Santa Clara Valley Water District
Board Audit Committee Meeting

Headquarters Building Conference Room A-124
5700 Almaden Expressway
San Jose, CA 95118

*AMENDED/APPENDED

12:00 PM APPENDED
BOARD AUDIT COMMITTEE
MEETING AGENDA

Wednesday, August 28, 2019
12:00 PM

***ITEMS AMENDED AND/OR APPENDED SINCE THE ORIGINAL PUBLICATION OF THIS AGENDA ARE IDENTIFIED BY AN ASTERISK (*) HEREIN**

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

BOARD AUDIT COMMITTEE

Barbara Keegan, Chair, District 2
Nai Hsueh, Vice Chair, District 5
Gary Kremen, District 7

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.

DARIN TAYLOR
Committee Liaison

MAX OVERLAND
Assistant Deputy Clerk II
Office/Clerk of the Board
(408) 630-2749
moverland@valleywater.org
www.valleywater.org

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

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Santa Clara Valley Water District
Board Audit Committee

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***ITEMS AMENDED AND/OR APPENDED SINCE THE ORIGINAL PUBLICATION OF THIS AGENDA ARE IDENTIFIED BY AN ASTERISK (*) HEREIN**

Wednesday, August 28, 2019	12:00 PM	Headquarters Building Conference Room A-124

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 three 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. 19-0801

Recommendation:	Approve the minutes.
Manager:	Michele King, 408-630-2711
Attachments:	Attachment 1: 062619 BAC Minutes
Est. Staff Time:	5 Minutes

4. ACTION ITEMS:

*4.1. Board Independent Auditor Report Update - TAP International, Inc. 19-0833

Recommendation: A. Discuss the Annual Audit Work Plan and update, if necessary;

B. Discuss the status of on-going audits; and

C. Discuss the Change Order Audit Progress.

Manager: Darin Taylor, 408-630-3068

Attachments: Attachment 1: Annual Audit Work Plan
Attachment 2: Real Estate Audit Plan Approach
Attachment 3: District Counsel's Office Audit Plan Approach
*Attachment 4: Change Order Audit Draft Report
*Attachment 5: PowerPoint

4.2. Review and Update 2019 Board Audit Committee Work Plan. 19-0694

Recommendation: Review and make necessary adjustments to the 2019 Board Audit Committee Work Plan.

Manager: Darin Taylor, 408-630-3068

Attachments: Attachment 1: 2019 BAC Work Plan

Est. Staff Time: 10 Minutes

5. INFORMATION ITEMS:

5.1. Audit Report of the Water Utility Enterprise Funds for the Fiscal Year Ended June 30, 2018. 19-0696

Recommendation: Receive and discuss the Audit Report of the Water Utility Enterprise Funds for the Fiscal Year Ended June 30, 2018.

Manager: Darin Taylor, 408-630-3068

Attachments: Attachment 1: 2018 WUE Audit

Est. Staff Time: 10 Minutes

5.2. Introduction of Maze and Associates, Valley Water's new Financial Auditor. 19-0783

Recommendation: Receive and discuss information regarding the Statement of Auditing Standards (SAS) 114 and an overview of the financial audit process, presented by Maze and Associates, Valley Water's new Financial Auditor.

Manager: Darin Taylor, 408-630-3068

Attachments: Attachment 1: Statement of Auditing Standards Discussion

Est. Staff Time: 10 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. ADJOURN:

7.1. Adjourn to Regular Meeting at 10:00 a.m., on October 23, 2019, in the Santa Clara Valley Water District (HQ Boardroom/Board Conference Room A-124), 5700 Almaden Expressway, San Jose, California.

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File No.: 19-0801

Agenda Date: 8/28/2019
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM

Board Audit Committee

SUBJECT:
Approval of Minutes.

RECOMMENDATION:
Approve the minutes.

SUMMARY:
In accordance with the Ralph M. Brown Act, a summary of Committee discussions, and details of all actions taken by the Board Audit Committee, during all open and public Committee meetings, is transcribed and submitted to the Committee for review and approval.

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

ATTACHMENTS:
Attachment 1: 062619 BAC Minutes

UNCLASSIFIED MANAGER:
Michele King, 408-630-2711

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BOARD AUDIT COMMITTEE MEETING

MINUTES

Wednesday, June 26, 2019
10:00 AM

(Paragraph numbers coincide with agenda item numbers)

1. CALL TO ORDER:

A regular meeting of the Santa Clara Valley Water District (Valley Water) Board Audit Committee (Committee) was called to order in the District Headquarters Conference Room A-124, 5700 Almaden Expressway, San Jose, California, at 10:00 a.m.

1.1 Roll Call.

Committee members in attendance were District 5 Director N. Hsueh, and District 2 Director B. Keegan, Chairperson presiding, constituting a quorum of the Committee.

District 7 Director G. Kremen arrived as noted below.

Staff members in attendance were N. Camacho, A. Blackmon, A. Cruz, T. Esch, A. Fraumeni, M. Heller, F. Hernandez, B. Hopper, T. Kane, M. Meredith, A. Noriega, N. Rodriguez, D. Taylor, N. Vye, T. Yoke, and M. Overland.

Also in attendance was Valley Water consultant contractor D. Callahan, TAP International, Inc (TAP).

1.2 Time Open for Public Comment on Any Item Not on the Agenda.

Chairperson Keegan declared time open for public comment on any item not on the agenda. There was no one present who wished to speak.

2. TIME OPEN FOR PUBLIC COMMENT:

2.1 Time Open for Public Comment on any Item not on the Agenda.

Chairperson Keegan declared time open for public comment on any subject not on the agenda. There was no one present who wished to speak.

3. APPROVAL OF MINUTES

3.1 Approval of Minutes.

Recommendation: Approve the minutes of the January 22, 2019, and May 5, 2019 meetings.

The Committee considered the attached minutes of the January 22, 2019, and May 5, 2019 meetings. It was moved by Director Hsueh, seconded by Chairperson Keegan, and carried that the minutes be approved as presented. Director Kremen was absent.

Director Kremen arrived.

4. ACTION ITEMS

4.1 Board Audit Committee Audit Charter.

Recommendation: Approve final draft Audit Charter to be presented to the full Board.

Ms. Denise Callahan, TAP, reviewed the information on this Item, per the attached Committee Agenda Memorandum and per the information contained in Attachment 1.

The Committee made the following comments:

- In September 2018, the Committee requested the Clerk, Senior Assistant District Counsel, and TAP to prepare a Draft Committee Charter.
- The resulting Draft Charter was then reviewed, discussed, and revised by the Committee three times.
- At the June 26, 2019 meeting, the Committee approved the Charter as final and requested staff prepare it, and a detailed overview and purpose and duties contained therein, for presentation to the full Board of Directors at an upcoming meeting.

4.2 Review and Update 2019 Board Audit Committee Work Plan.

Recommendation: Review and make necessary adjustments to the 2019 Board Audit Committee Work Plan.

Mr. Darin Taylor, Chief Financial Officer, reviewed the information on the Item, per the attached Committee Agenda Memorandum.

The Committee made the following requests:

- Change the format to identify the status of Work Plan items more clearly.
- Discussed holding monthly or alternating monthly Committee meetings.
- Revise the Work Plan to include August 2019 discussions on an upcoming CalPERS Audit and Water Utility Enterprise Financial Audit.
- The Committee discussed the advantages and common industry practice of auditors meeting directly with Boards, outside of the presence of staff, and

requested that staff discuss this with the financial auditor and come back with further discussion.

5. INFORMATION ITEMS

5.1 CalPERS Office of Audit Services Review of Valley Water's Employment of Retired Annuitants.

Recommendation: Receive information on April 2019 CalPERS Office of Audit Services Employment of Retired Annuitants Review.

Ms. Anna Noriega, Chief People Officer, reviewed the information on the Item, per the attached Committee Agenda Memorandum.

The Committee noted the information without formal action.

5.2 Board Independent Auditor Report Update – TAP International, Inc.

Recommendation:
A. Discuss the Annual Audit Work Plan and update, if necessary; and
B. Discuss the status of on-going audits.

Ms. Callahan reviewed the information on the Item, per the attached Committee Agenda Memorandum.

The Committee received, and noted without formal action, information on the Change Order Audit.

6. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.

6.1 Clerk Review and Clarification of Committee Requests.

Mr. Max Overland, Assistant Deputy Clerk, read the new Committee requests into the record.

7. ADJOURN

7.1 Adjourn to Regular Meeting as set by the Committee Chair.

Chairperson Keegan adjourned the meeting at 11:30 a.m. to the next meeting, which will be scheduled and posted in accordance with the Brown Act.

Max Overland
Assistant Deputy Clerk

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Valley Water

File No.: 19-0833 **Agenda Date:** 8/28/2019
Item No.: *4.1.

COMMITTEE AGENDA MEMORANDUM

Board Audit Committee

SUBJECT:
Board Independent Auditor Report Update - TAP International, Inc.

RECOMMENDATION:
A. Discuss the Annual Audit Work Plan and update, if necessary;

B. Discuss the status of on-going audits; and

C. Discuss the Change Order Audit Progress.

SUMMARY:
The Board Audit Committee (BAC) was established to assist the Board of Directors (Board), consistent with direction from the full Board, to identify potential areas for audit and audit priorities, and to review, update, plan, and coordinate execution of Board audits.

On May 23, 2017, the Board, approved an on-call consultant agreement with TAP International, Inc. (TAP) for Board independent auditing services.

On September 26, 2018, TAP International presented the final Risk Assessment Model to the BAC assessing operational risks to the Santa Clara Valley Water District (“Valley Water”). The Risk Assessment Model developed heat maps of Valley Water operational areas based on risk impact (low, moderate, and high risk). The results of the risk assessment include input from Valley Water’s Board of Directors, management, and staff and would be used to assist in the development of an Annual Audit Work Plan. The highest risk areas include procurement, contract change order management, succession planning, and fraud prevention.

On February 26, 2019, the Board approved the Board Audit Committee’s recommendation for TAP to conduct three performance audits recommended by the Board Audit Committee. The three audits include performance audits of the District Counsel’s office, contract change order management processes, and real estate services.

Following Board approval of the three performance audits, TAP initiated the audit of contract change order management processes and discussed the audit scope with the BAC Chair. Additionally, an amendment to the Board independent auditing services agreement was initiated to increase the not-to-exceed amount from $405,000 to $1,005,000 to complete all three proposed audits and approximately three additional future audits. On June 7, 2019, the amendment was completed, therefore, TAP will initiate the performance audits of the District Counsel's office and real estate services.

On June 25, 2019, the Board approved the Annual Audit Work Plan for FY 2018-2019 through FY 2020-2021 (Attachment 1).

ATTACHMENTS:
Attachment 1: Annual Audit Work Plan
Attachment 2: Real Estate Audit Plan Approach
Attachment 3: District Counsel's Office Audit Plan Approach
*Attachment 4: Change Order Audit Draft Report
*Attachment 5: PowerPoint

UNCLASSIFIED MANAGER:
Darin Taylor, 408-630-3068

2019

Santa Clara Valley Water District Annual Audit Work Plan, FY 18/19 to FY 20/21.

DRAFT AUDIT WORK PLAN

SANTA CLARA VALLEY WATER DISTRICT BOARD OF DIRECTORS DRAFT ANNUAL WORK PLAN, FY 18/19 TO FY 20/21

OVERVIEW

The selection of audits is an important responsibility of the Audit Committee. The formulation of this audit work began in 2018 when the Valley Water's Board of Director provided input and approved the enterprise risk assessment that was administered across agency operations. The audit work plan is a culmination of a comprehensive effort to consider input on auditable areas from Valley Water employees, mid-level management, executive management, and Board Directors.

The proposed audit work plan considers factors that, if addressed, will provide opportunities to mitigate those risks and improve operations. These factors include:

- **Operational** – Are Valley Water programs/activities performed and services delivered in the most efficient, effective, and economical manner possible, and do they represent sound business decisions, including appropriate responses to changes in the business environment?
- **Financial** – Is there an opportunity to improve how Valley Water manages, invests, spends, and accounts for its financial resources?
- **Regulatory** – Do Valley Water programs and activities comply with applicable laws and regulations?
- **Health and Safety** – Are Valley Water services delivered in a manner that protects our residents and employees from unnecessary exposure to environmental factors?
- **Information Security** – Are Valley Water's information systems and networks protected against unauthorized access, use, disclosure, disruption, modification, inspection, recording, or destruction?

In addition, the proposed audit work plan considers several other factors in the selection of audits.

- **Relevance** – Does the audit have the potential to affect Board decision-making or impact Valley Water customers and residents?
- **Best Practices** – Does the audit provide the opportunity to compare current performance to best practices?
- **Return on Investment** – Does the audit have the potential for cost savings, cost avoidance, or revenue generation?
- **Improvement** – Does the audit have the potential to result in meaningful improvement in how Valley Water does its business?
- **Risk** - The audit work plan also considers risks related to major functions, as identified through a 2017 enterprise risk assessment conducted by TAP International.
- **Audit Frequency** – Individual Divisions at the District should not be subject to more than two audits per year.

Audit Work Plan, FY 18/19 to FY 20/21

This proposed audit work plan is divided into section. Section A describes ongoing non-audit (e.g. advisory) responsibilities of the Independent auditor and well as other quality assurance activities planned by District's executive management. Section B describes the audits planned for implementation by the Independent Auditor and other audits planned by District's executive management.

Section A

Non-audit Services and Special Projects

The following table lists non-audit services and special projects for the FY 2019-20 audit work plan:

Project	Scope	Planned Hours
Board of Director/Audit Committee Requests for Information	**Ongoing.** Should the Board of Directors request information on activities implemented by other public agencies or on other matters of interests applicable to enhancing the efficiency and effectiveness of operations, the independent auditor will collect and summarize information.	80
Audit Training	**Annual**. The Board Audit Committee Charter describes a requirement to provide audit training to BAC committee members at least annually.	2
Support services	**Ongoing.** Provide support services to Board Directors and Valley Water staff applicable to specific initiatives or planning projects to prevent potential service delivery risks, such as the planning of a new ERP system.	40
QEMS – Independent Auditor	**Ongoing.** Provide services to ensure proper oversight and accountability.	As needed
Management reviews	**Ongoing.** The District's CEO as needed will initiate internal quality assurance reviews of business practices and operations. These reviews are to be shared with the audit committee.	As needed

SECTION B: AUDIT SERVICES

AUDIT WORK PLAN – INDEPENDENT AUDITOR

FY 2018-19

The following audits have been approved in FY 2018-19 by the Board of Directors and will continue into the FY 2019-20 audit work plan.

ID	Audit	Audit Objectives	Planned Hours
1	District Counsel Office Review	Are there structural, organizational, and process improvement opportunities for the District Counsel's Office?	664
5	Contract Change Order Processing	What types of business process improvements are necessary for contract change order processing?	429
6	Real Estate Review	How can the Real Estate improve its financial and service delivery performance?	574
Total	3 audits		1,667

FY 2019-20

The following audits have been selected for approval for the FY 2019-20 audit work plan.

ID	Audit Name	Audit Objectives	Planned Hours	Factors Considered
	Ad-hoc Board Audits	TBD	500-800	Relevance
	Audit Follow up	Review and monitor the status of audit recommendations	120	Relevance
	Sub Total		**620-800**	
13	Construction project management	What areas of Valley Water's capital project budgeting practices can benefit from adopting best practices?	314-371	Financial Improvement Risk Best practices
2	SCADA audit	Does the District's Supervisory Control and Data Acquisition (SCADA) systems meet established SCADA security frameworks?	714-857	Information Security Relevance Improvement Risk
7	Permitting best practices	How does Valley Water's permitting process compare with other agencies? Can alternative permit processing activities benefit Valley Water?	171-229	Operational Best practices Improvement

4	Risk Management	Can risk management business processes be implemented more effectively? (i.e. contract claims, workers compensation, small claims).	143-260	Relevance Financial Operational Best practices
3	Billing and Collections audit	Are there opportunities to enhance Valley Water's billing and collection processes?	343-429	Relevance Financial Regulatory Improvement Risk Return on Investment
11	Accountability audit	Are there opportunities to enhance safe clean water audits?	115-171	Health and Safety Relevance Improvement
Sub Total	**6**		**1,800-2,317**	

FY 2020-21

The following audits have been selected for approval for the FY 2020-21 audit work plan.

ID	Audit Name	Audit Objectives	Planned Hours	Factors Considered
	Ad-hoc Board Audits	TBD	500-800	Relevance
	Audit Follow up	Review and monitor the status of audit recommendations	120	Relevance
	Subtotal		**620-800**	
21	Community engagement	Can the District benefit from updating its purchasing practices for multi-media, advertising, and other community engagement vendor related activities?	371-457	Financial Improvement Operational Best practices
20	Homelessness analysis	How can the District enhance its homelessness encampment clean-up activities that protect the health and safety of District employees?	290-371	Health and Safety Relevance Financial Operational
8	Classified information	To what extent does the District's Counsel's office appropriately classify confidential information?	143-200	Relevance Operational
26	Local workforce hiring	What are the financial and service delivery disadvantages and advantages	200-229	Operational

		of RFPs that require preferences for local workforce hiring?		
27	Equipment maintenance	Is Valley Water adequately meeting the needs of equipment maintenance?	143-229	Health and safety Operational Financial
30	Community engagement	What are the best practices in planning and facilitating community engagement?	46-86	Best practices Operational
33	Water Fix	What potential financial risks could occur on the California Water Fix project?	160-286	Financial Relevance
Sub Total	**7**		**1,353 -1,858**	

AUDIT WORK PLAN – DISTRICT RESPONSIBILITY

FY 18/19 THRU FY 19-20

QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEM PROCESS AUDITS

AUDIT DESCRIPTION	Proposed Audit Schedule 2019											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
QUALITY ENVIRONMENTAL MANGEMENT SYSTEM INTERNAL AUDITS												
Treated Water O&M DOO: Customer Service Survey								x				
Laboratory Services Unit												x
North Treatment Operations Unit												x
South Water Treatment Operations Unit												x
Treatment Plant Maintenance Unit												x
Water Quality Unit										x		
Water Utility Capital Division												
Capital Program Planning and Analysis Unit										x		
Construction Services Unit										x		
Pipelines Project Delivery Unit										x		
East Side Project Delivery Unit				x								
West Side Project Delivery Unit									x			
Dam Safety & Capital Delivery Division												
CADD Services Unit					x							
Dam Safety Program & Project Delivery Unit									x			
Design and Construction Unit 3											x	
Pacheco Project Delivery Unit											x	
Water Supply Division DOO: Customer Service Survey								x				
Wells & Water Measurement Unit				x								
Watershed Design and Construction Division												
Design and Construction Unit 1									x			
Design and Construction Unit 2									x			
Design and Construction Unit 4											x	
Design and Construction Unit 5								x				
Land Survey and Mapping Unit											x	
Real Estate Services Unit						x						
Associated Business Support Areas												
Facilities Management						x						
Infrastructure Services/IT					x							
Equipment Management							x					
Purchasing, Consultant Contract, and Warehouse				x								
Security and Emergency Services							x					
Environmental Health and Safety					x							
Workforce Development (Training)							x					
Core ISO Procedures: Continual Improvement Unit						x						
Office of External Affairs (Communications)						x						
Office of the Clerk of the Board (Communications)				x								

COMPLIANCE AND FINANCIAL AUDITS

FINANCIAL AUDITS												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Financial Audits												x
Treasurer's Report												x
Appropriation's Limit												x
Compensation and Benefit Compliance (odd years)												x
Travel Expenses Reimbursement (even years)												x
Single Audit (if applicable)		x										
WUE Fund Audit						x						

OVERVIEW OF AUDIT PLAN APPROACH

REAL ESTATE REVIEW

KEY AUDIT QUESTION

How can the Real Estate Services Unit (RESU) improve its financial and service delivery performance?

SCOPE

Functional areas to review

Real estate leasing, sales, acquisitions of property and rights of way

Key Audit Participants

- Real Estate Services Unit

Secondary Audit Participants to be Contacted During the Audit

- Capital Planning
- Community Projects Review Unit
- District Counsel's Office
- Clerk of the Board

AUDIT TEAM

Denise Callahan, Audit Manager, 916.549.0831
denise@tapinternational.org
Greg Matayoshi, Senior Auditor
greg@tapinternational.org
Kate Kousser, Senior Auditor
kate@tapinternational.org

AUDIT APPROACH

- Evaluate the District's current organizational structure, staffing levels, and processes for the lease, sale, and acquisition of real estate and rights of way.
    - Identify and evaluate real estate roles and responsibilities administered throughout the District.
    - Assess the effectiveness of District real estate policies and procedures.
    - Assess information sharing and public transparency of property owners doing business with the District.
    - Adherence to state law for the purchase of property, including the Brown Act, CEQA and other pertinent requirements.
    - Alignment to best practices for real estate services for California public agencies.
- Assess the extent District's has effectively mitigated the risks associated with the District's current processes for the lease, sale or purchase of property.
- Assess the performance of the RESU.
    - Conduct quantitative analysis (frequency, types, and cost) related to real estate acquisitions since 2014 (past 5 years).
    - District's past litigation costs from real estate acquisitions including claims of "unreasonable pre-condemnation delay or misconduct" against the District since 2014 (past 5 years).

TIMELINE

PROJECT KICKOFF MEETING	8/8/2019
DATA COLLECTION AND ANALYSIS:	8/8/19-9/30/2019
RESULTS MEETING/EXIT CONFERENCE	9/30/2019
DRAFT REPORT	10/21/2019
AGENCY FEEDBACK	11/11/2019
DRAFT REPORT TO BAC	12/11/2019
FINAL DRAFT REPORT	5 DAYS LATER

Susan Hoffman, Quality Assurance Review susan@tapinternational.org	AGENCY COMMENT FINAL REPORT	15 DAYS LATER 20 DAYS

AUDIT PLAN APPROACH: OVERVIEW

PERFORMANCE AUDIT OF STRUCTURAL, ORGANIZATIONAL, AND BUSINESS PROCESSES OF THE DISTRICT COUNSEL'S OFFICE

KEY AUDIT QUESTION

Are potential structural, organizational and process improvement opportunities present for the District Counsel's Office?

