihood proportion equals one. Then the risk score was normalized by dividing by the maximum possible score and multiplying by 100 to convert to a percentage value. The project risks for each category are in Figures 3 through 6. The combined total project risk is in Figure 7.

FIGURE 3. WEIGHTED COST RISK

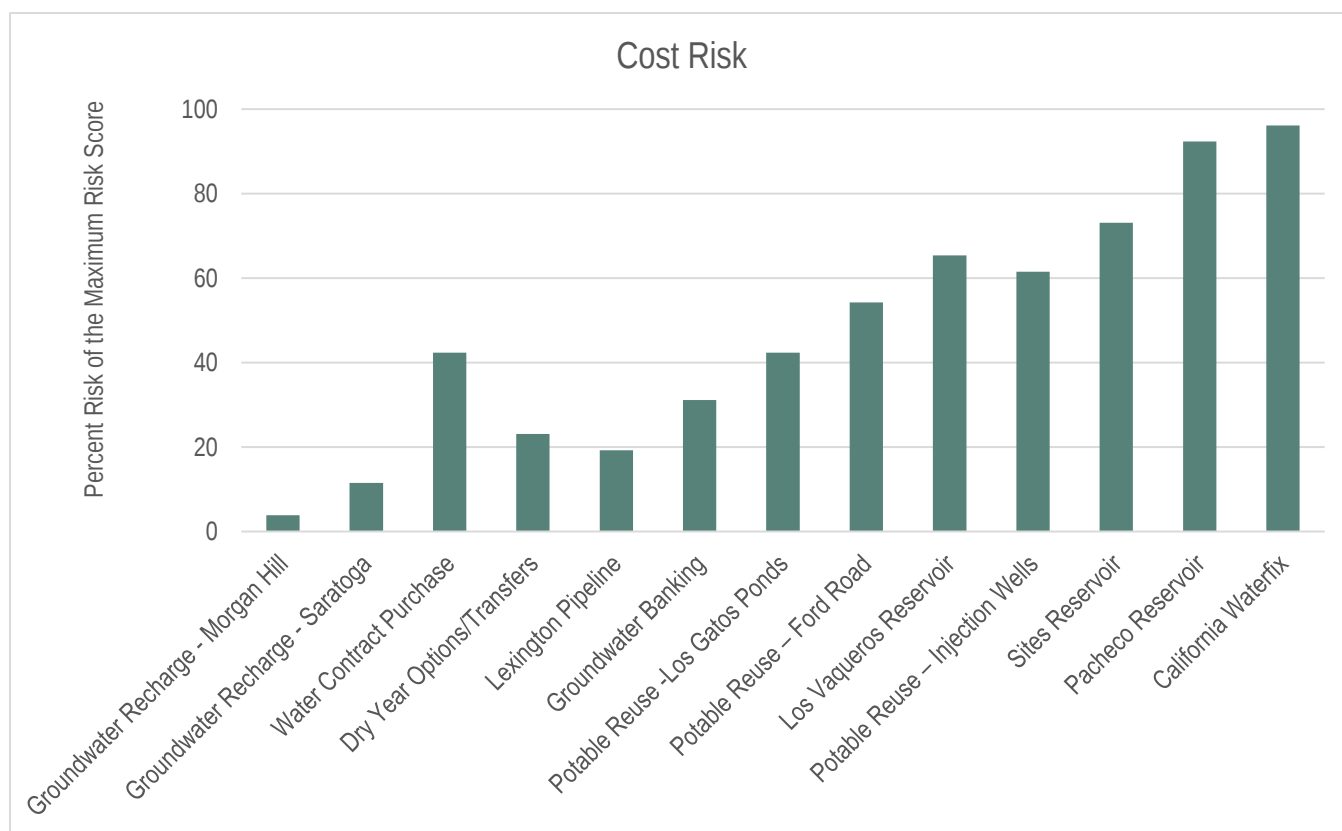


FIGURE 4. WEIGHTED IMPLEMENTATION RISK

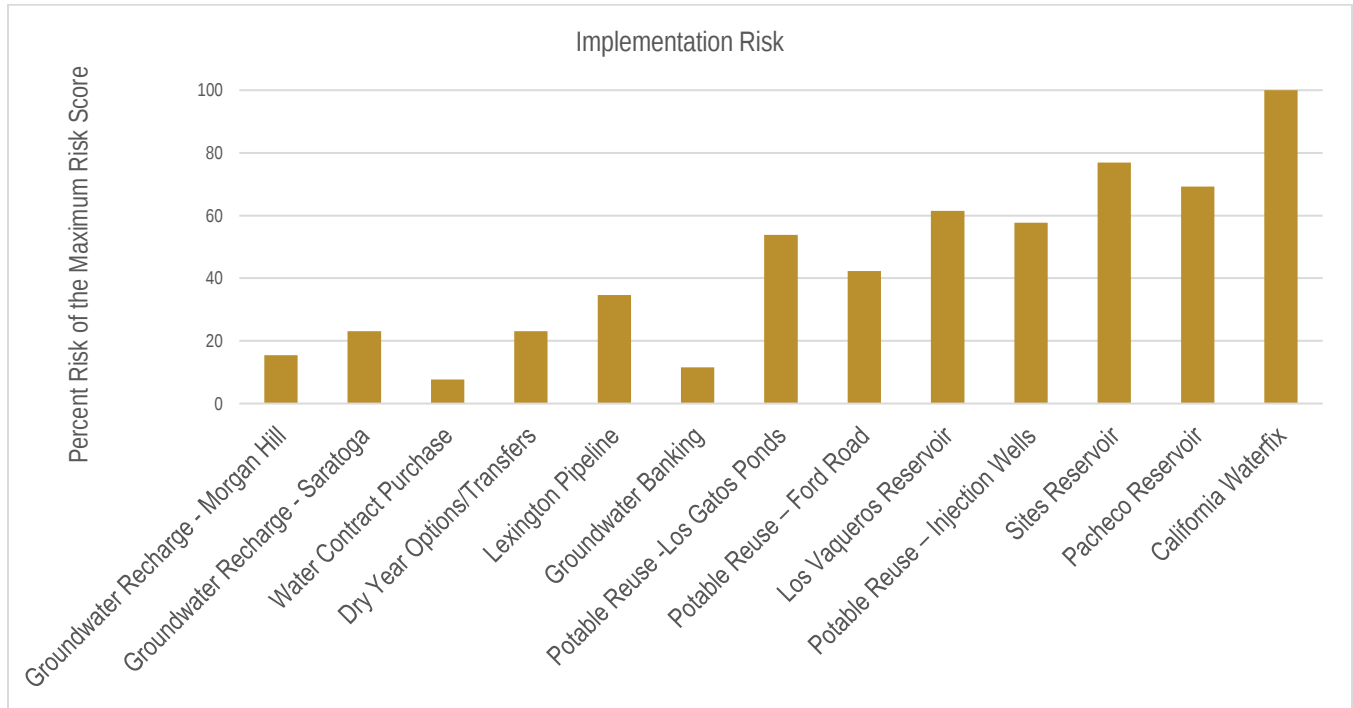
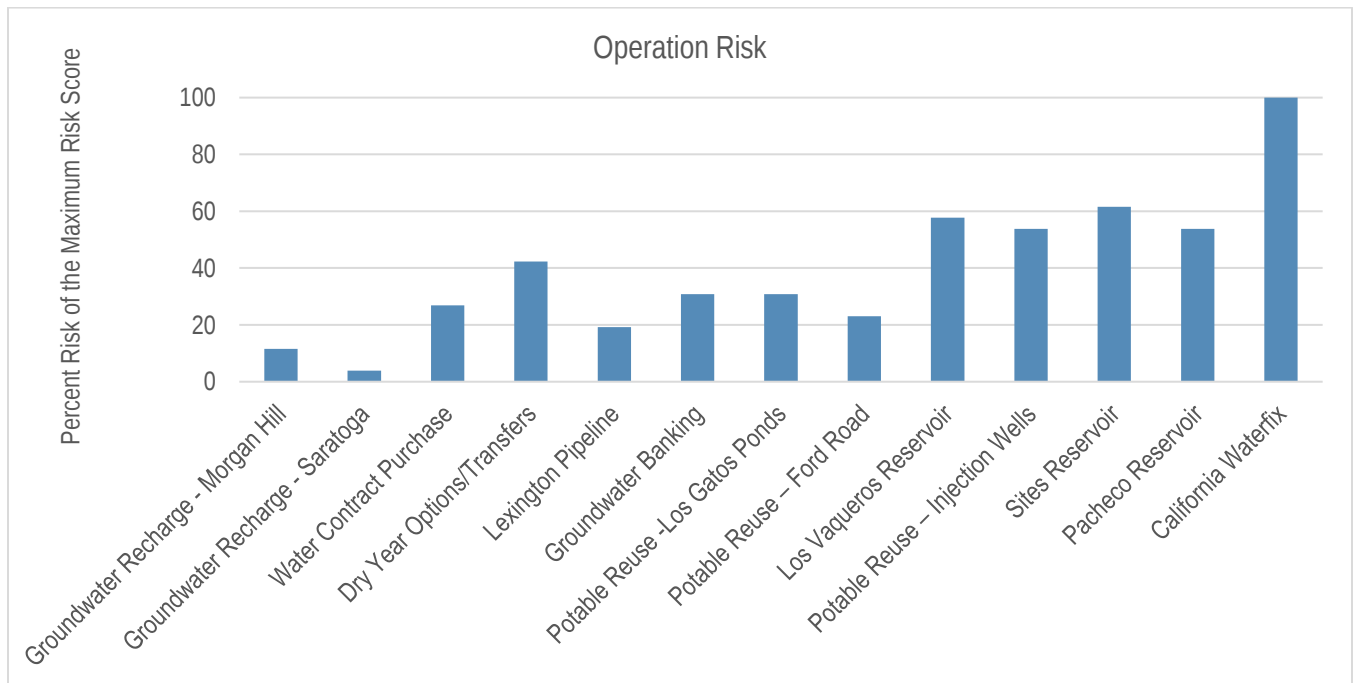