SCOPE

Functions to evaluate:

- Claims & risk management, performance monitoring
- Information sharing
- Professional Services Agreements
- Use of Subject Matter Experts

Structural and Organizational

- Staff roles and responsibilities
- Succession planning
- Staff assignments

Key Auditee

District Counsel Office

Secondary Stakeholders

Purchasing and Contracts

Clerk of the Board

AUDIT TEAM

Greg Matayoshi, Project Manager
Greg@tapnternational.org

Kate Kousser, Team Auditor
kate@tapinternational.org

Denise Callahan, Quality Assurance Reviewer,
Denise@tapinternational.org

AUDIT APPROACH

Methodologies/Functional Areas to Examine:

- Evaluation of claims, risk management and contract review activities.
  - Review of documented policies and procedures for claims, risk management (including NDA management) and contract review activities
  - Interviews of District Counsel staff, management and major process stakeholders to discuss activities.
  - Gap analysis of current processes compared to documented policies and best practices.
- Structural and organizational analysis:
  - Interview staff and review documentation to determine roles, responsibilities, authority levels, oversight, succession and reporting structure in the District Council office.
  - Review policy and procedures documentation and interview staff to determine how and what performance measurement metrics are record and reported within the District Counsel's office.
  - Interview staff and stakeholders to assess information sharing and communication activities.
  - Identify gaps in organizational structure and performance metrics compared to best practices and stakeholder needs.

TIMELINE

PROJECT KICKOFF MEETING: (TENTATIVE)	8/8/2019
DATA COLLECTION AND ANALYSIS:	8/8/19-9/30/2019
RESULTS MEETING/EXIT CONFERENCE	9/30/2019
DRAFT REPORT	10/21/2019
AGENCY FEEDBACK	11/11/2019
DRAFT REPORT TO BAC	12/11/2019
FINAL DRAFT REPORT	5 DAYS LATER
AGENCY COMMENT	15 DAYS LATER
FINAL REPORT	20 DAYS LATER

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DRAFT REPORT OF THE INDEPENDENT AUDITOR FOR THE SANTA CLARA VALLEY WATER DISTRICT

CONSTRUCTION CONTRACT CHANGE ORDER MANAGEMENT AND ADMINSITRATION:

OPPORTUNITIES IDENTIFIED TO STRENGTHEN PROCESSES AND OVERSIGHT STRUCTURE

August 26, 2019

TAPInternational

Date: **August 26, 2019**

Memorandum For: **Board Audit Committee**

From: **Independent Auditor, TAP International, Inc.**

Subject: **Transmittal of TAP International Performance Audit Report**

Attached for your information is our draft report, *Construction Contract Change Order Management and Administration: Opportunities Identified to Strengthen Processes and Oversight Structure.* The audit objective was to determine if potential improvement opportunities are present in the construction change order process.

Our audit identified improvement opportunities to strengthen the change order management and administration because the current process is not structured to effectively mitigate risks posed by large capital construction projects, especially future projects planned by Valley Water. This draft audit report contains six recommendations that call for establishing third party review of change orders proposed for large capital construction projects, centralizing change order management and administration activities, and adding other activities consistent with leading practices. Management response to the audit recommendations are included in Appendix I of our report. {This sentence to be included in the final report)

TAP International, Inc.

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Finding 3: Root Cause of Change Orders is Attributed to the Absence of Strong Support Systems 23

Results in Brief

Why the Audit Was Conducted

Efficient and effective service and delivery are key priorities for the Santa Clara Valley Water District (Valley Water) to accomplish the goals of providing safe and clean water, environmental stewardship, and flood protection. Valley Water plans to contract with construction companies to complete 67 capital improvement projects over the next 15 years at a cost of $5.158B, including large construction projects involving the Anderson Dam seismic retrofit and the Pacheco Reservoir expansion. Any changes to these contracted capital projects present a risk of cost overruns and schedule delays.

With the approval of the Valley Water's Board of Directors, a performance audit was conducted of Valley Water's construction contract change order process to identify, if any, the presence of potential improvements.

How the Audit Was Conducted

The Independent Auditor (1) analyzed 12 completed capital construction projects between 2017 and 2018 and performed a detailed file review of six of these contracts to examine how the change order process was administered by Valley Water management and staff; (2) compared Valley Water change order policies and procedures to best practices; (3) interviewed Valley Water management and staff from the Capital Utility and Watershed Divisions, Purchasing and Consultant Contracts Services Unit, Capital Program Planning and Analysis Unit, Valley Water Counsel, Capital Improvement Program (CIP) Committee officials, Valley Water contractors, and former Dispute Resolution Board (DRB) officials, and (4) implemented root cause analysis to identify the primary reason(s) for change order initiation.

What the Audit Found

This audit report describes the opportunities to enhance Valley Water's current change order management and administration activities. Key business process improvement opportunities that were identified include:

- enhancing existing change order policies and procedures to better align with leading practices,
- enhancing constructability reviews with third party experts,
- updating how contingency budgets are established, and
- ensuring uniform implementation of change order preparation and processing.

These enhancements are necessary because TAP International identified change orders that consolidated multiple changes taking place on projects, projects where work was allowed to commence without the approval of a formal change order, and other activities which were implemented non-uniformly without documenting the causes for change orders and documenting pricing reviews.

This report further discusses key stakeholders' identification of project planning and design activities as the leading factor driving change orders. TAP International's analysis on this issue further identified that the decentralized design of Valley Water's change order management and administration process does not routinely prevent the occurrence of gaps in project planning and design activities or ensure uniform implementation of policies and procedures.

TAP International also found that when project and construction management is not outsourced, Valley Water delegates nearly all the responsibility for change order management and administration to individual employees for the purpose of providing flexibility to meet project schedules. These employees have varying levels of experience and knowledge in project management and execute other primary roles and responsibilities. With these conditions, key support structures are necessary to aid project and construction managers in carrying out change order management and administration.

TAP International determined that added support structures should include a separate advisory body to review and recommend the approval of change orders for large-scale projects. This body can include legal, procurement, capital construction subject matters experts, management, or elected officials to monitor progress, including reviewing and recommending change order approval/non-approval. A new Project Management Office (PMO) could also address the gaps with project management knowledge among existing staff assigned to serve as project and construction managers. A PMO could allow project and construction managers more time to ensure project delivery by assuming responsibility for change order negotiation, pricing analysis, ensuring uniform implementation of the Quality Environment Management System (QEMS), and better reporting. Without additional support structures and better implementation of change order management and administration, Valley Water can expect to experience a high volume of change orders and inconsistent management of these change orders on its capital construction projects.

Recommendations

1. To mitigate the potential service and financial risks created by the issuance of change orders, especially on large-scale projects, we recommend that the Chief Executive Officer (CEO) update capital construction change order policies and procedures applicable to large-scale projects to:
   a. Require an Independent Cost Estimate (ICE) for capital construction change orders.
   b. Use a separate advisory body to review and recommend the approval of change orders.
   c. Prohibit commencement of work until after change order approval.
2. To help mitigate the occurrence of change orders, the CEO should enhance constructability reviews as part of the construction project design phase with the addition of independent subject matter experts to the review team.
3. To add and enhance support structures to aid project and construction managers in delivering capital projects, the CEO should enhance the review and approval process for change orders (including potential change orders, contract change orders, and directed change orders) on capital construction projects that are new to Valley Water and/or whose project costs exceed $100M. Options include:
   a. Add external subject matter experts to the existing CIP Committee and meet on a frequent schedule to review project progress and make recommendations to the Board of Directors on all change orders.

   Or,

   b. Create a Project Steering Committee for each new project to review project progress and provide authority to review and approve change orders. The Committee should include a

Board of Director member, Valley Water management, project, and construction manager, external subject matter experts, outsourced legal construction contract counsel, and a representative from the Purchasing and Consulting Contracts Services Unit.

4. To further add and enhance project support structures, the CEO should create a PMO (or restructure the current Capital Program Planning and Analysis Unit) for all capital construction projects. The roles and responsibilities of the PMO will be to ensure consistent and uniform implementation of project management standards; manage and administer the contract management and change order process; consolidate, analyze, and disseminate lessons learned activities and historical project information for future project planning; coordinate projects and resources; and to serve as the information source for executive staff and committees.

5. To support the centralization of procurement activities, the CEO should transfer the responsibility to administer procurement activities on capital projects (i.e. request for bid preparation and bid processing) from the Capital Program Planning and Analysis Unit to Valley Water's Purchasing and Consultant Contracts Services Unit. The PMO should assume responsibility for contract administration and change order management upon execution of the contract by the Purchasing and Consultant Contracts Services Unit. The Purchasing and Consultant Contracts Services Unit can also embed an employee into the PMO to oversee change order management or administer an oversight role in coordinating updated change order policies and procedures, and conduct spot audits to ensure change orders comply with contractual terms and conditions.

6. To promote uniform implementation of change order management and administration, the CEO should:

    a. Develop and establish specific criteria for establishing contingency budgets for change orders that consider project complexity and size, such as $0 contingency for capital projects less than $100,000 ranging to an amount over $1M for projects over $500M eliminating the need for the Board of Directors to separately approve contingency budgets for each capital construction contract.

    b. Update the Quality and Environmental Management System (QEMS) forms to:
        - Develop templates within the Capital Improvement Program Planning document to provide clarification on how the Quality Records should be completed.
        - Add a step in the Close-Out Checklist for the review of open change orders and potential change orders.
        - Enhance the Risk Management Process document to include a review of similar projects in the Capital Improvement Program Historical Information Retrieval (CIPHIR) tool to identify additional project risks and corrective actions that may not have been previously identified.

    c. Enhance project management training to address change order management and administration, including negotiation, pricing analysis, and contract closeout activities.

TAP International thanks the Valley Water staff from the Capital Utility and Watershed Divisions that participated in this audit.

Background

Over the next 15 years, the total estimate for construction contracts to be awarded is approximately $5.158 billion for capital improvement projects that improve, repair, replace, or construct infrastructure. Valley Water has 28 Water Supply projects, 19 projects to increase flood protection, 10 projects for environmental restoration, enhancement and mitigation projects, two projects to repair or maintain Valley Water buildings and grounds, and eight projects to upgrade or expand existing information technology.

What is a Change Order?

During the construction of a capital improvement project, change orders may be utilized. A construction contract change order, according to established industry definitions, is a written alteration that is issued to modify or amend a contract or purchase order. It can be bilateral (agreed to by all parties) or a unilateral (the public agency orders a contract change without the consent of the contractor) request that directs the contractor to make changes to the contracted scope of work or project's specifications. For construction contracts, the primary reason for a change order is the unanticipated conditions encountered during construction that were not covered by the drawings, plans, or specifications of the project.[1] Change orders at Valley Water can result in modifications to the established project specifications, schedule, cost, or scope of work, among other things.

Valley Water has three distinct types of construction-related change orders that can modify the original contract, which will be referred as change orders throughout this report. The various change orders include:

- potential change orders (PCO) (project issues that can lead to a contract change order),
- directed change orders (unilateral change directed to the contractor by Valley Water),
- contract change orders (changes agreed to by all parties).

Who Can Initiate a Construction Contract Change Order?

Change orders can be initiated by Valley Water, or at the request of contractors or both parties. In some cases, potential project issues can be prevented or disagreement over contractual terms or change orders resolved by using a Dispute Resolution Board (DRB). Each construction contract specifies whether a DRB will be used for the project and how the costs of the DRB will be shared between Valley Water and the contractor.

What is the Difference Between a Construction Contract Change Order and a Professional Services Agreement Amendment at Valley Water?

Contract change orders refer to changes that take place on construction contracts between Valley Water and companies involved in the construction of the capital project. These changes, such as schedule updates, costs, specification changes, scope of work expansions, and unanticipated changes are reflected on separate change order forms. Modification to the original base contract does not generally take place except for

[1] https://www.nigp.org/home/find-procurement-resources/dictionary-of-terms

modifications to certain terms and or conditions. Valley Water Counsel and the Purchasing and Consultant Contracts Services Unit do not have a formal role in the review of change orders.

Similarly, amendments to a Professional Services Agreement refer to changes that take place on base contracts for services provided to Valley Water. These services include project management services, engineering design services, staffing services, media services, and more. Amendments made directly on professional services contracts address all types of changes, such as modifications to completion dates, price, scope of work modifications, staffing changes, and terms and conditions among others. Valley Water Counsel and the Purchasing and Consultant Contracts Services Unit have a formal role in the review of amendments to professional service agreements.

Audit Objective

In 2018, Valley Water's Independent Auditor (TAP International, Inc.) conducted an enterprise-wide audit risk assessment and identified construction contract change orders as an area that needed further review to ensure that the change order process is administered efficiently and effectively.

Our specific audit objective for this audit was to determine if potential improvement opportunities are present in the construction change order process.

Scope of Work

The scope of this audit included an evaluation of the change order business process for construction contracts completed between 2017 and 2018. The work focused on the Watershed Design and Construction Division as well as Water Utility.

Project Approach

To assess whether potential improvement opportunities are present in the capital construction change order process, TAP International performed the following activities:

- Examined change order policies and procedures against best practices for construction contract management applicable to change orders. Leading practices were gathered from the following sources:
  - Capital construction subject matter experts.
  - Federal Transit Administration's Best Practices Procurement Manual.
  - Washington State Department of Transportation - Construction Contract Order Process Guide.
  - Oregon Department of Transportation - Construction Manual.
  - Federal Acquisition Regulations (FAR 43.1 - General, subpart 43.2 Change Orders).
  - TAP International experience in examining capital construction programs in other public agencies.

The construction change order practices selected are applicable to business processes and were not in conflict with California state requirements.

- Reviewed all construction contracts completed between 2017 and 2018 (12) and related change orders to determine the frequency of change orders issued and the financial impact to the original contract. These 12 completed projects were:
    - Boardroom Audiovisual Modernization Project
    - Installation of Cathodic Protection Rectifiers and Deep Well Anodes on Santa Clara Conduit
    - Installation of Cathodic Protection Rectifies and Deep-Well Anodes on the Pacheco Conduit
    - Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project
    - Almaden Valley Pipeline Carbon Fiber Reinforced Polymer Structural Repair Project
    - El Camino Storm Drain Erosion Repair Project
    - John D. Morgan Park Monitoring Wells Project
    - Pacheco Conduit & Rehabilitation Project
    - Fluoridation at WTP's
    - IRP2 Water Treatment Plant Operations Buildings Seismic Retrofit Project - PWTP and the PWTP Clearwell Recoat and Repair Project
    - Lower Berryessa Creek Project Phase 1
    - Penitencia Delivery Main and Penitencia Force Main Seismic Retrofit Project
- Examined six construction contracts for:
    - Review and authorization activities. For the six contracts, we examined the two formal documents used in the change order approval process identified by staff: the change order form (FC 207) and the Board Agenda Memorandum for Completion and Acceptance of each contract. We examined the Change Order form (FC 207) because it is used to obtain approvals from the project engineer up to the CEO for change orders that do not exceed the dollar value of the project contingency (and would require Board approval). The Board Agenda Memorandum for Completion and Acceptance was also used because it is a key approval document for the Board of Directors.
    - Pricing review and approval.
    - Nature of the change orders.
    - Time required to process the change order.

  The six contracts subject to this review were:

- Installation of Cathodic Protection Rectifiers and Deep Well Anodes on Santa Clara Conduit
- Installation of Cathodic Protection Rectifiers and Deep-Well Anodes on the Pacheco Conduit
- IRP2 Water Treatment Plant Operations Buildings Seismic Retrofit Project - PWTP and the PWTP Clearwell Recoat and Repair Project
- Penitencia Delivery Main and Penitencia Force Main Seismic Retrofit
- Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project
- Lower Berryessa Creek Project Phase 1

➢ Interviewed Valley Water management and staff involved with the design and implementation of the construction contracts, project support, and financial management to discuss how change orders are processed, reviewed, approved, and monitored. Staff from the Dam Safety and Capital Delivery Division participated in these interviews.

➢ Examined the use of the Quality and Environmental Management System (QEMS) in the capital construction change order management process.

➢ Evaluated the process for the review and approval of change orders through interviews with members of the CIP Committee, Valley Water management and staff, and former DRB members.

➢ Performed a root cause analysis focused on the initiation of change orders. For this, we completed a qualitative analysis because documentation was not consistently prepared to conduct a quantitative analysis of root causes. TAP International interviewed Valley Water management, construction and project managers, contractors, former Dispute Resolution Board (DRB) members, and considered the results of our evaluation of Valley Water's change order management and administration.

This audit is known as a performance audit. A performance audit evaluates the economy, efficiency, and effectiveness of programs, services, and operations. This performance audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. TAP International believes that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A draft report was provided to Valley Water for review. Comments were incorporated as applicable throughout the report. [See Appendix 1 for formal agency comments to the recommendations included in this report. [*To be included in final report version, only*]

Key Findings

Finding 1: Opportunities are Present to Better Align Valley Water Change Order Management and Administration to Leading Practices

Policies and Procedures Help Mitigate the Risks Presented by Change Orders

Large-scale construction projects generally have higher inherent risk because of their size and complexity. Key risks include implementing unnecessary change orders, unauthorized change orders, or over-priced change orders. Other risks include significantly changing the nature of the project, changing original scope of work specifications without appropriate justification, and not ensuring change order requirements were properly monitored through completion. These risks can significantly impact the cost, quality, or time to complete the project. For agencies to mitigate the risks associated with change orders, their policies and procedures play a critical role.

TAP International identified that Valley Water's policies and procedures for the construction management contract change order process address many leading practices. Leading practices are industry accepted practices and procedures recommended as most effective to enhance service delivery and to mitigate risks. As shown in Table 1, Valley Water's change order policies and procedures fully or partially address 22 of 30 leading practices reviewed. These leading practices include adding change order terms and conditions in capital contracts, use of quality control checklists, and change order pricing requirements. Change order policies and procedures do not address eight other leading practices related to review of cost adjustments (pricing) commencement of work, and the use of advisory bodies.

Table 1: Leading Change Order Management Practices Administered by Valley Water

	Total Number (30)
Leading Practices Addressed or Partially Addressed in Policies and Procedures	22
Leading Practices Not Addressed in Policies and Procedures	8

Potential to Add the Use of Independent Cost Estimates

Leading practices suggest the need for reviewing change orders with large cost adjustments against ICEs. The practice serves to determine if there are differences between the ICE and the contractor estimate and if so, then the basis for each estimate is discussed, which could prevent the overpricing of work. Although Valley Water's change order policies and procedures call for the review of contractor cost estimates, staff explained that ICEs were not needed because Valley Water has sufficient expertise from prior comparable projects to determine the appropriateness of cost estimates. Without ICEs, Valley Water must rely on the expertise and experience of the project manager or construction manager to discuss and negotiate differences in pricing. TAP International determined that some managers may not challenge contractor cost estimates because they do not have the depth of knowledge in comparison to more experienced project and construction managers.

Prohibit Commencement of Work Until Approval of Change Orders

Leading practices suggest that construction work should not begin until change orders have been reviewed and approved. Valley Water's construction policies and procedures do not explicitly address this practice and places Valley Water at higher financial risk. TAP International determined that on four of the six contracts, Valley Water allowed work to begin on multiple potential change orders (PCO), including beginning work on a time and materials basis until completion whereby Valley Water converts the PCO or combines multiple PCO(s) into a change order for formal review and approval. Table 2 below shows the formal approval of change orders after final inspection but before project completion. Project and construction managers explained that much of the capital project work is driven by seasonality that requires the opening of change orders as negotiations take place concurrently. Contractors reported that the process for developing project schedules should be reviewed as some project work is known to be delayed and should not have commenced until the following year. The known delays, if not addressed in the project schedules, create seasonal pressures that lead to change orders.

Table 2. Timing of Change Order Approval (Six Contracts Reviewed)

				When Change Orders were Approved			
Project Name	**Contract No. & Submittals**	**Division**	**Total Number of Change Orders**	**After Contract Award, Before Final Inspection**	**After Final Inspection, Before Project Completion**	**After Project Completion, Before Completion & Acceptance**	**After Completion & Acceptance**
Installation of Cathodic Protection Rectifiers and Deep Well Anodes on the Santa Clara Conduit	C0632	Water Utility	2	2	0	0	0
Installation of Cathodic Protection Rectifiers and Deep-Well Anodes on the Pacheco Conduit	C0623	Water Utility	2	0	0	1	1*
IRP2 Water Treatment Plant Operations Buildings Seismic Retrofit Project- PWTP and the PWTP Clearwell Recoat and Repair Project	C0609	Water Utility	9	6	2	1	0
Penitencia Delivery Main and Penitencia Force Main Seismic Retrofit	C0611	Water Utility	18	13	5	0	0

Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project	C0642	Watershed	0	NA	NA	NA	NA
Lower Berryessa Creek Project Phase 1	C0604	Watershed	3	1	0	2	0
	Totals	**All**	**34**	**22**	**7**	**4**	**1**

* One change order was processed after the Board approved the Notice of Completion and Acceptance for the contract because the Board had to increase the contract amount to pay for the change in work. This is contract 623, also discussed in another section of this analysis.

Establish Advisory Body to Support Change Order Management and Administration

To enhance oversight and accountability, leading practices suggest that a headquarters construction office (or Change Control Board) review all construction change orders and (if appropriate) recommend for approval. Valley Water's construction policies and procedures do not address the use of a central body to oversee change orders. Instead, Valley Water implements delegated review and approval authority for change orders for both small and large-scale projects.

TAP International determined that the change order review and approval process can benefit from a different oversight process because the current process is not fully effective at mitigating potential risks, especially on large-scale projects. Presently, Valley Water relies on various individuals delegated to review and approve change orders from project and construction managers to the CEO, including requesting Board of Director approval on some of them depending on the price of the change. However, Valley Water has not assigned responsibility and authority to one single body or unit within Valley Water to:

- conduct uniform review of change orders for compliance to contract terms and conditions;
- ensure the change order adheres to contractual terms and conditions as well as other procurement requirements;
- determine whether the proposed change is not within the scope of the statement of work;
- determine if the proposed change is within the scope of the statement of work in the base construction contract but has been modified already by a previously approved change order.

These compliance responsibilities fall on the project or construction manager. Counsel staff do not have a formal role in the review or approval of change orders, including those that change the specifications, cost, and/or schedule of the contract, but informal discussions do occur. District Counsel staff explained that change orders generally include technical specifications, which are best handled by the project or construction management staff although TAP International determined that change orders address a variety of circumstances, discussed later in this report. The Purchasing and Consultant Contracts Services Unit does not have an informal or formal role.

In contrast, Valley Water has established a more formalized review process for amendments to professional services agreement, which provide consultant services that include project management services, engineering design services, staffing services, media services, and more. Counsel staff reviews all prepared amendments resulting in suggested modifications and then returns the document to the Purchasing and

Consultant Contracts Unit for updates. This process is cyclical, repeating multiple times spanning months before approval of the final draft of the amendment. The types of amendments that require CEO approval include schedule changes and other minor adjustments.

With some staff taking exception, project and construction managers agreed that changes to the authorization process may be needed for large capital projects and projects with scopes of work that are new to the District. These projects pose a greater potential financial and project delivery risk because Valley Water does not have prior project or construction management experience to anticipate project needs. For example, staff explained that even with a very small capital project that built a public restroom facility, it generated multiple change orders and additional costs because the agency had no prior experience with that type of project. Board officials and other construction experts also reported a need to implement stronger oversight for Valley Water's planned large-scale projects, explaining that by the time the change orders reach the Board of Directors for approval, the project may be in completion phase, thus preventing any in-depth review or challenge of the change order.

Oversight mechanisms, such as an advisory body could be able to closely review change orders for Valley Water's planned large-scale capital construction projects. The existing CIP Committee, comprised of Board members, can potentially provide change order reviews and recommend approval or denial by the full Board for high-risk capital improvement projects.[2] The advantages of establishing a greater role of the CIP Committee in the review and approval of change orders includes providing greater oversight of high-risk capital projects and streamlining the approval process for the Board of Directors. However, key disadvantages include ensuring that CIP members have sufficient knowledge of change order requirements, cost estimates, contract specifications, and capital construction project activities to provide effective oversight. While the current composition of the CIP Committee has elected Board Directors with requisite capital construction contract and legal experience, the composition of the Committee can change as future Board of Director elections are held, leaving the CIP Committee with gaps in knowledge and expertise. In addition, the CIP Committee would have to modify its meeting schedule to meet more frequently as well as determining whether to have a 3-day or 10 day agenda posting to ensure timely review and approval of construction change orders. Finally, risks in politicizing change order decisions may be present without established decision-making criteria in place.

A new standing or a project-specific steering committee can be comprised of a Board member, Valley Water management and staff, outsourced legal counsel with expertise in capital construction, Purchasing and Consultant Contracts Services Unit staff, independent construction industry subject matter experts to vet the change order and recommend approval to the Chief Operating Officer. Key advantages include providing third party oversight to evaluate and challenge construction contract change orders, more timely review and approval, and the capability of offering advisory services to project and construction management staff to help prevent issues that could require DRB resolution. While the DRB presently offers advisory services on some contracts, the Board composition includes only construction contract experts, and its use is not routine. A key disadvantage with implementing a project steering committee are the consulting costs involved with

[2] The CIP does not currently have authority to approve and recommend approval of change orders by the Board of Directors.

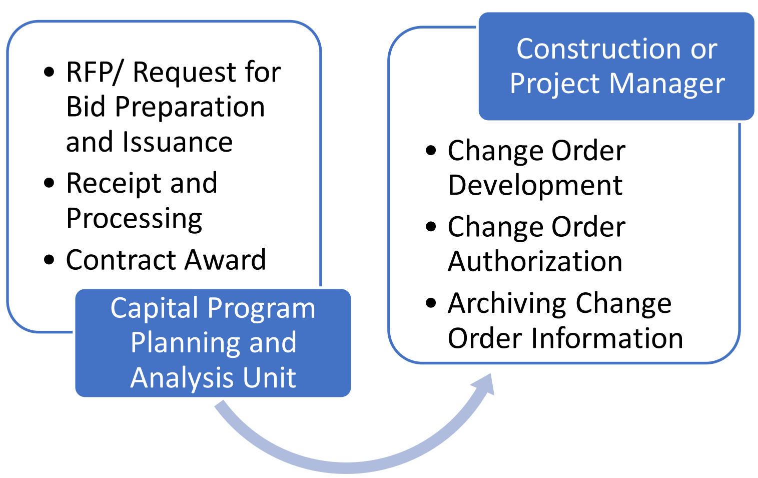
implementing a standing committee or ad-hoc committees for each high-risk capital construction project, but there could be a return on this investment if costly change orders can be prevented.

Centralization of Some Support Service Activities

Other public agencies with large capital construction program utilize their procurement departments in preparing request for proposals and request for bid, including their issuance, receipt, bid evaluation, and award. Valley Water's Purchasing and Consultant Contracts Services Unit does not have a role in Valley Water's construction procurement activities because this role has been long administered by another unit within the Water Utility Capital Division - the Capital Program Planning and Analysis Unit. Without a role by Purchasing and Consultant Contracts Services, Valley Water primarily relies on the Counsel's office to review the Notice to Bidders; the memo for Board action authorizing, advertisement for bids; the bid submittals; and the memo for Board action awarding a contract. These activities should be the primary responsibility of the Purchasing and Consultant Contracts Services to ensure that staff is complying with state and federal procurement requirements. Valley Water staff further explained that the Capital Program Planning and Analysis Unit supports procurement activities because these activities are completed on a timelier basis in comparison to having the Purchasing and Consultant Contracts Services Unit assume responsibility. A Valley Water management official responsible for general administration explained that given the current changes within the Purchasing and Consultant Contracts Services Unit, timeliness risks can be mitigated and that capital construction procurement activities could be centralized to ensure proper adherence to contractual and other procurement requirements.

Best practices describe the use of central management and administration of change orders on capital construction projects. The current Capital Program Planning and Analysis Unit serves more of a support role than a compliance role as it does not fully oversee the processing of change orders, which is the responsibility of the project manager and construction manager. Capital Program Planning and Analysis Unit staff capture information from change orders to track on worksheets, but it is not formally responsible for ensuring that change orders have all required documentation or ensuring that open preliminary change orders have been formally prepared. In addition, the Capital Program Planning and Analysis Unit prepares information for the CIP Committee, tracks capital projects and change orders, and collects QEMS reports among other things.

Current Organizational Roles and Responsibilities for Construction contracts



While project managers and construction managers did not report any significant concerns with the current structure of the Unit, TAP International identified areas for enhancement. These enhancements include:

- Analyzing the magnitude of cost overruns by comparing the total value of the change orders to the base contract amount. Presently, the Capital Program Planning and Analysis Unit combines the contingency budget with the original contract amount to compute whether costs exceeded the total construction amount. Other public agencies with large construction programs exclude the contingency amount from the total construction budget to determine the level of cost overruns in comparison to the original budget. These agencies use the information to target potential changes in the change order process to prevent excess costs over the original contract amount. TAP International determined that of the 12 capital projects completed between 2017 and 2018, nine had cost overruns averaging $337,000[3] excluding contract contingency budget amounts.
- Conducting robust data analysis to support design activities. The Capital Program Planning and Analysis Unit does not provide robust data analysis on the capital projects that would help project managers identify needed design changes on future projects. The Capital Program and Planning Analysis Unit generally uses Excel databases to capture project history, but the data includes basic contract data that cannot be used to identify trends and patterns to prevent future issues on capital projects.

As an alternative to the Capital Program Planning and Analysis Unit or a hybrid version of it, public agencies that implement large-scale capital projects use a formal PMO. A PMO assumes responsibility for implementing capital projects in a standardized way by providing information to support decision-making and ensures that policies and procedures are consistently followed. The range of functions, which are not currently performed by the Capital Program Planning and Analysis Unit can include:

- conducting analytics on historical projects to identify areas that need attention in planning future projects;
- consolidation and reporting of lessons learned information;
- ensuring uniformity and consistency in business processes over construction contracts; and,
- ensuring the accuracy of information and data reported to executive management.

Presently, Valley Water decentralizes many of the above activities to the project manager or construction manager level. Establishing a centralized PMO will promote consistency among projects and sharing of project information.

Other functions of the PMO can include centralized change order management; QEMS oversight and monitoring; and implementation of continuous process improvement activities. At a very basic level, the PMO supports the project and construction management teams by facilitating information sharing, conducting analytics, seeking funding, and resourcing. Leading practices show that PMOs can offer:

[3] When factoring in the contingency budget, one of the 12 projects incurred a cost overrun.

- **Governance**- The PMO ensures that decisions are made by the right people, based on accurate information. The governance role can also include audits or peer reviews, developing project and program structures, and ensuring accountability at all levels.
- **Transparency**- The PMO is responsible for providing information and being the single source of data. Information needs to be relevant and accurate to support effective decision-making and provided to people in a way they can understand.
- **Reusability**- The PMO facilitates the sharing of knowledge for the purpose of preventing project teams from reinventing the wheel, making the PMO the central point for lessons learned, templates, and best practice.

Leading Practice Organizational Roles and Responsibilities for Construction Contracts

Contracts and Purchasing Unit* (Both Construction Contracts and Consulting Agreements)	Project Management Office
•Request for Proposal/Bid Preparation •Issuance •Receipt and Processing •Contract Award	•Project Support (policies, methodologies, performance tracking) •Change Order Development •Change Order Authorization •Archiving Change Order Information

*Graphic illustrates key leading practices and not Valley Water's processes.

Finding 2: Change Order Management and Administration Needs Uniform Implementation or Other Enhancements

Official Forms Should Capture Reasons for the Changes

Of the six contracts reviewed, Valley Water processed 34 change orders across the six contracts completed between 2017 and 2018. These 34 change orders do not reflect the actual quantity of changes implemented on the contracts because TAP International identified another 110 individual change orders in the form of authorized PCO's that took place across the six projects.

Although Valley Water maintains information on the specific nature of the change in individual project files or across three different information systems, TAP International could not quantify the reasons for the change orders because formal documentation required for change order initiation, review and approval did not consistently or clearly document the reason for the requested change or related justification. The form used by staff for initiating a change order (form FC 207) does not require the reason for a change to be documented. Form FC 207 is the official form used by the project and construction manager to obtain approval for change orders.

TAP International examined the documentation presented to the Board at the completion of a construction contract for review of the staff-approved change orders. We found in the six contracts we reviewed that the

Board Agenda Memorandums for Completion and Acceptance did not consistently or clearly describe the reasons for change orders approved by staff. For example, four contracts (632, 623, 609, 611) cited "unforeseen" site circumstances or conditions as one of the reasons for changes in the work across the change orders to each respective contract. Valley Water staff differentiated between Valley Water-requested changes and post-design clarifications in the Board Memo for one contract (609), but in another contract (611) grouped these two categories as the reason for the changes. Another contract (604) grouped Valley Water-requested and Contractor-requested changes as the reason. Finally, one contract (604) stated that "issues" were the reason for the change orders. Another category used in two contracts (611, 642) cited "unused supplemental bid items" as the reason for the changes but did not explain why these items went unused. A Valley Water management official explained that while projects files or information systems capture the specific reason for the change, the information is not consolidated for reporting purposes. Without having information about the reason(s) and justification for the change documented on the change order itself or in formal documentation provided to the Board, it raises transparency concerns about the status of the capital project, how available funds were spent, if cost reductions occurred, and how well Board of Director expectations for project and service delivery were met.

Final and Balancing Change Orders Need Consistent Preparation

Valley Water's Construction Manual (Section 9, Change Orders) requires the Construction Manager to prepare a "final and balancing" change order designed to reconcile all change orders for the contract, and that this final change order accompanies the "Notice of Completion and Acceptance" of the contract to the Valley Water Board for approval. TAP International determined that although staff may implement this policy on other contracts, this practice was not implemented on the six contracts that we reviewed. Instead, Valley Water staff appear to use the Board Agenda Memorandum to transmit this information, instead of a required formal change order, to accompany the "Notice of Completion and Acceptance" to the Valley Water Board for approval. This information helps the Board of Directors determine if the project was delivered in accordance with the financial terms of the contract, which takes on greater importance for large scale capital projects. Valley Water staff confirmed that its current practice is to prepare a summary of all changes and their amounts and their final contract amount at the time of Notice of Contract Completion and Acceptance of Work. Valley Water staff also acknowledged that the Construction Manual requires an update.

Contingency Budget Development Should Consider Potential Risks

Valley Water establishes contingency budgets on most construction contracts to fund the cost of change orders. Although Valley Water does not have written policies and procedures in place that guide contingency budget development, project managers commonly apply 10 percent or 15 percent of the contract value (see Table 3) with limited consideration of risk factors. Based on our sample of contracts, TAP International determined that Valley Water establishes contingency budgets that are 10 percent of the contract amount for higher dollar value projects and 15 percent of the contract value for lower dollar value projects. Staff stated that where additional construction risks and complexities are known, higher contingency budgets are established.

Other public agencies have taken different approaches that consider capital project size and complexity risk factors. For example, some agencies establish a range of contingency budgets in that capital contracts valued up to $25M have contingency budgets of $500,000 and capital contracts valued over $500M have contingency budgets of up to $1.2M.

Table 3. Award and Contingency Amounts for the Six Contracts Reviewed*

Project Name	Contract No.	Division	Award Amount	Contingency $	Contingency %
Installation of Cathodic Protection Rectifiers and Deep Well Anodes on the Santa Clara Conduit	C0632	Water Utility	$ 244,400.00	$ 36,600.00	15%
Installation of Cathodic Protection Rectifiers and Deep-Well Anodes on the Pacheco Conduit	C0623	Water Utility	$ 291,740.00	$ 43,761.00	15%
IRP2 Water Treatment Plant Operations Buildings Seismic Retrofit Project- PWTP and the PWTP Clearwell Recoat and Repair Project	C0609	Water Utility	$ 6,072,500.00	$ 910,875.00	15%
Penitencia Delivery Main and Penitencia Force Main Seismic Retrofit	C0611	Water Utility	$ 21,535,025.00	$ 2,153,500.00	10%
Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project	C0642	Watershed**	$ 1,650,750.00	$ 165,075.00	10%
Lower Berryessa Creek Project Phase 1	C0604	Watershed**	$ 12,186,600.00	$ 1,219,000.00	10%

*Valley Water does not have a written policy that establishes the basis to use in establishing a contingency budget.
**Construction management was outsourced.

While contingency budgets are disclosed separately in Board memos and approved by the Board of Directors for each capital construction contract, this practice, allows Contractors to know early on the amount of potential revenue that could be earned on the contract from change orders. When this occurs, Contractors may be more prone to propose activities that could increase project costs – a potential financial risk to Valley Water. Valley Water executives explained that disclosure of the contingency budget allows the Board of Directors to know the level of funding dedicated within their representational zone. Other agencies do not establish contingency budgets and instead require governing body review and approval of each change or allow the contingency budgets for unforeseen circumstances only.

Delegation of Review and Approval Authority of Change Orders Needs Consistency

Each capital contract has a financial threshold established that delegates review and approval authority of change orders. These authorization thresholds can vary from project to project. Valley Water's CEO (or designee) can approve change orders up to the dollar amount of the contingency budget. Valley Water used dollar amounts as thresholds, rather than percentages, to set staff-delegated approval authorities for change orders, which adds a greater complexity to change order management, as shown in Table 4. For two Water Utility contracts, the Engineering Unit Manager and Deputy Operating Officer had approval authority for changes valued up to $5,000 and $10,000, respectively. For the two other Water Utility contracts, the Engineering Unit Manager and Deputy Operating Officer were authorized to approve changes up to $100,000 and $250,000, respectively. For the two Watershed contracts, with construction management outsourced, for example, the Board authorized Deputy Operating Officer approval of contract changes for one contract up to $50,000, while on the other contract, authorized changes up to the contingency amount of $165,000. Streamlining the financial thresholds for delegated review and authorization facilitates the effectiveness of service delivery.

Table 4. Comparison of Change Order Approval Thresholds for the Six Contracts Reviewed

Contact Name	Contract No. & Submittals	Division	Contract Award Amount	Contingency Amount	Contingency %	Approval Thresholds
Installation of Cathodic Protection Rectifiers and Deep Well Anodes on the Santa Clara Conduit	C0632	Water Utility	$244,400.	$36,600.00	15%	EUM* $5K and DOO* $10K
Installation of Cathodic Protection Rectifiers and Deep-Well Anodes on the Pacheco Conduit	C0623	Water Utility	$291,740.00	$43,761.00	15%	EUM $5K and DOO $10K
IRP2 Water Treatment Plant Operations Buildings Seismic Retrofit Project- PWTP and the PWTP Clearwell Recoat and Repair Project	C0609	Water Utility	$6,072,500.00	$910,875.00	15%	EUM $100K and DOO $250K
Penitencia Delivery Main and Penitencia Force Main Seismic Retrofit	C0611	Water Utility	$21,535,025.00	$2,153,500.00	10%	EUM $100K and DOO $250K
Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project	C0642	Watershed	$1,650,750.00	$165,075.00	10%	EUM $50K and DOO up to contingency amount
Lower Berryessa Creek Project Phase 1	C0604	Watershed	$12,186,600.00	$1,219,000.00	10%	EUM $30K and DOO $50K

*EUM – Engineering Unit Manager; DOO -Deputy Operating Officer.

Cost Reductions on Capital Projects Should be Consistently Processed Through Change Orders

Valley Water change order procedures require the issuance of change orders to reflect cost reductions in the capital project. These change orders can then be used by Valley Water's Budget & Financial Analysis Unit to modify the budget information in the financial management system.

TAP International determined that Valley Water uses change orders inconsistently to document changes that resulted in cost reductions/savings. On three of the six construction contracts (604, 611, 642), five change orders were processed with cost savings for these three contracts, including both Water Utility and Watershed Division contracts. For contract 604 (Lower Berryessa Creek, Phase 1), the Watershed Division project management staff reported about $1.2 million in cost savings across the three change orders[4]. Further, in change order #15 for Water Utility contract 611 (Penitencia Force Main Seismic Retrofit), a change order documented a cost reduction of $135,025 from deletion of Supplemental Bid Items in their entirety because naturally occurring asbestos was not encountered on the project.

In contrast, Valley Water did not issue a change order for cost reductions on Watershed Division contract for Matadero Creek Sediment Removal & Erosion Repair and San Tomas Aquino Creek Erosion Repair Project (contract 642). It is unclear how Valley Water staff otherwise formally documented changes in the project files given that Valley Water outsourced construction management for this contract. The Board Agenda Memorandum for the Notice of Completion and Acceptance for contract 642 states there were no change orders, but that there was a cost reduction to the contract in the amount of $219,810, as shown in Table 5. The Board Memo for contract 642 stated that "Various cost reduction for quantity adjustments attributed by value engineering; non-implementation of supplemental bid items such as winterization, resulted in a net savings amount of $219,810.00 less than the original contract award amount." When change orders are not consistently issued for cost reductions, management cannot easily track the amount of funds available that could be expended for other purposes.

Table 5: Board Memo Showing Cost Reductions Without a Change Order (Board Agenda Memorandum, File #19-0208)

Description	Contract Amount	Contingency Amount
Original Contract (Board Approved)	$1,650,750	$1,650,750
Cost Reduction Net Savings	<$219,810>	$1,650,750
Final Contract Amount and Remaining Contingency	$1,430,940	$1,650,750

Separating Change Orders to Retain Staff Approval Authority Should be Avoided

Valley Water assumes financial risk when multiple change orders are issued to likely avoid triggering an additional layer of review. For Water Utility contract #623, Valley Water staff used two separate change orders to reflect cost increases. The split allowed Valley Water staff to use the approval authorizations established when the Board of Directors approved the contract. The Board had initially authorized the CEO to approve up to $43,761 in changes (a 15% contingency) for the almost $292K project.

[4] Valley Water had outsourced construction management on this contract.

The first change order was approved for $40,000 "lump sum" for "hard rock drilling" at four well locations "to address an unforeseen condition." The change order also states that:

> "*The additional cost of $34,643.40 for disposal associated with the hard rock drilling requested*" by the contractor "*will be deferred and subject to action by the Valley Water's Board of Directors. Valley Water staff will recommend the Board approve an increase in delegated change order authority for the requested amount of $34,643.40 for disposal costs. If approved, a final change order will be submitted in that amount.*"

Valley Water executed the second change order about one month after the Valley Water Board approved the Completion and Acceptance of the contract, with an increase of about $31,000 to the contract's contingency to pay for the second change order.[5]

While Valley Water management staff explained the change orders were prepared for two separate issues (increase in delegated approval authority and to approve a change order), the discussion acknowledged that in hindsight, that the order and sequence in which the change orders were processed would have been managed differently if Construction Services Unit staff had performed the construction management on the project. TAP International determined that the two change orders should have been combined. When the second change order was issued, it was too late for the Board of Directors to perform in-depth review of the change order, if needed.

QEMS System Can Be Expanded and Enhanced

Valley Water implements a quality controls program called the Quality Environment Manager System (QEMS) with the goal of accomplishing organizational excellence and environmental stewardship. The QEMS conforms to International Organization for Standardization (ISO), allows Valley Water to support continual improvement activities through developing employee knowledge, establishing controls and activities for products, services, and good practices, and helping to make Valley Water more efficient and effective. To this end, Valley Water requires project and construction managers to complete standardized checklists and other forms to help ensure quality assurance over program and services.

TAP International identified the current QEMS forms used in the design and construction phases can be enhanced and better utilized. While the QEMS forms and other documents provide general procedures to mitigate capital projects risks, potential improvement to form enhancement include:

1. **Incorporate existing District practices onto QEMS project reports**. QEMS document titled, *Capital Improvement Program Planning (Q710D01)* establishes Valley Water's goal to instill a discipline of systematic planning for CIP projects. The procedure outlines the process steps for the CIP. For many of the steps, however, the Quality Records (Outputs from Process Steps) are not always defined and could be clarified by using links to templates or document examples.