FIGURE 5. WEIGHTED OPERATIONS RISK



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FIGURE 6. WEIGHTED STAKEHOLDER RISK

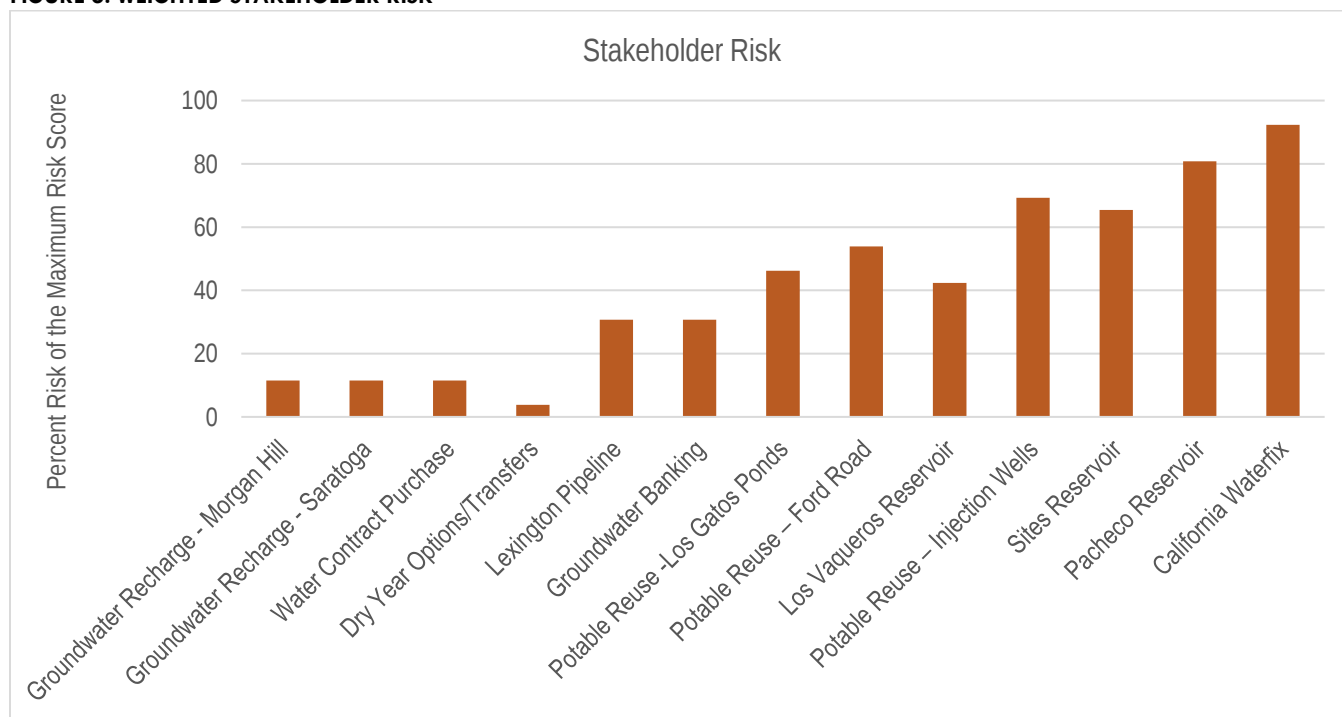
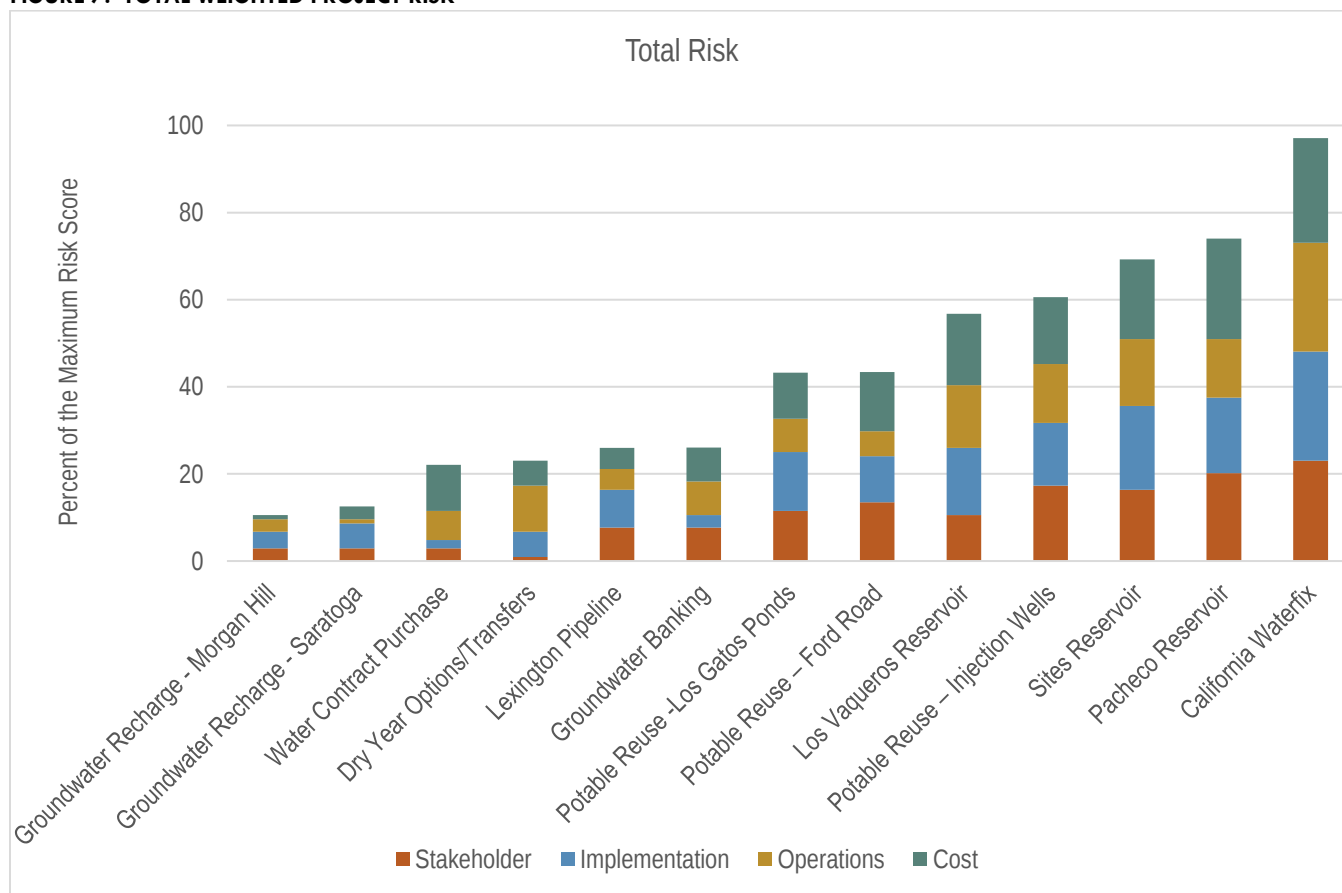


FIGURE 7. TOTAL WEIGHTED PROJECT RISK



PROJECT RISK SUMMARY AND CONCLUSIONS

California WaterFix and the three surface water reservoirs (Pacheco, Sites, and Los Vaqueros) are among the highest risk projects based on this analysis. California WaterFix and Sites Reservoir risk is distributed relatively evenly among the four categories, while Pacheco has more cost risk and Los Vaqueros has less stakeholders risk compared to the other risk categories.

Uncertainties related to future regulatory requirements for the California WaterFix may affect project operations and impact water supply yields. Although significant contingencies have been included in the cost estimates, there could be cost overruns due to the size and complexity of the construction project. Additionally, opposition from vocal stakeholders and potential legal challenges could lead to schedule delays and changes in proposed operations that impact the project's water supply benefit.

Sites Reservoir would depend on Sacramento River flows and Pacheco Reservoir would store Delta-conveyed supplies (along with local water), causing uncertainty in the amount of water that either reservoir will supply. Future environmental regulations and hydrologic changes could significantly affect the modeled yields from the reservoirs. In addition, both reservoirs will likely have significant environmental mitigation requirements that could further reduce the water supply and increase the project costs.

In contrast to Sites, California WaterFix, and Los Vaqueros, the risk analysis results suggest that the Pacheco Reservoir cost-related risk is more significant than the stakeholders, implementation, and operations risks. The cost risks are based on concerns that Pacheco partners have less financial resources and the project has less secure funding sources compared to Sites, California WaterFix, or Los Vaqueros. In addition, the cost estimate for construction and operations/maintenance could increase considerably since the project is in the early phases of planning.

The analysis shows that Los Vaqueros Reservoir has a relatively low risk compared to the other reservoir proposals and California WaterFix, with 12 percent less total risk than the next riskiest reservoir (Sites Reservoir). Risk experts from each of the risk categories commented that Los Vaqueros has been expanded before with little opposition, on time, and on budget. In addition, experts from the costs group noted that there are several potential cost-sharing partners that are financially reliable. There are potential implementation and operation complexities due to the large number of partners.

The analysis also shows that potable reuse using injection wells is riskier than potable reuse using recharge ponds. Injection wells are a relatively new technology compared to recharge ponds and recharge pond operations, maintenance, and costs are better understood. However, experts were concerned that Ford Ponds will require decommissioning several retailer wells, potentially being a stakeholder acceptance and project implementation issue. General potable reuse concerns included public acceptance, poor cost estimates for advanced purification systems, and unknown regulatory requirements. However, experts thought it is less risky than reservoirs or California WaterFix because the water will be a drought-proof, reliable, local supply and that the current socio-political environmental surrounding potable reuse as a water supply will help improve public perception.

Groundwater banking and Lexington Pipeline both had the same amount of total risk. However, compared to Lexington Pipeline, groundwater banking had higher cost and operations risks and lower implementation risks. Since the District already participates in groundwater banking with Semitropic Water Storage District (Semitropic), stakeholders are familiar banking and the associated costs risks. In addition, implementation risks and operations risks are like those with Semitropic in that there needs to be exchange capacity in dry years and the storage is not in-county. While those risks exist, they are relatively small compared to other projects

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since the District has experience planning for and mitigating those risks. However, the new potential banking partners will need to build infrastructure to be able to bank District water.

In contrast to groundwater banking, most of the risk associated with Lexington Pipeline is implementation risk. The implementation concern is the ability to build the pipeline through urban areas and potentially complex geologies. Since the pipeline would be locally maintained and operated, there are less operational and cost-related risks. The main cost risk associated with Lexington Pipeline is the construction cost. In contrast, the District would not control the groundwater banking operations and costs would be a recurrent negotiation.

Imported water contract purchase and dry year transfer risks are primarily associated with cost and operation. The contract purchase option is a permanent transfer of SWP Table A contractual water supplies, which are subject to the same regulatory restrictions and delivery uncertainties as our current imported water supplies. In addition, the SWP South Bay Aqueduct has conveyance limits that could make it difficult to receive additional Table A contract water during higher allocation years. In contrast, dry year transfers can only be delivered during specific months. However, if dry year transfers are available, there is little risk that the District will not receive the purchased transfer water. Imported water contract purchase and dry year transfer are both lower risk relative to most other projects since neither require construction, reducing their implementation and cost risks. However, stakeholder experts suggested that it may have poor optics to buy more Table A water when we already do not receive 100 percent of our contract allotment and that it may be difficult to find someone interested in selling their Table A water contract. Similarly, dry year transfers may not be available for purchase when needed.

The Morgan Hill (Butterfield) recharge channel and Saratoga recharge pond were the lowest risk projects because they are less costly than other projects, are local, and the District has successfully completed similar projects. Morgan Hill (Butterfield) recharge channel is currently owned by Morgan Hill and actively used for stormwater conveyance during the winter. To use the channel for recharge as planned, the District will need to coordinate operations with Morgan Hill and extend the District's Madrone Pipeline to the channel. The chief concern with Saratoga recharge pond is identifying and purchasing a suitable property for recharge.

In general, the lowest risk projects are those that are locally controlled or similar to already completed projects. Imported water rights purchase, dry year transfer, and groundwater banking are current practices, so the District is prepared for the uncertainties associated with those projects. Similarly, Morgan Hill (Butterfield) recharge channel is similar to the Madrone recharge channel and is locally controlled. Potable reuse is the newest technology the District is considering, but the facilities are locally controlled and the District is currently testing potable reuse to confirm its operational capabilities. Experts did find potable reuse with recharge ponds to be lower risk than potable reuse with injection wells. The District has experience managing recharge ponds, consistent with the conclusion that lower risk projects are those that are most similar to existing District projects. Projects that require substantial construction and cost-sharing are higher risk, such as California WaterFix and the Pacheco, Sites, and Los Vaqueros Reservoirs.

This risk assessment helps provide the Board of Directors and external stakeholders more thorough understanding of each proposed project. Understanding project risks and how these risks may materialize can help determine which projects to invest in and what project-related issues to prepare for in the future as project development proceeds.