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[5] Approval of the first change order (6/11/2018) occurred after the Final Inspection (5/25/2018) and Projection Completion (6/5/2018) and Recommendation to the Board for Completion and Acceptance of the Contract (6/8/2018). The CEO approved the second change order on 7/18/18.

2. **Enhance the Close-Out Checklist by including a review of open COs and PCOs.** QEMS document number *F-751-098* (Close-Out Checklist) is a form to create the Close-Out Report for each phase and final close-out of a project. With the coordination of the project owner, Capital Program Planning and Analysis Unit, and the General Accounting Unit, a review of all PCOs and COs that may still be open should be conducted so that the orders can be closed. This form can be updated to have a PMO type of office responsible for managing and processing open change orders.

   The Close-Out Checklist also defines what information will be needed from the Capital Improvement Projects Historical Information Retrieval (CIPHIR) system to develop the CIPHIR report. The CIPHIR is a tool designed to provide critical information regarding previous and existing capital projects. The CIPHIR Project Status Report should include an item/section related to lessons learned on the project specifically related to project changes that resulted in change orders. Having this information systematically reported can institutionalize continuous improvement process activities. TAP International identified inconsistent implementation of historical reviews of past project to facilitate project planning because project files are not centrally collected and stored for easy access by staff.

   In addition, TAP International determined that historical change order information that could be useful in planning comparable projects is not systematically collected or analyzed for project planning purposes because the Capital Program Planning and Analysis Unit is not fully set up to perform this activity. Lessons learned information is maintained by the project manager for individual capital projects. Although Water Utility and Watershed staff acknowledge the value of having lessons learned activities, the Divisions do not institutionalize outcomes for consistent adaptation on future projects.

3. **Consistently implement document Q-751-013 (Capital Project Delivery).** Capital project delivery forms provide instruction to unit managers, project managers, and project team members on how to manage the delivery of capital projects. Step 3 (Plan Planning Phase), Step 6 (Plan Design Phase), and Step 9 (Plan Construction Phase) require the review of information in the CIPHIR tool. This step is important but TAP International identified that project management practices vary by person and that each project is managed differently, based upon the knowledge and experience of the manager.

4. **Clarify Section 11, Appendix A, (Q-751-013, Capital Project Delivery)**. Appendix A of Capital Project Delivery forms defines roles and responsibilities. TAP International identified that this section needs clarification because project managers are not always involved from project design to project completion as stated. For some projects, project managers perform project planning, and upon completion of project design, another construction manager will assume responsibility for the project's implementation. For other projects, the project manager will remain assigned to the project from initiation to close-out.

5. **Enhance the Risk Management Process Document W-710-128.** This document provides instruction to unit managers, project managers, and project team members on how to identify, assess, and respond to risks in order to manage or reduce potential adverse effects on achieving project goals. Instructions address project risks, but do not require the identification of specific risks that reviewing the historical project documents of change orders may identify. Adding a step to have the project

manager/risk owners review similar project information from the CIPHIR and describe specific corrective actions will also further enhance risk assessment in project planning.

Finding 3: Root Cause of Change Orders is Attributed to the Absence of Strong Support Systems

Root cause analysis (RCA) is a methodological technique designed to pinpoint the precise cause of an occurrence of a single or set of events or problems. When that cause is identified, solutions can be addressed to prevent re-occurrence. Root cause analysis for performance auditing relies on both quantitative and/or qualitative data collection and analysis methods; this method excludes the use of scientific investigation applied in other root cause analysis methods.

Although information was not readily available on the reasons for change orders, Valley Water management and staff reported that change orders involve the:

- price of materials or labor;
- quantity of materials or labor;
- material specifications;
- project work schedule;
- scope of work;
- changes in environmental conditions;
- terms and conditions; and
- unforeseen circumstances.

Although TAP International could not perform a quantitative analysis of the root causes of change orders, our qualitative analysis determined that inconsistent implementation of project planning and design activities can be linked to change orders. For example, project and construction managers explained that one project planning activity includes reviewing past comparable projects for the types of challenges and other problems that occurred so that the issues could be resolved in the design phase of the new project. However, not all project managers said they perform this activity. Without anticipating the types of issues that occur when planning similar projects, change orders could likely result. Valley Water contractors reported that while some change orders result from unanticipated events, others result from permitting issues, jurisdiction coordination issues, and scheduling issues that could have been prevented had these issues been fully resolved in the planning phase. Finally, former DRB members for Valley Water identified ambiguities in the design of the project as the cause of change orders during their service as a representative on the DRB.

Project manager and construction managers further attributed the project planning and design activity concerns to different levels of expertise and experience by Valley Water staff. Project managers and construction managers who have experience working at other agencies said their greater level of experience and expertise empowers them to challenge contractors on requested project changes. Project managers and construction managers, who said they had less experience, cited the need for additional project management training to address gaps in their level of expertise, such as risk management, cost estimating, and negotiation. While Valley Water makes available project management training, management explained that it is staff responsibility to receive the training and staff, who have taken the training, said that more training is needed given that project and construction management is generally a secondary role and responsibility for Valley Water staff. TAP International determined that Valley Water does not require its capital construction staff to hold project management professional certifications which may be needed on large scale projects. Possessing project management professional certification provides assurance that project and construction managers have received comprehensive project management training and have full knowledge of project management standards and practices.

TAP International determined that the likely root cause for change orders is the absence of strong support systems to aid project and construction managers. These support systems include:

- Enhanced oversight of the design process. DRB members said constructability reviews, conducted by experts independent of the design process, are an effective method to prevent change orders for both projects designed by Valley Water staff and projects designed by consultants.
- Robust project management training programs.
- Enhanced change order policies and procedures.
- Enhanced quality assurance forms.
- Utilization of an advisory body that would support decision-making on change orders.

Without development of new and enhanced support systems, Valley Water can likely expect an increase of change orders on future capital construction projects.

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SANTA CLARA VALLEY WATER DISTRICT PERFORMANCE AUDIT OF THE CONSTRUCTION CONTRACT CHANGE ORDER PROCESS

SUMMARY OF KEY FINDINGS

August 2019 Board Audit Committee

TAPInternational

Audit Objectives

Audit Objective

Are potential improvement opportunities present in the construction change order process?

Audit Scope and Approach

- **Construction contracts change order process**
- **Water Utilities, Dam Safety and Capital Delivery, Watershed Divisions, CIP Committee, and DRB Members**
- **Completed construction projects, CYs 2017, 2018**

- Reviewed construction contract change order policies and procedures and compared to best practices.
- Interviewed COO's, managers, project managers, construction managers, Capital Improvement Program (CIP) Committee members, District counsel staff, Valley Water (VW) contractors, former Dispute Resolution Board (DRB) members to discuss potential improvement opportunities.
- Examined the use of the Quality Environmental Management System (QEMS) applicable to project management.
- Examined review and authorization structures and activities.
- Analyzed 34 change orders associated with six contracts completed in CY '17 and '18 (6 projects).
- Conducted root cause analysis attributed to change orders to the extent possible. For this analysis, we relied on agency and expert interviews coupled with the results of our review of change orders.

Background

- A change order is a written alteration that is issued to modify or amend a contract or purchase order. In reference to construction contracts, change orders are generally issued for unanticipated conditions encountered during construction that are not covered by the drawings, plans, or specification of the project.

- Change orders at VW are referred to as:
  - Pending Change Orders (PCO)
  - Contract Change Orders (CCO)
  - Directed Change Orders (DCO)

- Change orders are possible on nearly all construction projects. The goal is to minimize the number of change orders issued on projects because the more change orders issued, the higher risk of cost overruns, project completion delays, and unnecessary work.

- Change order management and administration will take on added importance to VW stemming from future plans to complete 67 projects over the next 15 years at a cost of over $5.157B.

Audit Findings

Finding 1: Opportunities are Present to Better Align Valley Water (VW) Change Order Management and Administration to Leading Practices

A. Policies and procedures can be updated to address the latest in change order practices.

- 22 of 30 change order best practices are addressed in VW policies
- Examples of other best practices that are not addressed in VW policies and procedures include:
  - Use of Independent Cost Estimates
  - Prohibit commencement of work until approval of change orders
  - Establish advisory body to support change order management and administration
  - Centralization of some support service activities

VW's change order policies and procedures are not currently designed to mitigate potential risks that could occur on large–scale construction projects

Audit Findings

Finding 2: Change Order Management and Administration Needs Uniform Implementation or Other Enhancements

A. Official forms should capture reasons for the changes.

B. Final and balancing change orders need consistent preparation.

C. Contingency budget development should consider potential risks.

D. Delegation of approval authority of change orders needs consistency.

E. Cost reductions on capital projects should be consistently processed through change orders.

F. Separating change orders to retain staff approval authority should be avoided

G. QEMS can be expanded and enhanced

    1. Incorporate existing Valley Water practices onto QEMS project reports
    2. Enhance the close-out checklist by including a review of open COs and PCOs
    3. Consistently implement document Q-751-01
    4. Clarify Section 11, Appendix A, (Q-751-013, Capital Project Delivery)
    5. Enhance the risk management process document W-710-128

Audit Findings

Finding 3: Root Cause of Change Orders is Attributed to the Absence of Strong Support Systems

A. Root cause analysis (RCA) is a methodological technique designed to pinpoint the precise cause of an occurrence of a single or set of events or problems.

B. The likely root cause for change orders is the absence of strong support systems to aid project and construction managers. These support systems include:
   - Enhanced oversight of the design process. DRB members said constructability reviews, conducted by experts independent of the design process, are an effective method to prevent change orders for both projects designed by Valley Water staff and projects designed by consultants.
   - Robust project management training programs.
   - Enhanced change order policies and procedures.
   - Enhanced quality assurance forms.
   - Utilization of an advisory body that would support decision-making on change orders.

C. Without development of new and enhanced support systems, VW can likely expect an increase of change orders on future capital construction projects.

Recommendations

Recommendations:

1. To mitigate the potential service and financial risks created by the issuance of change orders, especially on large-scale projects, we recommend that the Chief Executive Officer (CEO) update capital construction change order policies and procedures applicable to large-scale projects to:
   a. Require an Independent Cost Estimate (ICE) for capital construction change orders.
   b. Use a separate advisory body to review and recommend the approval of change orders.
   c. Prohibit commencement of work until after change order approval.
2. To help mitigate the occurrence of change orders, the CEO should enhance constructability reviews as part of the construction project design phase with the addition of independent subject matter experts to the review team.

Recommendations

Recommendations:

3. To add and enhance support structures to aid project and construction managers in delivering capital projects, the CEO should enhance the review and approval process for change orders (including potential change orders, contract change orders, and directed change orders) on capital construction projects that are new to Valley Water and/or whose project costs exceed $100M. Options include:

   a. Add external subject matter experts to the existing CIP Committee and meet on a frequent schedule to review project progress and make recommendations to the Board of Directors on all change orders.

   Or,

   b. Create a Project Steering Committee for each new project to review project progress and provide authority to review and approve change orders. The Committee should include a Board of Director member, Valley Water management, project, and construction manager, external subject matter experts, outsourced legal construction contract counsel, and a representative from the Purchasing and Consulting Contracts Services Unit.

Recommendations

Recommendations:

4. To further add and enhance project support structures, the CEO should create a PMO (or restructure the current Capital Program Planning and Analysis Unit) for all capital construction projects. The roles and responsibilities of the PMO will be to ensure consistent and uniform implementation of project management standards; manage and administer the change order process; consolidate, analyze, and disseminate lessons learned activities and historical project information for future project planning; coordinate projects and resources; and to serve as the information source for executive staff and committees.
5. To support the centralization of procurement activities, the CEO should transfer the responsibility to administer procurement activities on capital projects (i.e. RFP preparation and bid processing) from the Capital Program Planning and Analysis Unit to Valley Water's Purchasing and Consultant Contracts Services Unit. The PMO should assume responsibility for contract administration and change order management upon execution of the contract by the Purchasing and Consultant Contracts Services Unit. The Purchasing and Consultant Contracts Services Unit can also embed an employee into the PMO to oversee change order management or administer an oversight role in coordinating updated change order policies and procedures, and conduct spot audits to ensure change orders comply with contractual terms and conditions.

Recommendations

Recommendations:

6. To promote uniform implementation of change order management and administration, the CEO should:
   a) Develop and establish specific criteria for establishing contingency budgets for change orders that consider project complexity and size, such as $0 contingency for capital projects less than $100,000 ranging to an amount over $1M for projects over $500M eliminating the need for the Board of Directors to separately approve contingency budgets for each capital construction contract.
   b) Update the Quality and Environmental Management System (QEMS) forms to:
      - Develop templates within the Capital Improvement Program Planning document to provide clarification on how the Quality Records should be completed.
      - Add a step in the Close-Out Checklist for the review of open change orders and potential change orders.
      - Enhance the Risk Management Process document to include a review of similar projects in the Capital Improvement Program Historical Information Retrieval (CIPHIR) tool to identify additional project risks and corrective actions that may not have been previously identified.
   c) Enhance project management training to address change order management and administration, including negotiation, pricing analysis, and contract closeout activities.

NEXT STEPS

August 28: Issue the draft report for formal agency comment to the recommendations.

15 working days for review.

October: Present the final report to the Board Audit Committee

Valley Water

File No.: 19-0694

Agenda Date: 8/28/2019
Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM

Board Audit Committee

SUBJECT:
Review and Update 2019 Board Audit Committee Work Plan.

RECOMMENDATION:
Review and make necessary adjustments to the 2019 Board Audit Committee Work Plan.

SUMMARY:
Under direction of the Clerk, Work Plans are used by all Board Committees to increase Committee efficiency, provide increased public notice of intended Committee discussions, and enable improved follow-up by staff. Work Plans are dynamic documents managed by Committee Chairs, and are subject to change. Committee Work Plans also serve as Annual Committee Accomplishments Reports.

The 2019 Board Audit Committee Work Plan is included in Attachment 1.

ATTACHMENTS:
Attachment 1: 2019 Committee Work Plan

UNCLASSIFIED MANAGER:
Darin Taylor, 408-630-3068

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BOARD AUDIT COMMITTEE 2019 WORKPLAN

January 1, 2019 to December 31, 2019

#	ACTIVITY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	NOTES
	Board Audit Committee Meeting Dates													
1	Meeting Dates	•				•	•		•		•		•	On-going.
	Board Audit Committee Management													
2	Draft Audit Charter	•												Complete.
3	Finalize Audit Charter						•							Full Board approval of Audit Charter planned for August 2019.
4	Review and update BAC Work Plan	•				•	•		•		•		•	On-going.
5	Review and Update Annual Audit Work Plan						•		•		•		•	Full Board approved Annual Audit Work Plan on 6/25/19.
6	Prepare risk assessment tri-annually													Next Risk Assessment scheduled to be completed in October 2021.
7	Evaluate Board Auditor performance												•	
8	Provide status report to full Board quarterly													Report to be provided to Board in non-agenda the month after each BAC meeting.
9	Receive training from independent auditor annually													Scheduled for first meeting in 2020.
10	Conduct self evaluation annually													Scheduled for first meeting in 2020.
11	External Financial Auditor meeting with individual Board members													Schedule as needed.
	Board Audit Committee Special Requests													
12	Review staff CAS update every 6 months										•			On-going. Combined with Procurement/CAS Mgmt Audit Review for Oct 2019 BAC mtg.
13	Review staff Form 700 procedure presentation					•								Complete.
14	Review staff presentation on QEMS & ISO Certification					•								Complete.
15	Review information on ISO Certification at other agencies					•								Complete.
	Management and 3rd Party Audits													
16	Review QEMS Annual Report													Scheduled for early 2020.

Note: The • denotes that an item is on the BAC meeting agenda for the corresponding month in which the • is listed. The shading represents that the items have been completed.

Attachment 1

BOARD AUDIT COMMITTEE 2019 WORKPLAN

January 1, 2019 to December 31, 2019

#	ACTIVITY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	NOTES
17	Participate in financial statement audit procurement process													Next procurement scheduled for January 2022.
18	Review draft audited financial statements												•	Financial auditor to present and contact Board members.
19	Review Procurement/CAS Management Audit Report										•			
20	Water Utility Fund Audit								•					Revenue/Cost Allocation audit between North/South zones. Results available at August BAC Meeting.
21	FEMA Audits													FEMA National Flood Insurance Program Community Rating System 5-year Verification Audit to begin 8/6/19. Completion TBD.
22	Grant Audits													No upcoming audits.
23	CalPERS Employment of Retired Annuitants Audit						•							Audit Results: Valley Water did not fully complete the process of enrolling/reporting the hours of 3 out of 30 retired annuitants. Staff reported having made the required adjustments since the audit was conducted.
24	CalPERS Special Compensation Audit													In the process of reclassifying the plant operators' shift premium payments retroactively to 2013 as the last step to complete this audit. Staff will bring the audit report to the BAC meeting immediately following the availability of results.
25	CalPERS Temporary Upgrade Pay Audit													Audit to determine whether teporary upgrade pay reported by employers was in compliance with the Public Employees' Retirement Law. Auditors scheduled to perform audit onsite on 8/12/19 - 8/13/19. Staff will bring the audit report to the BAC meeting immediately following the availability of results.
	Audit - Lower Silver Creek													
26	Review Lower Silver Creek Final Draft Audit Report	•												Complete. Final Audit Report presented to full Board on 2/26/19.

Note: The • denotes that an item is on the BAC meeting agenda for the corresponding month in which the • is listed. The shading represents that the items have been completed.

BOARD AUDIT COMMITTEE 2019 WORKPLAN

January 1, 2019 to December 31, 2019

#	ACTIVITY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	NOTES
27	Review Lower Silver Creek Final Draft Mgmt Response	•												Complete.
	Audit - Change Order													
28	Initiate Change Order Audit			•										Complete.
29	Review Change Order Audit Progress Report						•		•		•		•	On-going until audit complete.
30	Review Change Order Audit Draft Report Presentation										•			
31	Review Response to Change Order Audit Final Draft Report												•	
	Audit - District Counsel (Tentative)													
32	Initiate District Counsel Audit					•								
33	Review District Counsel Audit Progress Report						•		•		•		•	On-going until audit complete.
34	Review District Counsel Audit Draft Report Presentation												•	
35	Review Response to District Counsel Audit Final Draft Report												•	
	Audit - Real Estate (Tentative)													
36	Initiate Real Estate Audit					•								
37	Review Real Estate Audit Progress Report						•		•		•		•	On-going until audit complete.
38	Review Real Estate Audit Draft Report Presentation												•	
39	Review Response to Real Estate Audit Final Draft Report												•	

Note: The • denotes that an item is on the BAC meeting agenda for the corresponding month in which the • is listed. The shading represents that the items have been completed.

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File No.: 19-0696 **Agenda Date:** 8/28/2019
Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM

Board Audit Committee

SUBJECT:
Audit Report of the Water Utility Enterprise Funds for the Fiscal Year Ended June 30, 2018.

RECOMMENDATION:
Receive and discuss the Audit Report of the Water Utility Enterprise Funds for the Fiscal Year Ended June 30, 2018.

SUMMARY:
In 2006, Valley Water began conducting an annual Water Utility Fund Audit to assess the reasonableness of the direct and indirect cost allocations between the North County (Zone W-2) and South County (Zone W-5) zones. The audit was initiated to respond to water retailers' and constituents' inquiries on groundwater production charges.

As part of Valley Water's core water supply function, two major water utility zones form the basis for establishing Valley Water's water charges. Water charges are set separately for each zone, reflecting Valley Water activities carried out in each.

Zone W-2 encompasses the Santa Clara Valley groundwater basin north of Metcalf Road. It includes those groundwater producing facilities that benefit from recharge with local and imported water. Zone W-5 comprises the entire Llagas groundwater basin from Metcalf Road south to the Pajaro River.

The report entitled "Water Utility Enterprise Funds of the Santa Clara Valley Water District - Annual Financial Report for the Fiscal Year Ended June 30, 2018," which encompasses the Water Utility Fund financial statements and independent auditor's opinion, is provided as Attachment 1. The report is presented in the format prescribed under Generally Accepted Accounting Principles. The report and accompanying audit opinion indicate that the Water Utility fund financial statements are fairly stated in all material respects and that there were no findings.

In addition, Attachment 1 includes a Schedule of Revenues and Expenses by Zone, which is also fairly stated, in all material respects, in relation to the basic financial statements as a whole according to the report.

ATTACHMENTS:
Attachment 1: 2018 WUE Audit

UNCLASSIFIED MANAGER:

Darin Taylor, 408-630-3068

WATER UTILITY ENTERPRISE FUNDS
OF THE
Santa Clara Valley Water District

San Jose, California

Annual Financial Report
For the Fiscal Year Ended June 30, 2018

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WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICT
Annual Financial Report
For the Year Ended June 30, 2018

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VAVRINEK, TRINE, DAY & CO., LLP
Certified Public Accountants

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INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Santa Clara Valley Water District
San Jose, California

Report on the Financial Statements

We have audited the accompanying financial statements of the Water Enterprise Fund and the State Water Projects Fund (Funds) of the Santa Clara Valley Water District (District) as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Funds basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Funds, as of June 30, 2018, and the respective changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

260 Sheridan Ave., Suite 440, Palo Alto, CA 94306 P 650.462.0400 F 650.462.0400 W vtdcpa.com

Emphasis of Matter
As described in Note 2, the financial statements present only the Funds and do not purport to, and do not, present fairly the financial position of the District, as of June 30, 2018, and the changes in its financial position, for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters
Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in net pension liability and related ratios, schedule of employer pension contributions and schedule of changes in net OPEB liability and related ratios, schedule of employer OPEB contributions, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information
Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the District's basic financial statements. The Schedule of Revenues and Expenses by Zone, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The Schedule of Revenues and Expenses by Zone is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Revenues and Expenses by Zone is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*
In accordance with *Government Auditing Standards*, we have also issued our report dated December 21, 2018, on our consideration of the District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the District's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over financial reporting and compliance.

Vavrinek, Trine, Day & Co. LLP

Palo Alto, California
June 30, 2019

WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICT

Management's Discussion and Analysis

Our discussion and analysis of the financial performance of the Santa Clara Valley Water District's Water Utility Enterprise Funds (the "Funds") provide an overview of the Funds financial activities for the fiscal year ended June 30, 2018. This information is presented in conjunction with the audited financial statements that follow this section.

The Funds account for the management and supply of wholesale treated water, groundwater, recycled water, and surface water for the residents of Santa Clara County. The Funds are separate enterprise funds of the Santa Clara Valley Water District (District) that were established to account for the water utility transactions of the District. The Funds are comprised of two funds – Water Enterprise Fund and State Water Project Fund. The Water Enterprise Fund is used to record ongoing water utility operations, with revenues comprised primarily of charges to the District's groundwater and treated water customers. The State Water Project Fund is used to account for state water project tax revenue and state water project contractual costs.

Because service needs are different in the northern and southern portions of the county, operations and expenditures are tracked separately based on the relative benefits to the North County and South County zones. Likewise, the District's water charges between the two zones are set independently.

The District engaged Vavrinek, Trine, Day & Co., LLP to conduct the audit of the District's Funds for the fiscal year ended June 30, 2018. The purpose of the audit was to analyze the reasonableness of the allocations of cost and revenue between the two groundwater charge zones within the Funds, the North County zone, and the South County zone.

Overview of the Financial Statements

The accounting policies of the Funds of the Santa Clara Valley Water District conform to accounting principles generally accepted in the United States of America as prescribed by the Governmental Accounting Standards Board (GASB).

The financial statements of the Funds, as presented here, are for the District's Water Enterprise Funds activities only and do not reflect the financial position of the Santa Clara Valley Water District as a whole. The Funds are accounted for as proprietary-type funds, where the cost of providing goods and services to the general public are financed and recovered primarily through user charges.

The following items comprise the statements of the Funds:

- *The Statement of Net Position* presents information on the Funds' assets, deferred outflow of resources, deferred inflow of resources and liabilities, with the difference reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Funds is improving or deteriorating.

- *The Statement of Revenues, Expenses and Changes in Net Position* provides information about the Funds' revenues and expenses on an accrual basis.

- *The Statement of Cash Flows* provides relevant information on the Funds' cash receipts and cash payments during the period. This statement presents changes in the Funds' cash and cash equivalents resulting from operating, noncapital financing, capital and related financing, and investing activities.

- *The Notes to Basic Financial Statements* provide additional information that is essential to a better understanding of the data provided in the Funds' financial statements.

The Funds record the financial transactions in a manner similar to a private business enterprise. Operations are recorded at full accrual and accounted for to show net income or loss. The Funds are intended to be entirely or predominantly self-supported by user charges.

Financial Highlights

Water Utility Enterprise Funds Net Position
(Dollars in Thousands)

	2018	2017
Current and other assets	$ 244,388	$ 200,240
Capital assets	1,133,623	1,061,689
Other non current assets	373	24,722
Total assets	1,378,384	1,286,651
Deferred outflow of resources		
Deferred amount on refunding	454	498
Pension activities	26,160	20,404
OPEB activities	5,465	-
Total deferred outflow of resources	32,079	20,902
Current liabilities	125,881	71,652
Long-term liabilities outstanding	557,692	521,676
Total liabilities	683,573	593,328
Deferred inflow of resources		
Pension activities	3,320	3,575
OPEB activities	1,019	-
Total deferred inflow of resources	4,339	3,575
Net position:		
Net investment in capital assets	626,514	623,828
Restricted	58,679	52,118
Unrestricted	37,358	34,704
Total net position	$ 722,551	$ 710,650

The total net position of the Funds amounted to $722.6 million at June 30, 2018. The largest portion of the Funds' net position (86.7% or $626.5 million) reflects investment in capital assets (e.g., land, buildings, infrastructure, machinery, equipment, and contract water rights) less any related debt outstanding used to acquire the capital assets. These capital assets are used to provide services to citizens and consumers. Consequently, these assets are not available for future spending. Although the Funds' investment in its capital assets is reported net of related debts, it should be noted that the resources needed to repay this debt must be provided from other sources since the capital assets themselves cannot be used to liquidate these liabilities.

Investment in capital assets, net of related debt, increased by $2.7 million or 0.4% from the previous fiscal year. Capital assets, net of depreciation and amortization, increased by $71.9 million. Long term liabilities, which include related debt outstanding, went up by $36.0 million.

Current fiscal year major additions to capital assets for business type activities include the following (in millions):

- $31.7 - Rinconada Water Treatment Plant Reliability Improvement
- $21.6 - 10-year Pipeline and Rehabilitation
- $9.1 - Anderson Dam Seismic Retrofit
- $4.4 - Calero Dam Seismic Retrofit Design and Construction
- $3.9 - Pacheco Conduit Rehabilitation
- $3.3 - Indirect Potable Reuse
- $3.2 - Penitencia Force Main Seismic Retrofit
- $3.0 - Guadalupe Dam Seismic Retrofit Design and Construction
- $2.0 - Rinconada Water Treatment Plant Facility Renewal Program Residual Management Modifications
- $1.3 - Dam Safety Seismic Stability
- $1.2 - Wolfe Road Recycled Water Facility

Net position categorized as "unrestricted" may be used to meet ongoing obligations to citizens, customers, and creditors. The Funds' unrestricted net position of $37.4 million represents an increase of $2.7 million or 7.6% when compared to the prior fiscal year.

Water Utility Enterprise Funds Change in Net Position
(Dollars in Thousands)

	2018	2017
Revenues:		
Ground water charges	$ 97,483	$ 67,937
Treated water charges	132,477	122,212
Surface and recycled water charges	1,041	747
Operating grants	4,396	2,037
Capital grants and contributions	4,350	17,527
Property taxes	37,417	44,786
Investment income	1,267	979
Miscellaneous	6,428	2,527
Total revenues	284,859	258,752
Expenses:		
Operating expenses	216,876	185,941
Nonoperating and other expenses	16,050	17,575
Total expenses	232,926	203,516
Change in net position before transfers	51,933	55,236
Transfers	(8,225)	1,902
Change in net position	43,708	57,138
Net position, beginning	710,650	653,512
Prior period adjustment, beg. OPEB liability	(31,807)	-
Net position, ending	$ 722,551	$ 710,650

Net position of the Funds of $722.6 million increased by $11.9 million compared to the prior fiscal year. Total revenues and expenses amounted to $284.9 million and $232.9 million, respectively. Net transfers out lowered the ending net position by $8.2 million.

Compared to the prior fiscal year, total revenues increased $26.1 million and expenses increased $29.4 million. Key elements of the changes in revenues and expenses from prior year are as follows:

- Water charges for services were $40.1 million or 21% higher than last fiscal year, reflecting the increase in rates and volume. Groundwater revenue increased $29.5 million or 43.5% and treated water revenue increased $10.3 million or 8.4%.

- Capital grants and contributions decreased $13.2 million due to lower capital cost reimbursements received.

- Property taxes were $7.4 million or 16.5% lower than last fiscal year, reflecting lower State tax requirements needed to fund State Water project contract obligations.

- Water enterprise expenses increased by $29.4 million or 14.5% from the prior year. $17.7 million of the increase was related to higher water supply and water treatment costs. The balance of the increase was due to increased expenditures for technical and consultant services and higher salary and benefits paid to employees.

Water Utility Enterprise Funds Schedule of Revenues and Expenses
(Budgetary Basis)
(Dollars in Thousands)

	North County[1]		South County		Total	
	2018	2017	2018	2017[2]	2018	2017(2)
Operating revenues:						
Ground water charges	$ 84,747	$ 56,579	$ 12,736	$ 11,358	$ 97,483	$ 67,937
Treated water charges	132,477	122,212	-	-	132,477	122,212
Surfaced and recycled water charges	401	275	640	472	1,041	747
Total water charges	217,625	179,066	13,376	11,830	231,001	190,896
Operating grants	4,325	1,896	71	141	4,396	2,037
Other	4,217	172	-	-	4,217	172
Total operating revenues	226,167	181,134	13,447	11,971	239,614	193,105
Operating expenses:						
Source of supply	86,215	85,707	9,562	9,198	95,777	94,905
Water treatment	36,719	33,591	257	62	36,976	33,653
Transmission and distribution:						
Raw water	10,735	10,799	3,736	3,137	14,471	13,936
Treated water	1,466	1,496	-	-	1,466	1,496
Cost of goods sold	135,135	131,593	13,555	12,397	148,690	143,990
Administration and general	21,537	16,507	3,841	3,617	25,378	20,124
Capital cost recovery	(4,387)	(3,801)	4,387	3,801	-	-
Total operating expenses	152,285	144,299	21,783	19,815	174,068	164,114
Operating income (loss)	73,882	36,835	(8,336)	(7,844)	65,546	28,991
Non-operating income (expenses):						
Property taxes	34,085	41,074	3,332	3,712	37,417	44,786
Investment income	1,267	979	-	-	1,267	979
Rental income	81	79	34	33	115	112
Other	1,882	2,048	214	195	2,096	2,243
Interest/fiscal agent fees	(16,050)	(17,575)	-	-	(16,050)	(17,575)
Open space credit transfer	(8,075)	(7,372)	8,075	7,372	-	-
Interest earned credit	(121)	(94)	121	94	-	-
Net non-operating income	13,069	19,139	11,776	11,406	24,845	30,545
Net income (loss)	$ 86,951	$ 55,974	$ 3,440	$ 3,562	$ 90,391	$ 59,536

(1) The 2018 North County amounts are presented on a budgetary basis. In addition, the 2017 amounts were restated and represented on a budgetary basis for comparability purposes.

(2) Fiscal year 2017 capital cost recovery, open space credit transfer, and interest earned credit allocations between the North and South County were restated to reflect corrections resulting in a decrease in North County income and an increase in South County income of $1.2 million.

Budgetary basis discussion:

- The Funds' total operating revenues were $239.6 million during the current fiscal year. 94.4 percent of those revenues, or $226.2 million were related to the North County, while the remaining 5.6 percent or $13.4 million were related to the South County.

- Operating grants applied for and received were $4.3 million and $71 thousand for the North County and South County, respectively. These grants helped to fund water conservation, landscape water efficiency, raw water field maintenance and operations, and recycled/reclaimed water programs.

- Operating expenses for the North County include $135.1 million in cost of goods sold, or 59.8 percent of its total operating revenues. For the South County, cost of goods sold is $13.6 million or 100.8 percent of its total operating revenues.

- Administration and general expenses were 9.5 percent of total operating revenues in the North County and 28.6 percent of total operating revenues in the South County.

- Total operating revenues of $239.6 million, less total operating expenses of $174.1 million, netted $65.5 million of income from operations. The North County registered a net operating gain of $73.8 million, while the South County suffered a loss of $8.3 million.

Income from operations was supplemented with property tax and investment earnings totaling $38.7 million.

- Property taxes collected in the North County amounted to $34.1 million, while $3.3 million were collected in South County for a total of $37.4 million. These are comprised of the voter approved obligations for State Water Project and the water utility's allocated share of the countywide 1 percent ad valorem taxes.

- Due to higher yields realized in the current fiscal year, investment earnings of $1.3 million were up by 29.4 percent compared to the $979 thousand earned during the previous fiscal year.

The following table shows the rates for water services for fiscal year 2018

Water Utility Enterprise Funds Rate Summary

	Rate
Groundwater	
North County – Agricultural	$ 25.09
North County – Non-Agricultural	1,175.00
South County – Agricultural	25.09
South County – Non-Agricultural	418.00
Treated Water	
Contract (Scheduled)(2)	1,275.00
Non-Contract(3)	1,225.00
Surface Water (Basic User Charge)	
North County – Agricultural	25.09
North County – Non-Agricultural	1,175.00
South County – Agricultural	25.09
South County – Non-Agricultural	418.00
Water Master(1)	33.36
Minimum Surface Water Charge	
North County – Non-Agricultural	881.25
South County – Non-Agricultural	313.50
North County – Agricultural	18.82
South County – Agricultural	18.82
Reclaimed Water	
Gilroy Reclamation Facility – Agricultural	48.88
Gilroy Reclamation Facility – Non-Agricultural	398.00

(1) The surface water charge is the sum of the basic user charge plus the water master charge.

(2) The total treated water contract charge ($1,275.00/AF) is the sum of the basic user charge ($1,175.00/AF) plus the contract surcharge ($100.00/AF).

(3) The total treated water non-contract charge ($1,225.00/AF) is the sum of the basic user charge ($1,175.00/AF) plus the non-contract surcharge ($50.00/AF).

Capital Assets

The Funds' capital asset balance, net of accumulated depreciation, amounts to $1.13 billion at June 30, 2018. Capital asset composition includes land, intangible rights, buildings, structures and improvements, machinery and equipment, and construction in progress. Capital assets for the current fiscal year went up $71.9 million or 6.8%.

A fiscal year comparative breakdown of the categories of capital assets for the Funds is shown below.

Water Utility Enterprise Funds Capital Assets
(Net of Accumulated Depreciation)
(Dollars in Thousands)

	2018	2017
Land	$ 19,180	$ 19,180
Easements	162	162
Contract water and storage rights	43,333	45,757
Buildings	82,656	84,533
Structures and improvements	585,049	599,122
Equipment	5,401	6,406
Construction in progress	397,842	306,529
Total	$ 1,133,623	$ 1,061,689

Additional information on the Funds capital assets activity for fiscal year 2018 is shown in Note 6 of this report.

Debt Administration

The Funds' total long-term debts at June 30, 2018 amount to $571.2 million. A comparative breakdown of its long-term debts is shown below:

Water Utility Enterprise Funds Outstanding Debt Obligations
(Dollars in Thousands)

	2018	2017
Bonds payable	$ 386,335	$ 394,655
Compensated absences	5,168	4,990
Net pension liability	100,278	89,563
Semitropic water banking	8,150	4,473
Other post employment benefits	33,814	(516)
Bond discount	(147)	(155)
Premium on bond issue	37,587	39,101
Total	$ 571,185	$ 532,111

Total long-term debts increased by $39.1 million during the current fiscal year, mainly from the increases in net other post employment (OPEB) and pension liability of $34.3 million and $10.7 million, respectively. Outstanding bonds payable dropped $8.3 million from principal payments made during the year.

The credit ratings of the Funds' senior lien obligations (Series 2006B and 2007B) are Aa1 from Moody's and AA- from S&P. The Fund's parity lien obligations (Series 2016ABCD and Series 2017A) are rated Aa1 from Moody's and AA+ from Fitch.

Additional information on the Funds' long-term liabilities can be found in Note 7(b) of this report.

Economic Factors and Next Year's Budgets and Rates

The District's $509.9 million budget for fiscal year 2019 will focus on the following initiatives:

- Infrastructure maintenance and construction needs (ensuring dam safety, managing infrastructure for reliability, care of District facilities and assets)
- Funding for capital projects (shortage of federal funding, coordinated planning of permitting efforts, environmental stewardship efforts)
- Advancing the District's interests in countywide stormwater resource planning
- Coyote Creek flood response
- Making key decisions regarding the California Water Fix
- Advancing recycled and purified water efforts
- Finalizing the Fisheries and the Aquatic Habitat Collaborative Effort (FAHCE)
- Pursuing efforts to increase water storage opportunities
- Advancing diversity and inclusion efforts

Requests for Information

This financial report is designed to provide citizens, taxpayers, customers, investors, and creditors of the North and South Counties with a general overview of the Funds' finances and to demonstrate accountability for the money that the Funds receive. If you have any questions about this report or need any additional information, contact the General Accounting Unit at 5750 Almaden Expressway, San Jose, CA 95118, or call (408) 265-2600.

Basic Financial Statements

WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICT
Statement of Net Position
June 30, 2018
(Dollars in Thousands)

	Water Enterprise Fund	State Water Project Fund	Total
ASSETS			
Current assets:			
Cash and investments (Note 3)	$ 184,601	$ 12,938	$ 197,539
Receivables:			
Accounts	36,833	11	36,844
Taxes	46	150	196
Deposits and other assets	9,809	-	9,809
Total current assets	231,289	13,099	244,388
Non current assets:			
Restricted cash and investments (Note 3)	212	-	212
Prepaid insurance on bond issuance	161	-	161
Capital assets: (Note 6)			
Contract water rights, net	26,334	16,999	43,333
Depreciable, net	673,106	-	673,106
Nondepreciable	417,184	-	417,184
Total non current assets	1,116,997	16,999	1,133,996
Total assets	1,348,286	30,098	1,378,384
DEFERRED OUTFLOWS OF RESOURCES			
Deferred amount on refunding	454	-	454
Deferred outflows of resources - pension activities	26,160	-	26,160
Deferred outflows of resources - OPEB	5,465	-	5,465
Total deferred outflows of resources	32,079	-	32,079
LIABILITIES			
Current liabilities:			
Accounts payable	19,962	321	20,283
Accrued liabilities	5,705	-	5,705
Commercial paper (Note 7)	75,800	-	75,800
Deposits payable	9,393	-	9,393
Unearned revenue	1,207	-	1,207
Bonds payable - current (Note 7)	12,296	-	12,296
Compensated absense	1,197	-	1,197
Total current liabilities	125,560	321	125,881
Non current liabilities:			
Bonds payable - net of discounts and premiums (Note 7)	411,479	-	411,479
Compensated absense	3,971	-	3,971
Net pension liability (Note 10)	100,278	-	100,278
Other post employment benefits liability (Note 11)	33,814	-	33,814
Other Debt	8,150	-	8,150
Total non current liabilities	557,692	-	557,692
Total liabilities	683,252	321	683,573
DEFERRED INFLOWS OF RESOURCES			
Deferred inflows of resources - pension activities	3,320	-	3,320
Deferred inflows of resources - OPEB	1,019	-	1,019
Total deferred inflows of resources	4,339	-	4,339
NET POSITION (Note 9)			
Net investment in capital assets	609,515	16,999	626,514
Restricted			
Debt service	212	-	212
San Felipe operations	3,040	-	3,040
State water projects	-	12,778	12,778
Rate stabilization	21,066	-	21,066
Advance water purification	1,906	-	1,906
Supplemental water supply	14,677	-	14,677
Drought reserve	5,000	-	5,000
Unrestricted	37,358	-	37,358
Total net position	$ 692,774	$ 29,777	$ 722,551

See accompanying notes to basic financial statements.

WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICT

Statement of Revenues, Expenses and Changes in Net Position
For the Year Ended June 30, 2018
(Dollars in Thousands)

	Water Enterprise Fund	State Water Project Fund	Total
Operating revenues:			
Ground water production charges	$ 97,483	$ -	$ 97,483
Treated water charges	132,477	-	132,477
Surface and recycled water revenue	1,041	-	1,041
Other	4,217	-	4,217
Total operating revenues	235,218	-	235,218
Operating expenses:			
Sources of supply	76,272	28,772	105,044
Water treatment	37,772	-	37,772
Transmission and distribution:			
Raw water	15,197	-	15,197
Treated water	1,631	-	1,631
Administration and general	27,789	-	27,789
Depreciation and amortization	28,499	944	29,443
Total operating expenses	187,160	29,716	216,876
Operating income (loss)	48,058	(29,716)	18,342
Nonoperating revenues (expenses):			
Property taxes (Note 8)	7,088	30,329	37,417
Investment income (Note 5)	1,267	-	1,267
Operating grants	4,396	-	4,396
Rental income	115	-	115
Other	884	1,212	2,096
Interest and fiscal agent fees	(16,050)	-	(16,050)
Net nonoperating revenues	(2,300)	31,541	29,241
Income before capital contributions and transfers	45,758	1,825	47,583
Capital contributions (Note 4)	4,350	-	4,350
Transfers in (Note 13)	3,252	-	3,252
Transfers out (Note 13)	(11,477)	-	(11,477)
Change in net position	41,883	1,825	43,708
Net position, beginning of year	682,698	27,952	710,650
Prior period adjustment			
Beginning OPEB liability and deferrals (Note 14)	(31,807)	-	(31,807)
Net position, beginning of year, as restated	650,891	27,952	678,843
Net position, end of year	$ 692,774	$ 29,777	$ 722,551

See accompanying notes to basic financial statements.

WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICT

Statement of Cash Flows

For the Year Ended June 30, 2018

(Dollars in Thousands)

	Water Enterprise Fund	State Water Project Fund	Total
Cash flows from operating activities:			
Receipts from customers and users	$ 233,467	$ (2)	$ 233,465
Payments to suppliers	(114,454)	(28,451)	(142,905)
Payments to employees	(42,480)	-	(42,480)
Reimbursement/(payments) for interfund charges	4,859	-	4,859
Net cash provided by (used for) operating activities	81,392	(28,453)	52,939
Cash flows from noncapital financing activities:			
Property taxes received	7,119	30,489	37,608
Operating grants	4,396	-	4,396
Well permits, refunds and adjustments	884	1,212	2,096
Transfers in - open space credit	3,252	-	3,252
Transfers out to other funds	(11,477)	-	(11,477)
Net cash provided by noncapital financing activities	4,174	31,701	35,875
Cash flows from capital and related financing activities:			
Payments on COP/revenue bonds	(9,773)	-	(9,773)
Issuance of commercial papers	51,570	-	51,570
Capital grants	4,350	-	4,350
Interest and fiscal agent fees paid	(17,522)	-	(17,522)
Payment for contract water rights	(9,354)	-	(9,354)
Acquisition and construction of capital assets	(92,005)	-	(92,005)
Net cash used by capital and related financing activities	(72,734)	-	(72,734)
Cash flows from investing activities:			
Proceeds from sale (purchase of) of investments	23,824	-	23,824
Rental income received	115	-	115
Interest received on cash and investments	1,267	-	1,267
Net cash provided by investing activities	25,206	-	25,206
Net increase/(decrease) in cash and cash equivalents	38,038	3,248	41,286
Cash and cash equivalents, beginning of year	146,563	9,690	156,253
Cash and cash equivalents, end of year	$ 184,601	$ 12,938	$ 197,539
Cash and cash equivalents are reported on the Statement of Net Position:			
Cash and investments	$ 184,601	$ 12,938	$ 197,539
Restricted cash and investments	212	-	212
Less cash and investments not meeting the definition of cash equivalents	(212)	-	(212)
Cash and cash equivalents, end of year	$ 184,601	$ 12,938	$ 197,539
Reconciliation of operating income (loss) to net cash provided by operating activities:			
Operating income (loss)	$ 48,058	$ (29,716)	$ 18,342
Adjustments to reconcile operating income (loss) to net cash provided (used) by operating activities:			
Depreciation, amortization and asset deletion	28,478	944	29,422
Change in operating assets and liabilities:			
(Increase)/decrease in deposits and other assets	(1,300)	-	(1,300)
(Increase)/decrease in accounts receivable	(1,751)	(2)	(1,753)
Increase/(decrease) in accounts payable	1,362	321	1,683
Increase/(decrease) in accrued liabilities	(1,412)	-	(1,412)
Increase/(decrease) in compensated absences	179	-	179
Increase/(decrease) in deposits payable	1,319	-	1,319
Increase/(decrease) in other post employment benefits payable	2,523	-	2,523
Increase/(decrease) in deferred outflow/inflow of resources	(10,458)	-	(10,458)
Increase/(decrease) in pension liabilities	10,716	-	10,716
Increase/(decrease) in payable to Semitropic	3,678	-	3,678
Net cash provided (used) by operating activities	$ 81,392	$ (28,453)	$ 52,939
Noncash investing, capital, and financing activity:			
Purchase of capital assets on account	$ -	$ -	$ -

See accompanying notes to basic financial statements.