Appendix A: Project and Program Descriptions (as of September 2017)

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
California WaterFix: Constructs two 40-foot diameter tunnels at least 100 feet below ground surface capable of diverting up to 9,000 cubic feet-per-second from the Sacramento River and delivering it to the federal and state pumps. Alternative to conveying water all Central Valley Project and State Water Project supplies through the Delta. Would require environmental flow and water quality criteria be met.	• Secures existing Delta-conveyed supplies • Upgrades aging infrastructure • Protects the environment through less impactful diversions • Improves reliability of other Delta-conveyed supplies and transfers • Protects water quality	• Implementation complexity • Long-term operational uncertainty • Stakeholder opposition • Financing uncertainty	41,000	\$620 million	\$600
Dry Year Options / Transfers: Provides 12,000 AF of State Water Project transfer water during critical dry years. Amount can be increased or decreased. Can also include long-term option agreements.	• Provides supply in critical years when needs are greatest • Allows for phasing • Can implement in larger increments • Complements all other projects	• Subject to Delta-restrictions • Increases reliance on Delta • Cost volatility • Uncertainty with willing sellers	2,000	\$100 million	\$1,400

¹ The average annual yield of many projects depends on which projects they are combined and the scenario being analyzed. For example, groundwater banking yields is higher in portfolios that include wet year supplies. Similarly, they would be lower in scenarios where demands exceed supplies and excess water is unavailable for banking.

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
Groundwater Banking: Provides 120,000 AF of banking capacity for Central Valley Project and State Water Project contract water. Sends excess water to a groundwater bank south of the Delta during wet years and times of surplus for use during dry years and times of need. Annual put and take capacities of 30,000 AFY. Project more effective in portfolios that include new supplies.	- Significantly reduces drought shortages when paired with projects with all-year supply - Allows for phasing	- Subject to Delta restrictions - Uncertainty with Sustainable Groundwater Management Act implementation	2,000	\$170 million	\$3,900
Groundwater Recharge – Morgan Hill Recharge: Extends the Madrone Pipeline from Madrone Channel to Morgan Hill's Butterfield Channel and Pond near Main Street. Would need to be operated in conjunction with the City's stormwater operations.	- Optimizes the use of existing supplies - Conjunctive use strategy - Helps drought recovery - Local project	- Minimal impact on drought shortages - North County locations limited - Potential siting conflicts with existing land uses	2,000	\$20 million	\$400
Groundwater Recharge – Saratoga: Constructs a new groundwater recharge facility in the West Valley, near the Stevens Creek pipeline.			1,000	\$50 million	\$1,300

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
Lexington Pipeline: Constructs a pipeline between Lexington Reservoir and the raw water system to provide greater flexibility in using local water supplies. The pipeline would allow surface water from Lexington Reservoir to be put to beneficial use elsewhere in the county, especially when combined with the Los Gatos Ponds Potable Reuse project which would utilize the capacity of the Los Gatos recharge ponds where most water from Lexington Reservoir is currently sent. In addition, the pipeline will enable the District to capture some wet-weather flows that would otherwise flow to the Bay.	• Optimizes the use of existing local supplies • Increases local flexibility • Complements potable reuse	• Water quality issues will require pre-treatment/management • Minimal reduction in drought shortages	3,000	\$90 million	\$1,000

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
Los Vaqueros Reservoir: Secures an agreement with Contra Costa Water District and other partners to expand the off-stream reservoir by 110,000 AF (from 160 TAF to 275 TAF) and construct a new pipeline (Transfer-Bethany) connecting the reservoir to the South Bay Aqueduct. Assumes District's share is 35,000 AF of storage, which is used to prorate costs. Emergency storage pool of 20,000 AF for use during droughts. District would also receive Delta surplus supplies when there is capacity to take. Average yield for District about 3,000 AFY. Assumes sales of excess District supplies to others. Transfer-Bethany Pipeline provides about ¾ of the project benefits at ¼ of the cost.	- Provides drought supplies - Improved transfer/exchange capacity - Allows for phasing (Transfer-Bethany Pipeline provides significant benefit) - Complements projects with all-year supply - Supports regional reliability - Public and agency support	- Operational complexity - Institutional complexity	3,000	\$40 million	\$400
Pacheco Reservoir: Enlarges Pacheco Reservoir to 140,000 AF. Assumes local inflows and ability to store Central Valley Project supplies in the reservoir. Construction in collaboration with Pacheco Pass Water District and San Benito County Water District. Potential other partners.	- Locally controlled - Addresses San Luis Reservoir Low-Point problem - Provides flood protection - Provides cold water for fisheries - Increases operational flexibility	- Impacts to cultural resources - Long-term operational uncertainty - Increases long-term environmental commitments - May require use of Delta-conveyed supplies to meet environmental commitments - Stakeholder opposition	6,000	\$450 million	\$2,700

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
Potable Reuse – Ford Pond: Constructs potable reuse facilities for 5,000 AFY of groundwater recharge capacity at/near Ford Ponds.	- Local supply - Not subject to short or long term climate variability - Allows for phasing	- Reverse osmosis concentrate management for injections wells and Los Gatos Ponds projects - Uncertainty with agreements with San Jose - Injection well operations complex - Potential public perception concerns	3,000	\$190 million	\$2,500
Potable Reuse – Injection Wells: Constructs (or expands in conjunction with the Los Gatos Ponds project) potable reuse facilities for 5,000 to 15,000 AFY of groundwater injection capacity.			5,000 – 15,000	\$290 million - \$860 million	\$2,000
Potable Reuse -Los Gatos Ponds: Constructs facility to purify water treated at wastewater treatment plants for groundwater recharge. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. Assumes 24,000 AFY of advanced treated recycled water would be available for groundwater recharge at existing recharge ponds in the Los Gatos Recharge System.			19,000	\$990 million	\$1,700

Project	Pros	Cons	Average Annual Yield (AFY) ¹	Present Value Cost to District (2017)	Cost/AF
Sites Reservoir: Establishes an agreement with the Sites JPA to build an off-stream reservoir (up to 1.8 MAF) north of the Delta that would collect flood flows from the Sacramento River and release them to meet water supply and environmental objectives. Assumes District's share is 24,000 AF of storage, which is used to prorate yields from the project. The project would be operated in conjunction with the SWP and CVP. In some years, District would receive less Delta-conveyed supply with the project than without the project.	- Off-stream reservoir - Improves operational flexibility of Statewide water system	- Increases reliance on the Delta - Subject to Delta risks - Long-term operational uncertainty - Operational complexity - Institutional complexity	8,000	\$170 million	\$800
Water Contract Purchase: Purchase 20,000 AF of SWP Table A contract supply from other SWP agencies.	Provides all year supply	- Increases reliance on the Delta - Subject to Delta risks - Willing sellers' availability	12,000	\$360 million	\$800

APPENDIX B. WSMP 2017 PROJECT RISK ANALYSIS METHODOLOGY

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BACKGROUND:

At the expert panel meeting on June 8, 2017, a panel member suggested that the Water Supply Planning team conduct a risk assessment on the projects being considered as part of the WSMP. A participant at the expert panel meeting suggested using a Paired Comparison Analysis. The WSMP project team and expert panel brainstormed elements of project risk, which the technical team then used to create risk categories that encompassed the risk elements. After the meeting, the project team identified internal subject matter experts for each risk category to participate in the paired comparison risk assessment. The project team then decided to combine the paired comparison risk analysis with a traditional risk ranking (severity and likelihood) to better understand the relative magnitude of each risk. This provides a detailed explanation of the methodology employed. The results and conclusions are presented in the September 8, 2017, *WSMP 2017 – PROJECT RISKS: Results of Pairwise and Traditional Risk Analyses*.

RISK CATEGORIES

The WSMP project team reviewed the risk elements brainstormed during the expert panel meeting and grouped them into four risk categories: stakeholder, implementation, operations, and cost (Table 1). The risk categories reflect the different stages of a project where risk can occur. Each project requires approval or support from a diverse set of stakeholders, ranging from the public to the Board of Directors. This may be needed only at the beginning of a project, or throughout as is the case with regulatory approval. Once a project is supported by stakeholders, the project enters the planning/implementation phase. Implementation risks capture risks that occur during planning, design, permitting, and construction. The cost risk category encompasses elements of uncertainty associated with the initial cost estimates through the uncertainty associated with recurring operations and maintenance costs during the project's lifespan. Once the project is implemented, issues associated with project operations will need to be addressed throughout the lifespan of the project. An example of a potential recurring operations issue is the need to re-operate as environmental regulations or climate changes.

Once the project team determined the risk categories, they reviewed risk management references to ensure they were presenting a comprehensive assessment of risk. During the literature review, the technical team found a risk category structure named POET that is analogous to their risk categorization (TRW, Inc.). POET categories include political, operational, economic, and technical, and is used to assess challenges and opportunities associated with programs, customer challenges, and strategies, regardless of the size and complexity.

- Political: Assess and articulate associated leadership, mission/business decision drivers, organizational strengths/weaknesses, policies, governance, expectation management (e.g., stakeholder relationship), program management approach, etc.
- Operational: Obtain and evaluate mission capabilities, requirements management, operational utility, operational constraints, supporting infrastructure and processes, interoperability, supportability, etc.
- Economic: Review capital planning and investment management capabilities, and assess the maturity level of the associated processes of budgeting, cost analysis, program structure, acquisition, etc.
- Technical: Assess and determine the adequacy of planned scope/scale, technical maturity/obsolescence, policy/standards implementation, technical approach, etc.

The risk categories determined by the project team have slightly different names than the POET categories, but they cover very similar content.

Table 1: Risk Category and Risk Elements.

Risk Category	Risks
Costs	• Capital costs, including quality of cost estimate • Costs of regulatory compliance • Match requirements and cost-sharing • Counter-party risk • Stakeholders and rate payer perspective and ability to pay • Financing and funding security • Scheduling issues • Economic fluctuations and instability • Stranded assets
Implementation	• Phasing potential • Required time table • Reoperation requirements • Land availability • Constructability (e.g., structural issues, technology) • Managerial capacity (knowledge and resource availability) • Range of implementation options • Regulatory requirements • Project planning maturity
Operations	• Climate change • Yield variability and reliability • Operating Partnerships • Uncertainty of long-term operations and maintenance costs • Project inter-dependency • Environmental and water quality regulations • Control • Appropriate infrastructure • Redundancy • Emergency operations/asset failures
Stakeholders	• Public support • Permitting risks • Media • Internal stakeholder concerns • External stakeholder opposition • Environmental/special interest groups • Partnership risks • Government stakeholders • Costs

WSMP PROJECT RISK ASSESSMENT

After a review of risk assessment methodologies, the project team determined that while a pairwise comparison provides the relative risk ranking of projects, it does not indicate how much riskier one project is in comparison to one of lower rank. To quantify the magnitude of risk, the project team decided to add an evaluation of risk severity and likelihood.

To complete the risk assessment, the project team assembled five to six subject matter experts from the District into four groups, one group for each risk category. The team chose District experts that had knowledge specific to their assigned risk category (Table 1). At each of the four risk assessment meetings, the following agenda was followed:

- 1) Projects were discussed to the experts could understand the projects sufficiently to perform their analysis.
- 2) District experts reviewed and brainstormed additional elements of risk associated with the category.
- 3) District experts independently completed a pairwise comparison.
- 4) A meeting facilitator tallied the pairwise comparisons during the meeting and the District experts discussed some of the project comparisons where experts had disagreements.
- 5) District experts independently completed the risk magnitude assessment, which was tallied afterwards.

After this assessment was completed, the project team added four additional projects to the list. This required the analysis to be conducted again with the added projects. The same process was followed for the second analysis, with the following exceptions:

- A subset of the same staff was used in the second analysis, with four to five experts per category.
- The subject matter experts did not meet in person for the second analysis, so there was not the same level of discussion or ability to ask questions about projects as during the first analysis.

PAIRED COMPARISON

The subject matter experts received a matrix of the projects where they could complete their paired comparisons (Table 2A). Each expert compared one project to another and identified which project between the two is of greater risk for the risk category being evaluated. The project team then tabulated the results during the meeting for the first phase (Table 2B- All results), and the experts discussed some of the project comparisons where there was not consensus. Given time constraints, not all paired comparisons with disagreements could be discussed; instead, the project team selected the most significant disagreements for discussion. For the second phase, the experts were provided the same information and forms, and they completed the assessments on their own.

Table 2A: Pairwise Template

OPERATIONS Risk	Butterfield Recharge Pond B	Groundwater Banking South of Delta G	Sites Reservoir S	Los Vaqueros Reservoir Expansion L	Potable Reuse – Ford Road PF	Potable Reuse – Injection Wells PI	Imported Water Rights Purchase I	Pacheco Reservoir PR	California Waterfix C
Butterfield Recharge Pond B	X								
Groundwater Banking South of Delta G	X	X							
Sites Reservoir S	X	X	X						
Los Vaqueros Reservoir Expansion L	X	X	X	X					
Potable Reuse – Ford Road PF	X	X	X	X	X				
Potable Reuse – Injection Wells PI	X	X	X	X	X	X			
Imported Water Rights Purchase I	X	X	X	X	X	X	X		
Pacheco Reservoir P	X	X	X	X	X	X	X	X	
California Waterfix C	X	X	X	X	X	X	X	X	X

Table 2B: Pairwise Results

	Butterfield Recharge Pond B	Groundwater Banking South of Delta G	Sites Reservoir S	Los Vaqueros Reservoir Expansion L	Potable Reuse – Ford Road PF	Potable Reuse – Injection Wells PI	Imported Water Rights Purchase I	Pacheco Reservoir PR	California Waterfix C
Butterfield Recharge Pond B	X	G5	S5	L5	PF5	PI5	I4 B1	PR5	C5
Groundwater Banking South of Delta G	X	X	S5	L3 G2	PF3 G2	PI2 G3	I2 G3	PR5	C5
Sites Reservoir S	X	X	X	S5	S5	PI1 S4	S5	PR5	C5
Los Vaqueros Reservoir Expansion L	X	X	X	X	PF1 L4	PI1 L4	I1 L4	PR5	C5
Potable Reuse – Ford Road PF	X	X	X	X	X	PI5	I3 PF2	PR5	C5
Potable Reuse – Injection Wells PI	X	X	X	X	X	X	I3 PI2	PR5	C5
Imported Water Rights Purchase I	X	X	X	X	X	X	X	PR5	C5
Pacheco Reservoir P	X	X	X	X	X	X	X	X	C4 PR1
California Waterfix C	X	X	X	X	X	X	X	X	X

RISK SCORING METHODOLOGY

Following the pairwise comparison, the experts scored the risk severity and likelihood for individual projects (Table 3). The goal of this risk scoring exercise is to help determine how much riskier one project is from another and to identify if the risk is primarily from the likelihood that the risk materializes, the severity of the outcome if the risk

did materialize, or both. For example, it is unlikely that an earthquake would destroy a dam, but if it did, the results could be catastrophic for life and property (low likelihood, high severity). However, when completing this exercise, experts considered all the risk elements discussed during the pairwise comparison activity to determine one project risk rating for severity and one for likelihood. The ranking criteria for each risk category is explained in detail in the next section.