(1) THE FINANCIAL REPORTING ENTITY

(a) Description of the Reporting Entity

Santa Clara Valley Water District (District) is a special district created by an act of the legislature of the State of California (State) in 1951 and as amended. The District encompasses all of Santa Clara County.

The District is governed by a seven member Board of Directors (District Board). Each member is elected from equally divided districts drawn through a formal process. The term of office of a director is four years.

On October 12, 2009, Assembly Bill 466 was signed by the Governor of California revising the composition of the board of the District by requiring the board to transition to an all-elected board that, on or after noon on December 3, 2010, consists of seven directors who are elected pursuant to specified requirements. The board also would be required to adopt a resolution establishing boundaries of the seven electoral districts. On May 14, 2010, the Board of Directors adopted a resolution that officially set the boundaries of the seven electoral districts. In November, 2010, two directors were elected to represent the new electoral districts constituting a new board of seven members. As required by state law, the District must redraw its boundaries to reflect 2010 Census results. On October 11, 2011, the Board of Directors adopted Resolution No. 11-63 selecting the Redistricting Plan, known as the Current Adjusted Map.

The District has broad powers relating to all aspects of flood control and storm waters within the District, whether or not such waters have their sources within the District. It is also authorized to store and distribute water for use within its jurisdictional boundaries and authorized to provide sufficient water for present or future beneficial use of the lands and inhabitants of the District. The District acquires, stores, and distributes water for irrigation, residential, fire protection, municipal, commercial, industrial, and all other uses. The District also directly supports the caring for the environment and the community through careful stewardship.

The Water Utility Enterprise Funds (the “Funds”) are separate enterprise funds of the District that were established to account for the water utility related transactions of the District. The Funds supply wholesale treated water, ground water, recycled water, and surface water for the residents of the Santa Clara County. The Funds are comprised of two accounting funds – the Water Enterprise Fund and the State Water Project Fund. The Water Enterprise Fund accounts for ongoing water utility operations, with revenues comprised primarily of charges to the District’s groundwater and treated water customers. The State Water Project Fund accounts for the state water project tax revenue and state water project contractual costs.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Basis of Presentation

Fund Financial Statements

The Water Enterprise Fund and the State Water Project Fund (the Funds) financial statements are prepared in conformity with the generally accepted accounting principles (GAAP) in the United States of America. The Government Accounting Standards Board (GASB) is the acknowledged standard setting body for establishing accounting and financial reporting standards followed by governmental entities in the United States of America. The Funds are included as part of the District's Comprehensive Annual Financial Report. Therefore, the financial statements of the Funds do not purport to represent the financial position and changes in financial position of the District as a whole.

The Funds account for operations that are financed and operated in a manner similar to private business enterprises where the intent of the governing body is that the costs (including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

(b) Basis of Accounting

The Funds financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of when the related cash flows take place. Nonexchange transactions, in which the Funds give (or receives) value without directly receiving (or giving) equal value in exchange, include property taxes, benefit assessments and grants. On an accrual basis, revenues from property taxes and benefit assessments are recognized in the fiscal year for which the taxes and assessments are levied; revenue from grants is recognized in the fiscal year in which all eligibility requirements have been satisfied; and revenue from investments is recognized when earned.

The Funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services in connection with the Funds' principal ongoing operations. The principal operating revenue of the Funds is the sale of water to outside customers. Operating expenses for the Funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses. *Operating* revenues, such as charges for services, result from the exchange transactions associated with the principal activity of the Funds. Exchange transactions are those in which each party receives and gives up essentially equal value. *Non-operating* revenues, such as subsidies and investment earnings, result from non-exchange transactions or ancillary activities.

(c) Cash and Investments

While maintaining safety and liquidity, the District maximizes its investment return by pooling its available cash for investment purposes. Interest earnings are apportioned among funds based upon the average monthly cash balance of each fund and are allocated to each fund on a monthly basis.

The District reported investments in nonparticipating interest earnings contracts (including guaranteed investment contracts) at cost, and all other investments at fair value. The fair value of investments is based on current market prices.

For purposes of the Statement of Cash Flows, the Funds consider all highly liquid investments with a maturity of three months or less when purchased (including restricted investments), and their equity in the cash and investment pool to be cash equivalents.

(d) Inventory

Inventory consists of materials and supplies held for consumption. The cost of all inventory acquired is recorded as an expense at the time of purchase. At the end of the accounting period, the inventory values of materials and supplies on hand are determined using a current cost method which approximates market value. For financial statement purposes inventories are presented under deposits and other assets.

(e) Capital Assets

Capital assets (including infrastructure) are recorded at historical cost or at estimated historical cost if actual historical cost is not available. Contributed capital assets are valued at their estimated acquisition value on the date contributed. The District defines capital assets as assets with an initial, individual cost of more than $5,000 and an estimated useful life in excess of one year. Capital assets including assets under capital leases used in operations are depreciated or amortized using the straight-line method over the lesser of the capital lease period or their estimated useful lives.

The estimated useful lives are as follows:

Water treatment facilities	50 Years
Buildings, structures, and trailers	25 – 50 Years
Flood control projects	30 – 100 Years
Dams	80 Years
Office furniture, fixtures, and equipment	5 - 20 Years
Automobiles and trucks	6 - 12 Years
Computer equipment	5 Years

Maintenance and repairs are charged to operations when incurred. Betterments and major improvements which significantly increase values, change capacities or extend useful lives are capitalized. Upon sale or retirement of capital assets, the cost and related accumulated depreciation are removed from the respective accounts and any resulting gain or loss is included in the results of operations.

(f) Amortization of Contract Water Rights

The District has contracted with the State for water deliveries from the State Water Project through calendar year 2035. A portion of the payments under this contract represent reimbursement of capital costs for transportation facilities (the capital cost component). The Funds capitalize the capital cost component and amortizes such component, using the straight-line method, over the remaining entitlement period.

(g) Amortization of Water Banking Rights

The District has contracted with the Semitropic Water Storage District and its Improvement Districts for the water banking and exchange program. The program is in effect through calendar year 2035. Participation in the program provides the District a 35% allocation for storage rights at the Semitropic Water Storage District facility, totaling 350,000 acre-feet. The Funds have capitalized the cost of the program and amortizes the cost over the 40 year entitlement period using the straight-line method.

(h) Amortization of Water Delivery Rights

The District has contracted with the United States Department of the Interior Bureau of Reclamation for water deliveries from Central Valley through calendar year 2027. A portion of this contract represents reimbursement of capital costs for general construction in the San Felipe Division facilities. The Funds capitalized the capital cost component and amortize such component, using the straight-line method, over the remaining entitlement period.

(i) Receivables

Receivables include amounts due from water utility customers as well as amounts due for property taxes and interest on investments. All receivables are shown net of an allowance for doubtful accounts of $365 thousand.

(j) Accrued Vacation and Sick Leave Pay

It is the policy of the District to permit employees to accumulate earned but unused vacation and sick leave benefits. Vested or accumulated vacation and sick leave are reported as noncurrent liabilities on the statement of net position.

Maximum vacation accruals may not exceed three times the employee’s annual accrual rate, per employee. All regular full-time employees are eligible for twelve (12) days of sick leave per fiscal year. Unused sick leave may be carried forward to the following fiscal year without limitation. Upon retirement, up to 480 hours of accrued sick leave shall be paid to the eligible employee at the rate of 50% of the equivalent cash value. Upon resignation with ten or more years of service, or upon separation by layoff regardless of service, up to 480 hours of accrued sick leave shall be paid off at the rate of 25% of the cash value.

(k) Bond Premiums, Discounts and Issuance Costs

The Funds' bond premiums and discounts are deferred and amortized over the life of the bonds. Bonds payable are reported net of the applicable bond discounts. Refunding costs associated with debt refinancing are reported as deferred outflows of resources. Issuance costs are recorded as an expense of the current period.

On the statement of net position and the statement of revenues, expenses, and changes in net position, premiums and discounts related to outstanding debt are deferred and amortized over the life of the debt obligation. Prepaid insurance associated with the issuance of debts are reported as prepaid expenses.

(l) Accounting for Encumbrances

The District employs encumbrance accounting as a significant aspect of budgetary control. Under encumbrance accounting, purchase orders, contracts and other expenditure commitments are recorded as assignment of net position since they are not treated as current expenditures or outstanding liabilities at year end for GAAP financial reporting.

(m) Net Position

The net position of the Funds is classified based primarily to the extent to which the District is bound to observe constraints imposed upon the use of the resources. When both restricted and unrestricted resources are available for expenses, the District expends the restricted funds and then the unrestricted funds.

(n) Estimates

The preparation of the basic financial statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

(o) Pensions

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the District's California Public Employees' Retirement System (CalPERS) plans (Plans) and additions to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by CalPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Generally accepted accounting principles require that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

Valuation Date	June 30, 2016
Measurement Date	June 30, 2017

(p) Other Post Employment Benefits (OPEB)

For purposes of measuring the net OPEB liability, deferred outflows/inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the District's plan (OPEB) Plan) and additions to/deductions from the OPEB's Plan's fiduciary net position have been determined on the same basis as reported by CalPERS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Generally accepted accounting principles require that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

Valuation Date	June 30, 2017
Measurement Date	June 30, 2017

(q) Fair Value Measurement

The District has applied Governmental Accounting Standards Board ("GASB") Statement No. 72, Fair Value Measurement and Application. GASB Statement No. 72 provides guidance for determining a fair value measurement for reporting purposes and applying fair value to certain investments and disclosures related to all fair value measurements. The District categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are observable inputs (other than quoted marked prices) using matrix pricing based on the securities relationship to benchmark quoted prices; and Level 3 inputs are significant unobservable inputs.

(r) Deferred Outflows and Inflows of Resources

In addition to assets, the statement of financial position will sometimes report a separate section for deferred outflows of resources. Deferred outflows of resources represent a consumption of net position that applies to future period(s) and so will not be recognized as an outflow of resources (expense) until then.

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. Deferred inflows of resources represent an acquisition of net position that applies to future period(s) and so will not be recognized as an inflow or resources (revenues) until such time.

(s) New Pronouncements

The Governmental Accounting Standards Board (GASB) releases new accounting and financial reporting standards which may have a significant impact on the District's financial reporting process. Current and future new standards which may impact the District include the following:

Current Accounting Pronouncements:

GASB Statement No. 75 – In June 2015, GASB issued Statement No. 75 – *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The objective of this Statement is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). This Statement has been implemented for Fiscal Year 2017-18.

GASB Statement No. 81 – In March 2016, GASB issued Statement No. 81, *Irrevocable Split–Interest Agreements.* The objective of the Statement is to improve financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement. The Statement requires that a government that receives resources pursuant to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. Furthermore, the Statement requires that a government recognize assets representing its beneficial interests in irrevocable split-interest agreements that are administered by a third party, if the government controls the present service capacity of the beneficial interests. The Statement requires that a government recognize revenue when the resources become applicable to the reporting period. The Statement is effective for the reporting periods beginning after December 15, 2016, or Fiscal Year 2017-18. This Statement is not applicable to the District.

GASB Statement No. 85 – In March 2017, GASB issued Statement No. 85, *Omnibus 2017*. The objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and Postemployment benefits (pensions and other postemployment benefits (OPEB). The Statement is effective for the reporting periods beginning after June 15, 2017, or Fiscal Year 2017-18. The District has determined that this Statement does not have a material impact on the financial statements.

GASB Statement No. 86 – In May 2017, GASB issued Statement No. 86, *Certain Debt Extinguishment Issues.* The primary objective of this Statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This Statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. The Statement is effective for the reporting periods beginning after June 15, 2017, or Fiscal Year 2017-18. This Statement is not applicable to the District.

Future Accounting Pronouncements:

GASB Statement No. 83 – In November 2016, GASB issued Statement No. 83, *Certain Asset Retirement Obligations.* This Statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. A government that has legal obligations to perform future asset retirement activities related to its tangible capital asset should recognize a liability based on the guidance in this Statement. This Statement also requires disclosure of information about the nature of a government's ARO, the methods and assumptions used for the estimates of the liabilities, and the estimated remaining useful life of the associated tangible capital assets. The requirements of this Statement are effective for reporting periods beginning after June 15, 2018, or Fiscal Year 2018-19. The District has not determined the impact of this pronouncement on the financial statements.

GASB Statement No. 84 – In January 2017, GASB issued Statement No. 84, *Fiduciary Activities.* The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. The requirements of this Statement are effective for reporting periods beginning after December 15, 2018, or Fiscal Year 2019-20. The District has not determined the impact of this pronouncement on the financial statements.

GASB Statement No. 87 – In June 2017, GASB issued Statement No. 87, *Leases*. The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. The Statement is effective for the reporting periods
beginning after December 15, 2019, or Fiscal Year 2020-21. The District has not determined the impact of this pronouncement on the financial statements.

GASB Statement No. 88 – In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements.* The objective of this Statement is to improve note disclosures related to debt. This Statement requires that all debt disclosures present direct borrowings and direct placements of debt separately from other types of debt. This Statement is effective for reporting periods beginning after June 15, 2018, or Fiscal Year 2018-19. The District has not determined the impact of this pronouncement on the financial statements.

GASB Statement No. 89 – In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred Before the End of a Construction Period.* The objective of this Statement is to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (b) to simplify accounting for certain interest costs. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in the financial statements. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019, or Fiscal Year 2020-21. The District has not determined the impact of this pronouncement on the financial statements.

GASB Statement No. 90 – In August 2018, GASB issued Statement No. 90, *Majority Equity Interest, an amendment of GASB statement No. 14 and No. 61*. The objective of this Statement is to improve how majority equity interest is reported. The Statement specifies that a majority equity interest in a legally separate organization should be reported as an investment using the equity method if a government's holding of the equity interest meets the definition of an investment and for all other holdings of a majority equity interest in a legally separate organization, a government should report the legally separate organization as a component unit. The requirements of this Statement are effective for reporting periods beginning after December 15, 2018, or Fiscal Year 2019-20. The District has not determined the impact of this pronouncement on the financial statements.

(3) CASH AND INVESTMENTS

The Funds pool their cash and investments with the District. The pool balance at June 30, 2018 is as follows (in thousands):

Statement of Net Position:	
Cash and investments	$ 599,683
Restricted cash and investments	12,126
Statement of Fiduciary Net Position:	
Cash and investments	185
	$ 611,994

Investments

At June 30, 2018, cash and investments based on fair market value consist of the following (in thousands):

U.S. Government Agencies	$	414,135
U.S. Treasury Obligations		34,045
Medium Term Notes		13,384
Local Agency Investment Fund		64,033
Mutual Funds		61
Supranational Obligations		14,796
Municipal Bonds		18,076
Negotiable Certificates of Deposit		1,420
Money Market Funds		40,524
Total Investments		600,474
Carrying amount of cash		11,520
Total Cash and Investments	$	611,994

As of June 30, 2018, the fair value of the District's investment in the State investment pool (LAIF) is $64 million in non-restricted cash. The Local Investment Advisory Board (Board) has oversight responsibility for LAIF. The Board consists of five members as designated by State Statute. The District is a voluntary participant in the pool. The value of the pool shares in LAIF, which may be withdrawn, is determined on an amortized cost basis, which is different than the fair value of the District's position in LAIF. The pool is not registered with the SEC.

Authorized Investments by the District

The District's Investment Policy and the California Government Code allow the District to invest in the following types of investments, provided the credit ratings of the issuers are acceptable to the District. The following items also identify certain provisions of the District and California Government Code that address interest rate risk, credit risk, and concentration of credit risk. This list does not address the District's investments of debt proceeds held by fiscal agents that are governed by the provisions of debt agreements of the District, rather than the general provisions of the California Government Code or the District's investment policy, when more restrictive.

Authorized Investment Type	Maximum Maturity	Minimum Credit Quality	Maximum Percentage of Portfolio	Maximum Investment in One Issuer
U.S. Treasury Obligations	5 years	(Exempt from disclosure)	None	None
U.S. Government Agency Issues [(A)]	5 years	(Exempt from disclosure)	None	None
Bankers Acceptances	180 days	AA-	40%	4.8%
Commercial Paper	90 days	AA-	15%	1.8%
Negotiable Certificates of Deposit	5 years	AA-	30%	3.6%
Nonnegotiable Certificates of Deposit	5 years	Satisfactory CRA	5%	$250,000 & FDIC Membership
Collateralized Repurchase Agreements	30 days	AA-	None	None
Medium Term Notes	5 years	AA-	15%	1.8%
Municipal Obligations	5 years	AA-	15%	1.8%
California Local Agency Investment Fund [(B)]	N/A	N/A	(B)	(B)
Mutual Funds	N/A	AAA	10%	- -
Supranational Obligations	5 years	AA	15%	1.8%

[(A)] Securities issued by agencies of the federal government such as the Federal Farm Credit Bank (FFCB), the Federal Home Loan Bank (FHLB), the Federal National Mortgage Association (FNMA), the Federal Home Loan Mortgage Corporation (FHLMC), the Federal Agricultural Mortgage Corporation of America and the Tennessee Valley Authority.

[(B)] LAIF will accept no more than $65 million of an agency's unrestricted funds while placing no constraints on funds relating to unspent bond proceeds.

Restricted Cash and Investments for Bond Interest and Redemption

Under the provisions of the District’s revenue bond resolutions and Installment Purchase Agreement for the 2007B, 2012A, 2016C, 2016D, and 2017A Certificates of Participations (COPs) and Water Utility Revenue and Refunding Bonds 2006B, 2016A, 2016B, and 2017A, a portion of the proceeds from these debt issuances is required to be held in custody accounts by a fiscal agent as trustee.

As of June 30, 2018, the amount invested in assets held by fiscal agent amounted to $6.3 million for certificates of participation and $56.4 thousand for revenue bonds and was equal to or in excess of the amount required at that date.

Restricted Cash and Investments for Capital Projects

The District has construction and acquisition funds from the 2017A Certificates of Participation (COP) which is used to pay for the capital projects on flood control and watershed improvements authorized by the COP indenture. At June 30, 2018, the balance of this fund is $5.5 million.

The District has also issued commercial paper to provide for any District purposes, including but not limited to, capital expenditure, investment and reinvestment, and the discharge of any obligation or indebtedness of the District. At June 30, 2018, the total balance of the taxable and the tax-exempt commercial paper certificate accounts is $149 thousand. Both account balances were cash transfers from the District to fiscal agent to fund maturing interest payments on commercial papers outstanding.

Authorized Investments by Debt Agreements

The District must maintain required amounts of cash and investments with trustees or fiscal agents under the terms of certain debt issues. These funds are unexpended bond proceeds or are pledged reserves to be used if the District fails to meet its obligations under these debt issues. The California Government Code requires these funds to be invested in instruments which, at the time of such investment, are legal investments under the laws of the State of California, District ordinances, policies, and bond indentures. The following table identifies the investment types that are authorized for investments held by fiscal agents. The table also identifies certain provisions of these debt agreements.

Authorized Investment Type	Maximum Maturity	Minimum Credit Quality
U.S. Treasury Obligations[(A)]	N/A	N/A
U.S. Agency Securities[(B)]	N/A	N/A
State Obligations[(C)]	N/A	A
Commercial Paper	270 days	A1
Unsecured CD's, deposit accounts, time deposits, and bankers acceptances	365 days	A-1
FDIC Insured Deposit[(D)]	N/A	N/A
Money Market Funds	N/A	AAAm
Collateralized Repurchase Agreements[(E)]	N/A	A-1
Investment Agreements[(F)]	N/A	AA-
Investment Approved in Writing by the Certificate Insurer[(G)]	N/A	N/A
Local Agency Investment Fund of the State of CA	N/A	N/A
Supranational Obligations	N/A	AA

(A) Direct obligations of the United States of America and securities fully and unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, provided that the full faith and credit of the United States of America must be pledged to any such direct obligation or guarantee.

(B) Direct obligations and fully guaranteed certificates of beneficial interest of the Export-Import Bank of the United States; consolidated debt obligations and letter of credit-backed issues of the

Federal Home Loan Banks; participation certificates and senior debt obligations of the Federal Home Loan Mortgage Corporation (“FHLMCs”); debentures of the Federal Housing Administration; mortgage-backed securities (except stripped mortgage securities which are valued greater than par on the portion of unpaid principal) and senior debt obligations of the Federal National Mortgage Association ("FNMAs"); participation certificates of the General Services Administration; guaranteed mortgage-backed securities and guaranteed participation certificates of the Government National Mortgage Association (“GNMAs”); guaranteed participation certificates and guaranteed pool certificates of the Small Business Administration; local authority Certificates of the U.S. Department of Housing & Urban Development; guaranteed Title XI financings of the U.S. Maritime Administration; guaranteed transit Certificates of the Washington Metropolitan Area Transit Authority; Resolution Funding Corporation securities.