Table 3: Risk Scoring Template

	Severity of Implementation Risk Impact 1-4, 1 - Low Severity 4 - High severity	Likelihood of Implementation Risk Impact 1-4, 1 - Very unlikely 4 - Very likely within timeframe
Butterfield Recharge Pond		
Groundwater Banking South of Delta		
Sites Reservoir		
Los Vaqueros Reservoir Expansion		
Potable Reuse – Ford Road		
Potable Reuse – Injection Wells		
Imported Water Rights Purchase		
Pacheco Reservoir		
California Waterfix		

The scores from this exercise were multiplied by the ordered ranking from the pairwise analysis to determine total risk. The following section provides detailed methods for the total risk calculation.

An example of how the subject matter experts could consider risk rating was provided, but not relied upon due to the many different sub-elements of risk to consider.

EXAMPLE:

Rank the **likelihood** of a stakeholder risk adversely impacting the project

- 1 = Very unlikely – Support available within 5 to 10 years
- 2 = Unlikely – appropriate support will Probably be garnered within 5 to 10 years
- 3 = Likely - Probably will NOT get support within 5 to 10 years
- 4 = Very likely - Almost certain NOT to get needed support within 5 to 10 years

Rank the **severity** of a stakeholder risk adversely impacting the project:

- 1 = Low – Stakeholder support exists or lack of support will not affect project success

- 2 = Medium –Potential for stakeholder issues to impact project success
- 3 = High – Potential for stakeholder issues to significantly impact project success
- 4 = Very High – Likely that lack of stakeholder support would result in project failure

TOTAL PROJECT RISK CALCULATION

The project team calculated category risk for each project by weighting the pairwise ranking by the severity and likelihood (equation 1). Then, the category risks were summed to obtain each project's total risk.

Equation 1

$$Risk_{category} = (1 + \frac{Severity + Likelihood}{8}) \times Pairwise\ Ranking$$

The severity and likelihood score is divided by eight (the maximum possible combined score) to represent severity and likelihood as a portion of the maximum possible combined score. The technical team then added that proportion to one (1) so that the pairwise analysis remains the primary driver of the order of risk, and then the severity and likelihood is a multiplicative factor that acts on the risk ranking. If the severity and likelihood is significant, it will substantially increase the total risk score. If the severity and likelihood score are small, there will be little impact on the total risk score. Alternatively, not adding one (1) to the severity and likelihood proportion would result in the severity and likelihood decreasing the ranking number unless the severity and likelihood proportion equals one.

CONCLUSION

The risk assessment methods were easy to apply to the projects and provided a robust and multi-variant method assess risks associated with each project. However, explaining the methods clearly to the subject matter experts was needed. Since the second phase of review with the added project did not include discussions or the opportunity to ask questions, it may have been subject to less project understanding by the experts.

The results are discussed in September 8, 2017, *WSMP 2017 – PROJECT RISKS: Results of Pairwise and Traditional Risk Analyses*.

DRAFT MASTER PLAN IMPLEMENTATION SCHEDULE

Project	Now – 2024	2025 – 2029	2030 – 2034	2035-2039
Delta Conveyance Project	• Permitting • Design • “Validation Action”	Construction	Construction	Operation
Additional Conservation & Stormwater Projects	• Continue implementing stormwater rebates and graywater program • Design and begin implementing AMI program • Work with jurisdictions to adopt Model Ordinance • Develop Ag Land Recharge pilot project • Monitor stormwater capture projects	• Continue implementing stormwater rebates, graywater program, AMI • Support implementation of Model Ordinance • Develop leak repair incentive program • Design Ag Land Recharge and stormwater capture project(s)	• Continue implementing stormwater rebates, graywater program, AMI • Support implementation of Model Ordinance • Implement leak repair incentive program • Design and construct Ag Land Recharge and stormwater capture project(s)	• Continue implementing stormwater rebates, graywater program, AMI, leak repair incentive program, and Ag Land Recharge and stormwater capture project(s) • Support implementation of Model Ordinance • Construct stormwater capture project(s)
Potable Reuse	• Complete Countywide Reuse Plan • MOU(s) with wastewater provider (s) • Select P3 entity • EIR • Design	Construction	Operation	Operation
Pacheco Reservoir Expansion	• EIR/Feasibility Study • Permitting • Planning and Design	Construction	Operation	Operation
Transfer Bethany Pipeline	• EIR/Feasibility Study • Permitting • Planning, Design, and Construction	Operation	Operation	Operation
South County Recharge		Planning, Design, and Permitting	Construction	Operation

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Santa Clara Valley Water District

File No.: 19-0602

Agenda Date: 7/1/2019

Item No.: 5.2.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Discuss Proposed Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates.

RECOMMENDATION:

This is a discussion item and no action is required. However, the Committee may make recommendations on the proposed collaborative process and membership.

SUMMARY:

In response to the Board's May 14, 2019, request to bring back a recommendation about how to proceed forward in finding a way to replace the discretionary portion of the Open Space Credit subsidy through a community drive effort, the Revenue Working Group (RWG), is recommending to the Board on June 25, 2019, that they encourage a collaborative effort for the purpose of identifying and securing a permanent, and/or ongoing funding source to replace the discretionary portion of the Open Space Credit.

The Proposed Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates includes the following:

Collaborative Scope and Purpose: The proposed scope and purpose of the Collaborative will be to identify, investigate and secure a permanent, and/or ongoing, funding source to replace the discretionary portion of the Santa Clara Valley Water District (Valley Water) Open Space Credit which is currently being utilized to subsidize commercial agricultural water rates. This funding source shall be a new source of funding which is not part of the current Valley Water portfolio.

Suggested Collaborative Membership: Director John Varela for Valley Water, and other external entities and individuals who may be interested in replacing the Open Space Credit, including but not limited to a coalition of agricultural interests, open space organizations, other governmental organizations, and environmental groups.

Progress Report: A public update on the progress of the Collaborative shall be provided to the Board of Directors approximately one year, (July 1, 2020), prior to the expiration of the Open Space subsidy.

ATTACHMENTS:

Attachment 1: Board Agenda Memo

UNCLASSIFIED MANAGER:
Michele King, 408-630-2711

TO: Santa Clara Valley Water District Board of Directors **FROM:** Chair Linda J. LeZotte,
Vice Chair Nai Hsueh, and
Director Barbara Keegan

SUBJECT: Collaborative to Identify Sources of Revenue **DATE:** June 25, 2019
to Subsidize Agricultural Water Rates

Last year the three of us embarked upon a path, at the then Chair's direction, to identify ways to increase revenue options and sources for Santa Clara Valley Water District (Valley Water). As you know, the Open Space Credit has been part of our ongoing discussions, and on April 23, 2019 a majority of the Board voted to remove the discretionary portion of the Open Space Credit subsidy in its entirety in two years. The removal of this discretionary portion of the Open Space Credit still leaves in place the mandatory portion of the Open Space Credit, which is required so that the agricultural water rate can be set no higher than a maximum of 25 percent of the non-agricultural rate as provided for in the Valley Water Enabling Act.

For clarification, the Open Space Credit is a funding mechanism whereby some of Valley Water's non-rate related revenues are used to subsidize commercial farming operations. Removing the discretionary portion of the Open Space Credit will allow Valley Water to use these funds to support environmental restoration or enhancement projects, projects which provide for natural flood protection, or other infrastructure efforts which benefit Santa Clara County residents.

Valley Water has long been a supporter of the agricultural community. For example, Valley Water has provided grants to improve irrigation, funded a mobile lab to improve farm irrigation efficiency, and funded numerous non-profit agricultural programs that benefit both youth and seniors in our community.

During the May 14, 2019 Board meeting, the board assigned to the revenue working group the task of bringing back a recommendation about how to proceed forward in finding a way to replace the discretionary portion of the Open Space Credit subsidy through a community driven effort.

Our proposal is to encourage a collaborative effort as suggested below:

Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates

Collaborative Scope and Purpose: The scope and purpose of the Collaborative will be to identify, investigate and secure a permanent, and/or ongoing, funding source to replace the discretionary portion of the Valley Water Open Space Credit which is currently being utilized to subsidize commercial agricultural water rates. This funding source shall be a new source of funding which is not part of the current Valley Water portfolio.

Suggested Collaborative Membership: Director John Varela for Valley Water, and other external entities and individuals who may be interested in replacing the Open Space Credit, including but not limited to a coalition of agricultural interests, open space organizations, other governmental organizations, and environmental groups.

Progress Report: A public update on the progress of the Collaborative shall be provided to the Board of Directors approximately one year, (July 1, 2020), prior to the expiration of the Open Space Credit subsidy.

Chair Linda J. LeZotte, District 4

Vice Chair Nai Hsueh, District 5

Director Barbara Keegan, District 2



Santa Clara Valley Water District

File No.: 19-0603

Agenda Date: 7/1/2019

Item No.: 5.3.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Discuss Agricultural Water Use Baseline Study.

RECOMMENDATION:

This is a discussion item and the Committee may provide comments; however, no action is required.

SUMMARY:

The Santa Clara Valley Water District (Valley Water) would like to better understand the conservation potential in the agriculture sector, including identifying how best to assist local growers in improving efficiency. To do this, Valley Water staff is proposing a baseline study of agricultural water use and practices. This memo summarizes the proposed components of a Valley Water Agriculture Water Use 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

Staff is scheduled to present this proposal to the Board's Water Conservation and Demand Management Committee (WCaDMC) at their June 18, 2019 meeting and will provide the Agricultural

Water Advisory Committee (Committee) a verbal update summarizing WCaDMC feedback.

Next Steps

Staff will incorporate Committee and WCaDMC comments to 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 Committee as the Study progresses.

ATTACHMENTS:

None.

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257



Santa Clara Valley Water District

File No.: 19-0604

Agenda Date: 7/1/2019

Item No.: 5.4.

COMMITTEE AGENDA MEMORANDUM

Agricultural Water Advisory Committee

SUBJECT:

Review Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda.

RECOMMENDATION:

Review the Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The attached 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 commissions 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: Agricultural Water Advisory Committee 2019 Work Plan

Attachment 2: Agricultural Water Advisory Committee October 7, 2019 Draft Agenda

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711

2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

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. Subsequently, an annual committee accomplishments report is developed based on the work plan and presented to the District Board of Directors.

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
1	Election of Chair and Vice Chair for 2019	January 7	Committee Elects Chair and Vice Chair for 2019. (Action)	Accomplished January 7, 2019: The Committee elected Mr. David Vanni as 2019 Committee Chair and Mr. Jan Garrod as 2019 Committee Vice Chair.
2	Annual Accomplishments Report	January 7	- Review and approve 2018 Accomplishments Report for presentation to the Board. (Action) - Submit requests to the Board, as appropriate.	Accomplished January 7, 2019: The Committee reviewed and approved the 2018 Accomplishments Report for presentation to the Board. <i>The Board received the Committee's presentation at its March 26, 2019, meeting.</i>
3	Open Space Credit Policy	January 7 April 8	- Review the Open Space Credit Policy. (Action) - Provide comment to the Board in the implementation of the District's mission as it applies to the Open Space Credit Policy.	Accomplished January 7, 2019: The Committee reviewed and commented to the Board on the Open Space Credit Policy with the following action: <i>The Committee approved not to support staff's recommendation and would like to receive more analysis for them to make a more informed decision.</i> Accomplished April 8, 2019: The Committee reviewed and commented to the Board on the Open Space Credit Policy with the following action: The Committee approve submitting the following letter to the Board of Directors, April 8, 2019:

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
				The AWAC opposes the proposed changes in the Open Space Credit policy at this time. Members of the AWAC currently have the understanding that: 1) Valley Water apparently at this time does not have a precise, comprehensive valuation of the benefits that agricultural lands and open space provide in Santa Clara County with respect to mitigating flood risk, 2) Valley Water apparently at this time does not have precise estimates of the effect on flood risk that would result from various levels of urbanization of agricultural lands and open space in Santa Clara County, 3) Diverting funding from the Open Space Credit for the purpose of flood control may be counterproductive, and maintaining agricultural lands and open space may be among the most cost effective means of mitigating flood risk, 4) Agricultural land that is not under Williamson Act or conservation easement is the land that is most at risk for conversion to non-agricultural use. 5) At the moment when the County of Santa Clara has just launched a comprehensive Agricultural Plan with state and county funding to sustain agriculture and retain its many important benefits, this would be an unfortunate time to raise the cost of groundwater to most agricultural producers by almost 20%, and would undermine the hoped-for trust and collaborative spirit among diverse

Yellow = Update Since Last Meeting

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Attachment 1

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
				interests that will be needed for success of the plan. 6) Headlines about the proposed reduction in Open Space Credit might well read: Valley Water hits farmers with 20% increase in water costs at time when county launches major effort to preserve threatened farming and open space and Valley Water's price hike to farmers in response to 2017 flooding may increase flood risks and costs.
4	Review of Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda	January 7 April 8 July 1 October 7	- Receive and review the 2018 Board-approved Committee work plan. (Action) - Submit requests to the Board, as appropriate.	Accomplished January 7, 2019: The Committee reviewed the 2019 work plan and took the following action: <i>The Committee agreed to add updates on: Anderson Dam, CA WaterFix and One Water Plan.</i> Accomplished April 8, 2019: The Committee reviewed the 2019 work plan and took no action.
5	<u>Standing Items Reports/Fiscal Year 2019:</u> - Finalize the Fisheries and Aquatic Habitat Collaboration Effort (FAHCE) (Report from the FAHCE Ad Hoc Committee) - Actively Pursue Efforts to Increase Water Storage Opportunities (Report from the Water Storage Exploratory Committee) - Actively Participate in Decisions Regarding the California WaterFix (Report from EWRC Board Representative) - Advance Recycled and Purified Water Efforts with the City of San Jose and Other	April 8	Receive quarterly reports on standing items. (Information)	Accomplished April 8, 2019: The Committee received report on the new standing items reports for Fiscal 2019 and took no action.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
	Agencies (Report from the Recycled Water Committee) 5. Advance Anderson Dam Seismic Retrofit Project (Report from the Capital Improvement Program Committee) 6. Provide for a Watershed-Wide Regulatory Planning and Permitting Effort (Report from the Capital Improvement Program Committee) 7. Ensure Immediate Emergency Action Plans and Flood Protection are Provided for Coyote Creek (Report from the Coyote Creek Flood Risk Reduction Ad Hoc Committee) 8. Foster a Coordinated Approach to Environmental Stewardship Effort (Report from EWRC Board Representative) 9. Advance Diversity and Inclusion Efforts (Report from the Diversity and Inclusion Ad Hoc Committee)			
6	Review and Comment to the Board on the Fiscal Year 2019 - 2020 Proposed Groundwater Production Charges.	April 8	- Review and comment to the Board on the Fiscal Year 2020 Proposed Groundwater Production Charges. (Action) - Provide comments to the Board, as necessary.	Accomplished April 8, 2019: The Committee reviewed and commented to the Board on the Fiscal Year 2020 Proposed Groundwater Production Charges as follows: The motion failed: 3 Ayes, 5 Nays, 3 abstained.