(C) Direct obligations of any state of the United States of America or any subdivision or agency thereof whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, “A” or better by Moody's and "A" or better by S&P.

(D) Deposits of any bank or savings and loan association which has combined capital, surplus and undivided profits of not less than $3 million, provided such deposits are continuously and fully insured by the Bank Insurance Fund or the Savings Association Insurance Fund of the Federal Deposit Insurance Corporation.

(E) Repurchase agreements collateralized by Direct Obligations, GNMAs, FNMAs or FHLMCs with any registered broker/dealer subject to the Securities Investors’ Protection Corporation jurisdiction or any commercial bank insured by the FDIC, if such broker/dealer or bank has an uninsured, unsecured and unguaranteed obligation rated “P-1” or"A3" or better by Moody's and “A-1” or “A-” or better by S&P, provided: (1) a master repurchase agreement or specific written repurchase agreement governs the transaction; and (2) the securities are held free and clear of any lien by the Trustee or an independent third party acting solely as agent (“Agent”) for the Trustee, and such third party is (i) a Federal Reserve Bank, or (ii) a bank which is a member of the Federal Deposit Insurance Corporation and which has combined capital, surplus and undivided profits of not less than $50 million or (iii) a bank approved in writing for such purpose by the Certificate Insurer, and the Trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Trustee; and (3) a perfected first security interest under the Uniform Commercial Code, or book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. if such securities is created for the benefit of the Trustee; and (4) the repurchase agreement has a term of 180 days or less, and the Trustee or the agent will value the collateral securities no less frequently than weekly and will liquidate the collateral securities if any deficiency in the required collateral percentage is not restored within two business days of such valuation; and (5) the fair value of the securities in relation to the amount of the repurchase obligation, including principal and interest, is equal to at least 103%.

(F) Investment agreements, guaranteed investment contracts, funding agreement, or any other form of corporate note representing the unconditional obligations of entities or agencies with the unsecured long-term debt obligations or claims-paying ability rated in one of the top two rating categories by Moody’s and S&P.

(G) Any investment approved in writing by the Certificate Insurer.

Interest Rate Risk

Interest Rate Risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The District generally manages its own interest rate risk by holding investments to maturity.

Information about the sensitivity of the fair value of the District's investments to market interest rate fluctuations is provided by the following table that shows the distribution to the District's investments by maturity or earliest call date (in thousands):

	Total	12 Months or less	13 to 24 Months	25 to 60 Months
U.S. Government Agencies	$ 304,665	$ 124,642	$ 111,352	$ 68,671
U.S. Government Agencies - Callable	109,470	2,970	34,432	72,068
U.S. Treasury Obligations	34,045	20,992	2,942	10,111
Medium Term Notes	8,524	1,981	1,557	4,986
Medium Term Notes - Callable	4,860	-	-	4,860
Local Agency Investment Fund	64,033	64,033	-	-
Mutual Funds	61	61	-	-
Supranational Obligations	12,820	2,991	2,955	6,874
Supranational Obligations - Callable	1,976			1,976
Municipal Bonds	18,076		3,251	14,825
Negotiable Certificates of Deposit	1,420	718	465	237
Money Market Funds	40,524	40,524	-	-
Total Investments	$ 600,474	$ 258,912	$ 156,954	$ 184,608

Credit Risk

Credit Risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization.

The following table shows the minimum rating required by the` California Government Code, the District's investment policy, or debt agreements and the actual rating as of June 30, 2018 for each investment type as provided by Standard and Poor's (in thousands):

	Total	Minimum Legal Rating	Exempt from Disclosure	Rating as of Year-end AAA	AA+	AA	AA-	Not Rated
U.S. Government Agencies	$ 414,135	AA-	$ -	$ -	$ 414,135	$ -	$ -	$ -
U.S. Treasury Obligations	34,045	AA-	34,045	-	-	-	-	-
Medium Term Notes	13,384	AA-	-	6,968	4,859	-	-	1,557
Local Agency Investment Fund	64,033	N/A	-	-	-	-	-	64,033
Mutual Funds	61	AAA	-	61	-	-	-	-
Supranational Obligations	14,796	AA	-	14,796	-	-	-	-
Municipal Bonds	18,076	AA-	-	5,355	3,523	7,725	1,473	-
Negotiable Certificates of Deposits	1,420	AA-	-	-	-	-	-	1,420
Money Market Funds	40,524	N/A	-	-	-	-	-	40,524
Total Investments	$ 600,474		$ 34,045	$ 27,180	$ 422,517	$ 7,725	$ 1,473	$ 107,534

Concentration of Credit Risk

The District's investment policy regarding the amount that can be invested in any one issuer is stipulated by the California Government Code and District investment policy, whichever is more restrictive. However, the District is required to disclose investments that represent a concentration of five percent or more of investments in any one issuer, held by individual District Funds in the securities of issuers other than U.S. Treasury securities, mutual funds and external investments pools. At June 30, 2018, those investments consisted of the following (in thousands):

Issuer	Investment Type	Reported Amount
Government-wide		
Federal Home Loan Mortgage Corp.	U.S. Government Agency	$84,428
Federal National Mortgage Association	U.S. Government Agency	86,929
Federal Home Loan Bank	U.S. Government Agency	148,228
Federal Farm Credit Bank	U.S. Government Agency	94,550

Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the District will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party.

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party.

Under California Government Code Section 53651, depending on specific types of eligible securities, a bank must deposit eligible securities posted as collateral with its Agent having a fair market value of 105% to 150% of public agencies' cash on deposit. All of the District's deposits are either insured by the Federal Depository Insurance Corporation (FDIC) or collateralized with pledged securities held in trust department of the financial institutions but not in the District's name.

Fair Market Value Measurement and Application

The District measures and records its investments using fair value measurement guidelines established by generally accepted accounting principles. These guidelines recognize a three-tiered fair value hierarchy as shown below:

- Level 1: Quoted prices for identical investments in active markets;
- Level 2: Observable inputs (other than quoted marked prices) using matrix pricing based on the securities relationship to benchmark quoted prices; and
- Level 3: Unobservable inputs (not applicable to the District).

Shown below is a summary of the fair value hierarchy of the District's investment at fair value on June 30, 2018 (in thousands):

	6/30/2018	Level 1	Level 2	Uncategorized
Investments by Fair Value Level				
U.S. Government Agencies	$ 414,135	$ 414,135	$ -	$ -
U.S. Treasury Obligations	34,045	34,045	-	-
Medium Term Notes	13,384	-	13,384	-
Mutual Funds	61	-	61	-
Supranational Obligations	14,796	-	14,796	-
Municipal Bonds	18,076	-	18,076	-
Negotiable Certificates of Deposit	1,420	-	1,420	
Subtotal - Leveled Investments	495,917	448,180	47,737	-
Local Agency Investment Fund	64,033	-	-	64,033
Money Market Funds	40,524	-	-	40,524
Subtotal - Uncategorized	104,557	-	-	104,557
Total Investments	$ 600,474	$ 448,180	$ 47,737	$ 104,557

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Deposits and withdrawals in the State Investment Pool are made on the basis of $1 and are not using fair value. Accordingly, the District's investments of $64 million in LAIF at June 30, 2018 are classified as uncategorized input (not classified as Level 1, Level 2, or Level 3).

(4) REIMBURSEMENT OF CAPITAL COSTS

The Funds derive certain revenues from reimbursements of capital costs by local, state, federal agencies and other outside sources. The following table is a summary of the reimbursements made during fiscal year 2018 (in thousands):

	Amount
Local Agencies:	
Association of Bay Area Governments	966
San Benito County Water District	1,518
San Francisco Public Utility	12
State Agencies:	
Department of Water Resources	1,849
Federal Agency:	
US Bureau of Interior, Dept. of Reclamation	5
Total	$ 4,350

(5) INVESTMENT INCOME

The District earns interest income from the investment of cash. Generally accepted accounting principles, as discussed in GASB 31, require reporting investment at fair value in the financial statements. Because of this requirement, interest income earned from investing activity during the current fiscal year is adjusted upwards or downwards to reflect the change in fair value of investment.

The following represents the investment income as reported in the financial statements of the Funds, the current year GASB 31 fair value adjustment, and the unadjusted investment income at June 30, 2018 (in thousands):

Investment Income as Reported	Current Year GASB 31 Fair Value Adjustment	Investment Income Before Adjustment
$ 1,268	$ (1,138)	$ 2,406

(6) CAPITAL ASSETS

Capital assets activity for the year ended June 30, 2018 was as follows (in thousands):

	Beginning Balance	Additions	Deletions	Transfers / Reclassed	Ending Balance
Nondepreciable capital assets:					
Land	$ 19,180	$ -	$ -	$ -	$ 19,180
Intangible - Easement	162	-	-	-	162
Construction in progress	306,529	91,668	-	(355)	397,842
Total nondepreciable capital assets	325,871	91,668	-	(355)	417,184
Depreciable capital assets:					
Contract water and storage rights	197,597	8,764	-	-	206,361
Buildings	91,001	-	-	-	91,001
Structures and improvements	870,100	-	-	355	870,455
Equipment	27,660	357	-	(20)	27,997
Total depreciable capital assets	1,186,358	9,121	-	335	1,195,814
Less accumulated depreciation and amortization					
Contract water and storage rights	(151,840)	(11,188)	-	-	(163,028)
Buildings	(6,468)	(1,876)	-	-	(8,344)
Structures and improvements	(270,978)	(14,428)	-	-	(285,406)
Equipment:	(21,254)	(1,363)	-	20	(22,597)
Total accumulated depreciation and amortization	(450,540)	(28,855)	-	20	(479,375)
Net depreciable capital assets	735,818	(19,734)	-	355	716,439
Total capital assets, net	$1,061,689	$71,934	$ -	$ -	$1,133,623

During fiscal year 2018, new construction in progress amounted to $91.7 million. There were 49 in progress and completed projects during the fiscal year, with major project listed below (in millions):

- $31.7 - Rinconada Water Treatment Plant Reliability Improvement
- $21.6 - 10-year Pipeline and Rehabilitation
- $9.1 - Anderson Dam Seismic Retrofit
- $4.4 - Calero Dam Seismic Retrofit Design and Construction
- $3.9 - Pacheco Conduit Rehabilitation
- $3.3 - Indirect Potable Reuse
- $3.2 - Penitencia Force Main Seismic Retrofit
- $3.0 - Guadalupe Dam Seismic Retrofit Design and Construction
- $2.0 - Rinconada Water Treatment Plant Facility Renewal Program Residual Management Modifications
- $1.3 - Dam Safety Seismic Stability

- $1.2 - Wolfe Road Recycled Water Facility

Depreciation and amortization expense for the fiscal year amounted to $ 28.9 million.

(7) SHORT-TERM AND LONG-TERM LIABILITIES

(a) Short-term debt

On December 17, 2002, the District Board of Directors authorized a commercial paper program. The commercial paper program allows the District to finance capital acquisitions while taking advantage of short term rates. This program is used in conjunction with issuing long-term liabilities to obtain the least expensive financing for the District.

On May 15, 2012, the District Board of Directors authorized the execution and delivery of certain agreements in connection with the District's commercial paper program in an aggregate principal amount not to exceed $100 million.

On January 13, 2015, the District Board of Directors authorized an increase in the commercial paper program to an aggregate principal amount not to exceed $150 million. The proceeds of the commercial paper may be used for any District purposes, including but not limited to, capital expenditure, investment and reinvestment, and the discharge of any obligation or indebtedness of the District.

In fiscal year 2016, a total of $33.6 million of commercial paper was issued and the proceeds were used to reimburse the District for Water Utility capital project expenses incurred during the fiscal year. The District refunded $148 million of outstanding commercial paper with long term bonds on March 30, 2016. As of June 30, 2016, all outstanding taxable and tax-exempt commercial paper were fully redeemed with proceeds from the Series 2016A and 2016B Refunding Revenue Bonds.

On December 13, 2016, the District Board of Directors authorized the execution and delivery of up to $75 million of short-term revolving certificates (Revolver) pursuant to the Certificate Purchase and Reimbursement Agreement with Wells Fargo Bank, National Association. The Revolver has an initial term of three years expiring on January 17, 2020. Effective June 30, 2018, the District terminated its $75 million revolving line of credit with Wells Fargo Bank without paying an early termination fee. The early termination reflects recent updates to the projected financing needs for the Safe, Clean Water (SCW) program and the Funds' projects, which show that the existing $150 million commercial paper program capacity is sufficient to meet the financing needs without the Wells Fargo Bank's $75 million line of credit. This termination will save the district a minimum of $190,000 in annual banking fees effective FY 2018-19.

Short-term debt outstanding for the Funds at June 30, 2018 is broken down as follows (in millions):

Commercial Paper Program	Authorized	Outstanding Amount
Beginning balance	$ 225.0	$ 24.2
Additions	-	51.6
Reductions	(75.0)	-
Ending balance	$ 150.0	$ 75.8

(b) Long-term liabilities

The long-term liabilities outstanding at the end of current fiscal year for the Funds consisted of the following (in thousands):

Type of indebtedness	Maturity	Interest Rates	Authorized and Issued	Outstanding Balance	Due in 1 Year
2006B Water revenue bond	2035	5.15%-5.31%	$ 25,570	$ 18,930	$ 775
2016A Water revenue bond	2046	0.05	106,315	106,315	-
2016B Water revenue bond	2046	4.154%-4.354%	75,215	75,215	-
2017A Water revenue bond	2037	3.4% - 3.7%	54,710	53,110	1,700
2007B Water revenue COP bond	2037	5.55%-floating	53,730	39,370	1,390
2016C Water revenue COP bond	2029	4.0% - 5.0%	43,075	41,055	3,010
2016D Water revenue COP bond	2029	1.567%-3.679%	54,970	52,340	3,915
Bond discount				(147)	(8)
Bond premium				37,587	1,514
Compensated absences				5,168	1,197
Net pension liability				100,278	-
Other post employment liability				33,814	-
Semitropic water banking agreement	2035		46,900	8,150	-
Total Funds debt				$ 571,185	$ 13,493

The following is a summary of changes in long-term liabilities for the current fiscal year (in thousands):

	Start of Year	Additions	Reductions	End of Year	Due in 1 Yr
2006B revenue bonds	$ 19,670	$ -	$ (740)	$ 18,930	$ 775
2016A revenue bonds	106,315	-	-	106,315	-
2016B revenue bonds	75,215	-	-	75,215	-
2017A revenue bonds	54,710	-	(1,600)	53,110	1,700
2007B COP revenue bonds	40,700	-	(1,330)	39,370	1,390
2016C COP revenue bonds	43,075	-	(2,020)	41,055	3,010
2016D COP revenue bonds	54,970	-	(2,630)	52,340	3,915
Bond discount on refunding	(155)	-	8	(147)	(8)
Premium on debt issuance	39,101	-	(1,514)	37,587	1,514
Compensated absences	4,990	4,277	(4,099)	5,168	1,197
Net pension liability	89,563	28,274	(17,559)	100,278	17,559
Other post employment benefits	(516)	39,795	(5,465)	33,814	5,465
Semitropic water banking agreement	4,473	3,677	-	8,150	-
Total Funds debt	$ 532,111	$ 76,023	$ (36,949)	$ 571,185	$ 36,517

The aggregate maturities of long-term debt are as follows (in thousands):

Description	Year Ending June 30	Principal	Interest and amortization
Bonds payable	2019	$ 10,790	$ 17,581
	2020	11,380	17,344
	2021	11,850	16,888
	2022	12,340	16,409
	2023	12,870	15,899
	2024 - 2028	73,290	70,751
	2029 - 2033	84,470	52,510
	2034 - 2038	73,005	32,177
	2039 - 2043	56,060	17,410
	2044 - 2048	40,280	3,798
Total bonds payable requirements		$ 386,335	$ 260,767
Add: unamortized premium on issuance		37,587	
Less: unamortized discount on refunding		(147)	
Add: compensated absences		5,168	
Add: other post employment benefits		33,814	
Add: net pension liability		100,278	
Add: semitropic water banking agreement		8,150	
Amount outstanding at June 30, 2018		$ 571,185	

The following provides a brief description of the Funds' debt outstanding as of June 30, 2018:

2006B Water Utility System Refunding Revenue Bonds

In December 2006, the District issued $99,835,000 of Water Utility System Refunding Revenue Bonds, Series 2006A and Taxable Series 2006B, pursuant to the Water Utility Senior System Master Resolution (94-58, as amended by 06-80). The proceeds of $57,415,000 of the 2006A and 2006B Bonds were used to refinance $55,265,000 of the remaining 2000A and 2000B and the proceeds of $42,420,000 of 2006A and 2006B were used to repay approximately $40,900,000 of commercial paper notes. In March 2016, the District issued Series 2016A Water System Refunding Revenue Bonds to refund all 2006A outstanding principal.

2016A/B Water Systems Refunding Revenue Bonds

In March 2016, the District issued $181,530,000 of Water Systems Refunding Revenue Bonds comprising of Series 2016A for $106,315,000 and Taxable Series B for $75,215,000, pursuant to the Water Utility Parity System Master Resolution (16-10). Proceeds of the 2016A Revenue Bonds, along with the original issue premium, were used to refinance all the currently outstanding Water Utility System Refunding Revenue Bonds Series 2006A and repay $73,040,000 of outstanding tax-exempt commercial paper notes. Proceeds of the 2016B Revenue Bonds were used to repay $75,000,000 of the balance of the outstanding taxable commercial paper notes and costs of issuance. The obligation of the District to pay principal and interest of the 2016A/B Water Systems Refunding Revenue Bonds is secured by a pledge of and lien on the District's Water Utility System Revenues.

2017A Water System Utility Refunding Revenue Bonds

In May 2017, the District issued $54,710,000 of Water Systems Refunding Revenue Bonds to refund the $64.75 million outstanding balance of the Water Utility System Revenue Certificates of Participation Series 2007A and pay costs of issuance of the 2017A Bonds. The obligation of the District to pay principal and interest on the 2017A Bonds is secured by a pledge of and lien on the District's Water Utility System Revenues and are payable from the Net Water Utility System Revenues pursuant to the Water Utility System Parity Master Resolution (16-10) approved by the Board on February 23, 2016, as amended.

2007B Water Utility Revenue Certificates of Participation

In October 2007, the District issued $131,000,000 of Water Utility Revenue Certificates of Participation Bonds, Series 2007A and Taxable Series 2007B, pursuant to the Water Utility Senior System Master Resolution (94-58, as amended by 06-80). The proceeds of the 2007A and 2007B bonds were used to finance capital construction projects in the Water Utility Enterprise. The District funded the 2007A Debt Reserve Fund by purchasing a surety. The 2007A issuance was $77,270,000 fixed rate bonds with a 30 year maturity. The 2007B issuance of $53,730,000 are floating rate notes based on the three month LIBOR rate plus 32 basis points with a 30 year maturity. The District has pledged its net water utility revenues to secure the quarterly debt service payments for the 2007B issuance.

2016C/D Water Utility Revenue Certificates of Participation

In March 2016, the District issued $98,045,000 of Water Utility Systems Improvement Projects Revenue Certification of Participation Bonds Series 2016 for $43,075,000 and Taxable Series 2016D for $54,970,000, pursuant to the Water Utility Parity System Master Resolution (16-10). Proceeds of the 2016C/D bonds, along with the original issue premium will be used to finance capital construction projects in the Water Utility Enterprise and costs of issuance.

Semitropic Water Banking Agreement

In December 1995, the Santa Clara Valley Water District entered into a water banking and exchange program with Semitropic Water Storage District and its Improvement Districts that entitles the District to storage, withdrawal, and exchange rights for the District's State Water Project supplies. The Santa Clara Valley Water District's share of the total program capital costs is $46.9 million based on a 35 percent vesting in the program. The District pays the program capital costs when storing and recovering water. At June 30, 2018, the District has $8.2 million outstanding liability related to water storage and banking rights.

Compensated Absences

Compensated absences are paid out of the general fund as an employee benefit expense in the year the expense is realized and are charged to the different funds as part of the direct benefit rate. The compensated absences liability for the year is recognized in the District's various enterprise funds and on the governmental activities column in the statement of net position.

Compliance with Bond Covenants

Resolutions associated with the District's bonds and certificates of participation contain a number of covenants, limitations, and restrictions. The District believes it is in compliance with all significant covenants, limitations, and restrictions.

Revenues Pledged

The District pledged water utility system revenues, net of specified maintenance and operating expenses, to repay $386.3 million in long-term debt outstanding as of June 30, 2018, that was issued to finance the cost of capital construction projects for the water utility enterprise. The secured debt includes revenue bonds and COPs. The revenue bonds are payable from net water utility system revenues and the revenue COPs are payable from installments that are secured by net water utility system revenues. The long-term debt is payable through fiscal year 2046. Total principal outstanding and interest costs remaining to be paid on the combined debt is $647.1 million.

Additionally, $105.8 million in commercial paper certificates was outstanding as of June 30, 2018 through the District's $150 million commercial paper program. The commercial paper certificates are secured by a $150 million letter of credit issued by MUFG Bank, Ltd. and, to the extent that proceeds from draws on the bank letter of credit are not sufficient, tax and revenue anticipation notes issued by the District to the District's Public Facilities Financing Corporation. The obligation of the District to make payments on the notes is a general obligation of the District. The District has additionally pledged net water utility system revenues, on a subordinate basis to long-term debt, to payments on the notes.

(8) PROPERTY TAXES AND BENEFIT ASSESSMENTS

The Funds derive certain revenues from the assessment of property tax parcel levies. The property tax levy is composed of the following categories: (1) a 1% tax allocation; and (2) voter approved levy to repay capital and operating costs related to imported water from the State Water Project.