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
7	<u>Standing Items Reports Fiscal Year 2020:</u> 1. Finalize the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). (Assigned to FAHCE) 2. Actively Pursue Efforts to Increase Water Storage Opportunities. (Assigned to Water Storage Exploratory Committee) 3. Actively Participate in Decisions Regarding the California Delta Conveyance. (Assigned to California Delta Conveyance Working Group) 4. Lead Recycled and Purified Water Efforts with the City of San Jose and Other Agencies. (Assigned to Recycled Water Committee) 5. Engage and educate the community, local elected officials and staff on future water supply strategies in Santa Clara County. (Assigned to Water Conservation and Demand Management Committee) 6. Advance Anderson Dam Seismic Retrofit Project. (Assigned to Capital Improvement Program Committee) 7. Provide for a Watershed-Wide Regulatory Planning and Permitting Effort. (Assigned to FAHCE) 8. Attain net positive impact on the environment when implementing Valley Water's mission.	July 1 October 7	• Receive quarterly reports on standing items. (Information)	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
	9. Promote the protection of creeks, bay, and other aquatic ecosystems from threats of pollution and degradation (E-4.1.3). (Assigned to Homeless Encampment Ad Hoc Committee) 10. Advance Diversity and Inclusion Efforts. Carry forward to FY20. (Assigned to Diversity and Inclusion Ad Hoc Committee) 11. Understand if the level of services Valley Water provides to the public are reasonable and the costs of providing services are affordable and effective. (Assigned to Revenue Working Group)			
8	Water Supply Master Plan Update See Board Priority Standing item #5	July 1	- Receive an update on the Water Supply Master Plan. (Action). - Provide comments to the Board, as necessary.	Link to 1/18/19 Board Agenda https://scvwd.legistar.com/LegislationDetail.aspx?ID=3833245&GUID=B2A7EFC8-34C3-4EF8-BF2A-FC11774B9CF1&Options=ID Text Attachments &Search=January+18%2c+2019
10	Discuss Proposed Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates	July 1	- Discuss Proposed Collaborative to Identify Sources of Revenue to Subsidize Agricultural Water Rates (Action) - Provide comments to the Board, as necessary	

Yellow = Update Since Last Meeting

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Attachment 1

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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
11	Discuss Agricultural Water Use Baseline Study	July 1	- Discuss Agricultural Water Use Baseline Study (Information) - Provide comments to the Board, as necessary	
12	One Water Plan Update <i>See Board Priority Standing item #8</i>	October 7	- Receive information on One Water Plan. (Information) - Provide comments to the Board, as necessary	
13	California Delta Conveyance (formerly CA WaterFix)	<i>See Board Priority Standing item #3</i>	- Receive information on California Delta Conveyance. (Information) - Provide comments to the Board, as necessary	
14	Update on Anderson Dam	<i>See Board Priority Standing item #6</i>	- Receive information on Anderson Dam. (Information) - Provide comments to the Board, as necessary	

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Blue = Action taken by the Board of Directors

Attachment 1
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2019 Work Plan: Agricultural Water Advisory Committee

Update: June 2019

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
15	Climate Change Mitigation – Carbon Neutrality by 2020 Program Update, Climate Change and Sea Level Rise Adaptation – Water Supply, Flood Protection, Ecosystems Protection	Link to 1/22/19 Board Agenda	- Receive information on climate change mitigation – carbon neutrality by 2020 program update. (Action) - Provide comments to the Board, as necessary.	https://scvwd.legistar.com/LegislationDetail.aspx?ID=3834299&GUID=3DE58FF2-BB43-4305-81C4-916B18DBE118&Options=&Search=

Yellow = Update Since Last Meeting

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Committee Officers

David Vanni, Committee Chair
Jan Garrod, Committee Vice Chair

Board Representative

Nai Hsueh, Alternate
Richard P. Santos, Board Representative
John L. Varela, Board Representative

DRAFT AGENDA

AGRICULTURAL WATER ADVISORY COMMITTEE

MONDAY, OCTOBER 7, 2019

1:30 p.m. – 3:30 p.m.

**Santa Clara Valley Water District
Headquarters Building Boardroom
5700 Almaden Expressway
San Jose, CA 95118**

Time Certain:

1:30 p.m. 1.

Call to Order/Roll Call

2. Time Open for Public Comment on Any Item Not on Agenda

Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.

3. Approval of Minutes

3.1 Approval of Minutes – July 1, 2019, meeting

Standing Items Reports

4. *This item allows the Committee to receive verbal or written updates and discuss the Board's Fiscal Year 2020 Work Plan Strategies. These items are generally informational, however, the Committee may request additional information and/or provide collective input to the assigned Board Committee.*

1. Finalize the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) (Assigned to Water Conservation and Demand Management Committee)
2. Actively Pursue Efforts to Increase Water Storage Opportunities. (Assigned to Water Conservation and Demand Management Committee)
3. Actively Participate in Decisions Regarding the California Water Fix. (Assigned to California WaterFix Working Group)
4. Lead Recycled and Purified Water Efforts with the City of San Jose and Other Agencies. (Assigned to Recycled Water Committee)
5. Engage and educate the community, local elected officials and staff on future water supply strategies in Santa Clara County. (Assigned to Water Conservation and Demand Management Committee)
6. Advance Anderson Dam Seismic Retrofit Project. (Assigned to Capital Improvement Program Committee)
7. Pursue opportunities to expedite regulatory permit processes and streamline permit reviews. (Assigned to FAHCE Ad Hoc Committee)
8. Attain net positive impact on the environment when implementing flood protection and water supply projects. (Assigned to Capital Improvement Program Committee)

9. Promote the protection of creeks, bay, and other aquatic ecosystems from threats of pollution and degradation (E-4.1.3). (Assigned to Homeless Encampment Ad Hoc Committee)
 10. Advance Diversity and Inclusion Efforts. Carry forward to FY20 (Assigned to Diversity and Inclusion Ad Hoc Committee)
 11. Understand if the level of services Valley Water provides to the public are reasonable and the costs of providing services are affordable and effective. (Assigned to Revenue Working Group)
5. **Action Items**
- 5.1 Update on the One Water Plan (Brian Mendenhall)
Recommendation: Receive an updated presentation on the Water Supply Master Plan and provide comment to the Board as necessary.
 - 5.2 Review Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda (Committee Chair)
Recommendation: Review the Board-approved Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.
6. **Clerk Review and Clarification of Committee Requests to the Board**
This is a review of the Committee's Requests, to the Board (from Item 5). The Committee may also request that the Board approve future agenda items for Committee discussion.
7. **Reports**
Directors, Managers, and Committee members may make brief reports and/or announcements on their activities. Unless a subject is specifically listed on the agenda, the Report is for information only and not discussion or decision. Questions for clarification are permitted.
- 7.1 Director's Report
 - 7.2 Manager's Report
 - 7.3 Committee Member Reports
 - 7.4 Links to Informational Reports
8. **Adjourn:** Adjourn to next regularly scheduled meeting at 1:30 p.m., **January 6, 2020**, in the Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, CA 95118

All public records relating to an open session 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.

The Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend committee meetings. Please advise the Clerk of the Board office of any special needs by calling 1-408-630-2277.

Agricultural Water Advisory Committee Purpose and Duties

The Agricultural Water Advisory Committee of the Santa Clara Valley Water District (District) is established per the District Act to assist the District Board of Directors (Board) with policies pertaining to agricultural water supply and use.

The specific duties are:

- Providing input on policy alternatives for Board deliberation, when requested by the Board.
- Providing comment on activities in the implementation of the District's mission that the Board will consider or refer to staff.
- Producing and presenting to the Board an Annual Accomplishments Report that provides a synopsis of the Committee's discussions regarding specific topics and subsequent policy recommendations, comments, and requests that resulted from those discussions.

In carrying out these duties, the Board's Committees bring to the District their respective expertise and the interests of the communities they represent. In addition, Board Committee members may bring information regarding District activities to the communities they represent.