Property tax revenues recorded for the year ended June 30, 2018 are as follow (in thousands):

	Amount
Property taxes:	
1% tax allocation	$ 7,088
Voter approved indebtedness:	
State Water Project Fund	30,329
Total property taxes	$ 37,417

The County is responsible for the assessment, collection, and apportionment of property taxes for the District. The amount of property tax levies is restricted by Article 13A of the California State Constitution (commonly referred to as Proposition 13). The District is responsible for determining the amount of benefit assessment, special parcel tax, and State Water Project Debt Service. Secured property taxes and benefit assessments are each payable in equal installments on November 1 and February 1, and become delinquent on December 10 and April 10, respectively. The lien date is January 1 of each year. The Funds record property taxes as they are levied. Property taxes on the unsecured roll are due on the March 1 lien date and become delinquent if still unpaid on August 31.

The District has elected to participate in the "Teeter Plan" offered by the County whereby the District receives 100% of secured property and supplemental property taxes levied in exchange for foregoing any interest and penalties collected on the related delinquent taxes.

(9) NET POSITION

The Funds financial statements utilize a net position presentation. Net position is categorized as follows:

Net Investment in Capital Assets - This category groups all capital assets, including infrastructure, into one component of net position. Accumulated depreciation and the outstanding balances of debt that are attributable to the acquisition, construction or improvement of these assets reduce the balance in this category.

Restricted Net position – This category presents external restrictions imposed by creditors, grantors, contributors, laws, or regulations of other governments and restrictions imposed by law through constitutional provisions or enabling legislation.

Unrestricted Net position – This category represents net position of the District, not restricted for any project or other purpose.

The following table shows the breakdown of the Funds' net position at June 30, 2018 (in thousands):

	Water Enterprise Fund	State Water Projects Fund	Total
Net investment in capital assets	$609,515	$ 16,999	$ 626,514
Restricted Net Position			
San Felipe Emergency Reserve	3,040	-	3,040
Debt Service Reserve	212	-	212
Rate Stabilization	21,066	-	21,066
Advanced Water Purification Center	1,906	-	1,906
Supplemental Water Supply Reserve	14,677	-	14,677
Drought Reserve	5,000	-	5,000
State Water Projects	-	12,778	12,778
Total restricted net position	45,901	12,778	58,679
Unrestricted Net Position			
Operating & Capital Contingencies	20,307	-	20,307
Currently Authorized Projects	42,010	-	42,010
Encumbrances	83,708	-	83,708
Net Pension Liability	(76,513)	-	(76,513)
Net Other Post Employment Benefit Liability	(32,154)	-	(32,154)
Total unrestricted net position	37,358	-	37,358
Net Position	$692,774	$ 29,777	$ 722,551

(10) EMPLOYEES' RETIREMENT PLAN

Plan Description

All qualified permanent and probationary employees are eligible to participate in the agent multiple-employer defined benefit pension plan (the Plan) administered by the California Public Employees' Retirement System (CalPERS), which acts as a common investment and administrative agent for its participating member employers. Benefit provisions under the Plans are established by State statute and District's resolution. CalPERS issues publicly available reports that include a full description of the pension plans regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

Benefits Provided

CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost of living adjustments for each plan are applied as specified by the California Public Employees' Retirement Law. Benefit provisions and all other requirements are established by State statutes and may be amended by the District's governing board.

The Plan's provisions and benefits in effect at June 30, 2018, are summarized as follows:

	Prior to	3/19/2012 to	On or after
Hire date	3/19/2012	12/31/2012	1/1/2013
Benefit formula	2.5% @ 55	2% @ 60	2% @ 62
Benefit vesting schedule	5 years service	5 years service	5 years service
Benefit payments	monthly for life	monthly for life	monthly for life
Minimum Retirement age	50	50	52
Monthly benefits, as a % of eligible compensation	2.0% to 2.5%	1.1% to 2.4%	1.0% to 2.5%
Required employee contribution rates	8.0% + .92%*	7.0% + 1.92%*	6.75%
Required employer contribution rates	9.985% plus $11,525,000 prepayment for prior unfunded service cost		

* Member additional contribution towards District's CalPERS cost per negotiated agreement with the bargaining units

Employees Covered – As of the most recent CalPERS annual valuation report, dated June 30, 2017, the following employees were covered by the benefit terms of the Plan:

Inactive employees or beneficiaries currently receiving	732
Active employees	743

Contributions

Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plan is determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability.

For the year ended June 30, 2018, contributions to the plan were $19.7 million. The District is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. All funds with payroll charges contribute to the actuarially determined contribution.

Net Pension Liability

The District's net pension liability for the Plan is measured as the total pension liability, less the pension plan's fiduciary net position. The net pension liability of the Plans is measured as of June 30, 2017, using an annual actuarial valuation as of June 30, 2016 rolled forward to June 30, 2017 using standard update procedures. A summary of principal assumptions and methods used to determine the net pension liability is shown below.

Actuarial Assumptions – The total pension liabilities in the June 30, 2016 actuarial valuations were determined using the following actuarial assumptions:

Valuation date	June 30, 2016
Measurement date	June 30, 2017
Actuarial cost method	Entry-age normal cost method
Discount rate	7.15%
Inflation	2.75%
Salary increases	Varies by entry age and service
Investment rate of return[(1)]	7.15%
Mortality rate table[(2)]	Derived using CalPERS' membership data for all funds
Post retirement benefit increase	Contract COLA up to 2.75% unit purchasing power protection allowance floor on purchasing power applies, 2.75% thereafter.

[(1)]Net of pension plan investment and administrative expenses; includes inflation.

[(2)]The mortality rate table was developed based on CaLPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuarial Scale BB.

The actuarial methods and assumptions used for the June 30, 2016 valuation were derived from the 2014 experience study for the period 1997 to 2011, including updates to salary increase, mortality and retirement rates. The Experience Study can be obtained at CalPERS' website under "Forms and Publications".

Discount Rate

In 2017, the discount rate was reduced from 7.65% to 7.15%. The updated discount rate will be applied to all plans in the Public Employees Retirement Fund (PERF). The stress test results are presented in a detailed report called "GASB Crossover Testing Report" that can be obtained at CalPERS' website under the GASB 68 section.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Such cash flows were developed assuming that both members and employers will make their required contribution on time and as scheduled on all future years. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The following table reflects the long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These geometric rates of return are net of administrative expenses.

Asset Class	Current Strategic Allocation	Real Return Years 1 – 10[(1)]	Real Return Years 11+[(2)]
Global Equity	47.0%	4.90%	5.38%
Global Fixed Income	19.0%	0.80%	2.27%
Inflation Sensitive	6.0%	0.60%	1.39%
Private Equity	12.0%	6.60%	6.63%
Real Estate	11.0%	2.80%	5.21%
Infrastructure and Forestland	3.0%	3.90%	5.36%
Liquidity	2.0%	-0.40%	-0.90%
Total	100.0%		

[(1)]An expected inflation of 2.5% used for this period.

[(2)]An expected inflation of 3.0% used for this period.

Changes in the Net Pension Liability

The following table shows the changes in net pension liability recognized over the measurement period:

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (c) = (a) - (b)
Beginning Balance	$ 711,593,432	$ 508,377,503	$ 203,215,929
Changes Recognized for the Measurement Period:			
Service Cost	15,752,291	-	15,752,291
Interest on Total Pension Liability	53,109,673	-	53,109,673
Changes in Assumptions	44,289,025	-	44,289,025
Difference between Expected and Actual Experience	(4,716,605)	-	(4,716,605)
Net Plan to Plan Resource Movement	-	370	(370)
Contribution from Employer	-	19,055,019	(19,055,019)
Contribution from Employees	-	6,624,798	(6,624,798)
Net Investment Income	-	56,514,065	(56,514,065)
Benefit Payments, including Refunds of Employee Contribution	(32,498,706)	(32,498,706)	-
Administrative Expense	-	(750,585)	750,585
Net Changes	75,935,678	48,944,961	26,990,717
Ending Balance	$ 787,529,110	$ 557,322,464	$ 230,206,646

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the District, calculated using the current discount rate, as well as what the District's net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	Discount Rate - 1%	Current Discount	Discount Rate + 1%
	6.15%	7.15%	8.15%
Plan Net Pension Liability/(Assets)	$ 337,530,299	$ 230,206,646	$ 141,463,542

Pension Plan Fiduciary Net Position

Detailed information about the District's pension plan fiduciary net position is available in separately issued CalPERS financial reports.

Pension Expenses and Deferred Outflow/Inflow of Resources

For the year ended June 30, 2018, the District recognized pension expense of $33.2 million. At June 30, 2018, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension contribution subsequent to measurement date	$ 19,746,343	$ -
Changes in assumptions	32,634,018	(2,543,134)
Differences between actual and expected experience	-	(5,017,601)
Net difference between projected and actual earnings on plan investments	7,367,346	-
Total	$ 59,747,707	$ (7,560,735)

$19.7 million is reported as deferred outflows of resources related to contributions subsequent to the measurement date and will be recognized as a reduction from the net pension liability in the following fiscal year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows:

Year ending June 30	Deferred Outflows/(Inflows) of Resources
2019	$ 6,850,179
2020	18,256,516
2021	11,441,246
2022	(4,107,312)
Total	$ 32,440,629

(11) OTHER POST EMPLOYMENT BENEFITS (OPEB)

Plan Description

The District provides post-employment health care benefits, in accordance with negotiated memoranda of understanding with employee groups and adoption by the Board of Directors, for retired employees and/or their surviving spouses, and to certain employees who retire due to disability who meet the eligibility requirements and elect the option. The District must be the employee's last CalPERS employer, and the retiree must be receiving a monthly CalPERS retirement pay.

Benefits Provided

	Hire/Retirement Date	Eligibility Rule (Years of Continuous Service)	District's Required Contribution
Classified Employee Association (AFSCME – Local 101) Engineers Society (IFPTE-Local 21) Professional Managers Association (IFPTE – Local 21)	Retired prior to July 1, 1988		Fixed amount of $165 per month
	Retired from July 1, 1988 through June 30, 1990	10 years	100% medical premium for retiree
	Retired from July 1, 1990 or later and hired prior to December 31, 2006	10 years 15 years	100% medical premium for retiree 100% medical premium for retiree plus one eligible dependent
	Retired from July 1, 1990 or later and hired between December 31, 2006 and March 1, 2007	10 years 15 years	Retiree is covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less. Retiree plus one eligible dependent are covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less.
	Hired on or after March 1, 2007	15 years 20 years	Retiree is covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less. Retiree plus one eligible dependent are covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less.

	Hire/Retirement Date	Eligibility Rule (Years of Continuous Service)	District's Required Contribution
Unclassified At Will	Retired prior to July 1, 1988		Fixed amount of $165 per month
	Retired from July 1, 1988 through June 30, 1990	10 years	100% medical premium for retiree
	Retired from July 1, 1990 through June 18, 1995	10 years 15 years	100% medical premium for retiree 100% medical premium for retiree plus one eligible dependent
	Retired from June 19, 1995 through October 21, 1996	10 years 15 years 25 years	100% medical premium for retiree 100% medical premium for retiree plus one eligible dependent 100% medical, dental, and vision coverages for the retiree plus two or more eligible dependents
	Retired from October 22, 1996 or later and hired prior to December 30, 2006	10 years 15 years 25 years	100% medical premium for retiree 100% medical, dental, and vision coverages for the retiree plus one eligible dependent 100% medical, dental, and vision coverages for the retiree plus two or more eligible dependents
	Hired on or after December 30, 2006 and prior to March 1, 2007	10 years 15 years	Medical coverage is provided for retiree. Medical premium cost sharing is required with the same contribution percentage as active employees and based on the medical premium amount applicable to active employees or retirees, whichever is less. Medical, dental, and vision coverages are provided for retiree and one eligible dependent. Medical premium

	Hire/Retirement Date	Eligibility Rule (Years of Continuous Service)	District's Required Contribution
Unclassified At Will	Hired on or after December 30, 2006 and prior to March 1, 2007	15 years (con't)	cost sharing is required with the same contribution percentage as active employees and based on the medical premium amount applicable to active employees or retirees, whichever is less.
		25 years	Medical, dental, and vision coverages are provided for retiree plus two or more eligible dependents. Medical premium cost sharing is required with the same contribution percentage as active employees and based on the medical premium amount applicable to active employees or retirees, whichever is less.
	Hired on or after March 1, 2007	15 years	Retiree is covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less.
		20 years	Retiree plus one eligible dependent are covered for medical. Medical premium cost sharing is required with the same contribution percentage as active employees and based on medical premium applicable to active employees or retirees, whichever is less.

As of August 1, 2007, all current retirees not yet 65 years of age and Medicare eligible and all future retirees who are Medicare eligible must enroll themselves in Medicare when they reach the eligibility date for Medicare. Their Medicare eligible dependents who are enrolled in the District's health plan must also enroll in Medicare upon their eligibility date. The District reimburses the ongoing Medicare Part B cost incurred by the retiree and/or dependent payable quarterly.

After an evaluation of the cost savings realized in implementing the Medicare enrollment plan since August 2007, the District decided to expand the Medicare enrollment requirement to all retirees and their eligible dependents that are enrolled in the District's medical plan. As of July 1, 2009, all Medicare eligible retirees and their eligible dependents were required to enroll in Medicare. The District reimburses the Medicare Part B penalty charged by the Social Security Administration to the retirees/dependents due to late enrollment.

The District provides the unclassified group of retirees $50,000 life insurance upon retirement with a five-year phase out in declining increments of $10,000 per year after retirement.

Employees Covered – As of the most recent OPEB annual valuation report, dated June 30, 2017, the following employees were covered by the benefit terms of the Plan:

Inactive employees or beneficiaries currently receiving	711
Active employees	741

Contributions

On June 24, 2008, the District's Board of Directors adopted a resolution approving the agreement and election of the District to prefund OPEB through CalPERS under its California Employer's Retiree Benefit Trust (CERBT) Program. The Board of Directors approved the reallocation of $17.7 million from its existing reserve for the initial prefunding of the unfunded liability for the first year of reporting. Subsequent years' funding, pursuant to the annual budget approved by the Board of Directors, was made at the beginning of each fiscal year through fiscal year 2016-17. On September 9, 2008, the District joined CERBT, an agent multiple-employer plan consisting of an aggregation of single-employer plans. The CERBT issues a publicly available financial report that includes financial statements and required supplementary information. That report may be obtained from the California Employees' Retirement System, P. O. Box 942703, Sacramento, CA 94229-2703.

OPEB and its contribution requirements are established by memorandum of understanding with the applicable employee bargaining units and may be amended by agreements between the District and the bargaining groups. The annual contribution is based on the actuarially determined contribution. For the fiscal year ended June 30, 2018, the District's total contribution to the plan amounted to $12.5 million. All funds with payroll charges contribute to the actuarially determined contribution.

Net OPEB Liability

The District's net OPEB liability was measured on June 30, 2017 for reporting date June 30, 2018. The total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation dated June 30, 2017, based on the following actuarial methods and assumptions:

Discount Rate	7.28%
Inflation	3%
Salary Increases	3.25%
Investment Rate of Return	7.28%
Mortality Rate	Derived from the CalPERS study of Miscellaneous Public Agency experience
Pre-retirement Turnover[1]	Derived from the CalPERS study of Miscellaneous Public Agency experience
Healthcare Trend Rate[2]	6% grading to ultimate 4% for medical and flat 3% for dental and vision

[1]Net of OPEB plan investment expenses, including inflation.

[2]The mortality rate table was developed based on CaLPERS' non industrial miscellaneous public agency experience study for 14 years ending June 2011.

The long-term, expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Strategy[1] Allocation	Real Return[1]
Global Equity	59.0%	5.98%
Fixed Income	25.0%	2.62%
Global Real Estate (REITs)	8.0%	5.00%
Treasury Inflation Protected Securities (TIPS)	5.0%	1.46%
Commodities	3.0%	2.87%

[1]These expected long term real rates of return come from a geometric representation of returns that assume a general inflation rate of 2.92%.

Discount Rate

The discount rate of 7.28% is the expected long-term rate of return on District assets using investment strategy #1 within the CERBT. The projected cash flows used to determine the discount rate assumed that District contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees and beneficiaries. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Changes in OPEB Liability

The following table shows the changes in net OPEB liability recognized over the measurement period:

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)
Beginning Balance	$167,805,300	$ 84,500,500	$83,304,800
Changes Recognized for the Measurement Period:			
Service Cost	2,913,500	-	2,913,500
Interest Cost	12,017,600	-	12,017,600
Contributions	-	11,471,200	(11,471,200)
Benefits Payments	(8,471,200)	(8,471,200)	-
Non Benefit Related Admin Expenses from Plan Trusts	-	(44,900)	44,900
Expected Investment Return	-	6,259,202	(6,259,202)
Investment Experience (Loss)/Gain	-	2,924,898	(2,924,898)
Net Changes	6,459,900	12,139,200	(5,679,300)
Ending Balance	$174,265,200	$ 96,639,700	$77,625,500

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the District, calculated using the current discount rate, as well as what the District's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	Discount Rate - 1%	Current Discount	Discount Rate +1%
Net OPEB Liability	$ 98,887,100	$ 77,625,500	$ 59,870,500

Sensitivity of the Net OPEB Liability to Changes in the Health Care Cost Trend Rates

The following presents the net OPEB liability of the District, if it were calculated using health care cost trend rates that are 1-percentage point lower or 1-percentage point higher than the current rate, for measurement period ended June 30, 2018:

	1% Decrease	Current Rates	1% Increase
Net OPEB Liability	$ 58,681,800	$ 77,625,500	$ 100,460,700

OPEB Plan Fiduciary Net Position

Detailed information about the District's OPEB plan fiduciary net position is available in separately issued CalPERS financial reports.

OPEB Expense and Deferred Outflow/Inflow of Resources

For the year ended June 30, 2018, the District recognized OPEB credit of $4.4 million. At June 30, 2018, the District reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflow of Resources	Deferred Inflow of Resources
OPEB contribution subsequent to measurement date	$ 12,546,137	$ -
Net difference between projected and actual earnings on plan investments	-	(2,339,918)
Total	$ 12,546,137	$ (2,339,918)

$12.5 million is reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction from the net OPEB liability in the following fiscal year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as OPEB expense as follows:

Year ending June 30	Deferred Outflows/(Inflows) of Resources
2019	$ (584,980)
2020	(584,980)
2021	(584,980)
2022	(584,978)
Total	$ (2,339,918)

(12) RISK MANAGEMENT

The District is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The District reports all of its risk management activities in its Risk Management Internal Service Fund.

The District's deductibles and maximum coverage are as follows (in thousands):

Coverage Descriptions	Deductibles	Commercial Insurance Coverage
General liability	$2,000	$50,000
Workers' compensation	1,000	Statutory
Property damage (subject to policy sub-limits)	50	300,000
Fidelity (Crime) - Directors	5	1,000
Fidelity (Crime) – Non-Directors	10	2,000
Non-owned aircraft liability	-	5,000
Boiler and machinery	50	100,000

Claims expenses and liabilities are reported for self-insured deductibles when it is probable that a loss has occurred, and the amount of that loss can be reasonably estimated. These losses include an estimate of claims that have been incurred but not reported, allocated and unallocated claims adjustment expenses and incremental claim expense. Claim liabilities are reevaluated periodically to take into consideration recently settled claims, the frequency of claims, and other economic and social factors. At June 30, 2018, the liability for self-insurance claims was $6,465,000. This liability is the District's best estimate based on available information. Settled claims have not exceeded commercial insurance coverage in any of the past three fiscal years.

Changes in the reported liability since June 30, 2018 are as follows (in thousands):

	General Liability	Workers' Compensation	Total
Claims payable at June 30, 2016	$ 3,316	$ 3,418	$ 6,734
Current year premiums, incurred claims and changes in estimates	(278)	(406)	(684)
Claim payments	(51)	(333)	(384)
Claims payable at June 30, 2017	2,987	2,679	5,666
Current year premiums, incurred claims and changes in estimates	584	677	1,261
Claim payments	(84)	(378)	(462)
Claims payable at June 30, 2018	$ 3,487	$ 2,978	$ 6,465

The total claims payable in the amount of $6.47 million is recorded in the District's Risk Management Internal Service Fund. No portion of this amount is recorded in the Funds.

(13) TRANSFERS IN AND OUT

Transfers are used to 1) move revenues from the fund that statute or budget requires to collect them to the fund that statute or budget requires to expend them, 2) move receipts to debt service from the funds collecting the receipts to the debt service fund as debt service payments become due, and 3) move debt proceeds held in the construction fund to the funds incurring the construction expense.

During the fiscal year, the Funds received $1.6 million each from the General Fund and Watershed & Stream Stewardship Fund for the Open Space credit on property tax receipts.

The Funds transferred $11.4 million to the Safe, Clean Water and Natural Flood Protection Program Fund for the Main and Madrone capital projects. An additional $99 thousand was transferred to the General Fund to support the drought emergency response project.

Details of the interfund transfers for the current fiscal year are as follows (in thousands):

Fund Receiving Transfers	Fund Making Transfers	Amount Transferred
Water Utility Enterprise Fund	General Fund	$ 1,626
Water Utility Enterprise Fund	Watershed & Stream Stewardship	1,626
Total Transfer In		$ 3,252
General Fund	Water Utility Enterprise Fund	$ 99
Safe, Clean Water Fund	Water Utility Enterprise Fund	11,378
Total Transfer Out		$ 11,477

(14) PRIOR PERIOD ADJUSTMENT

In fiscal year 2018, the District adopted Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial reporting for Other Post Employment Benefits*, as of July 1, 2017. The impact of the implementation on the beginning net position is as follows:

Net Position	Amount
Beginning balance	$ 682,698
Pre GASB75 OPEB asset close out	(516)
Deferred outflows of resources	4,997
GASB75 OPEB liability	(36,288)
Beginning balance, restated	$ 650,891

(15) COMMITMENTS

(a) Contract and Purchase Commitments

As of June 30, 2018, the Funds have open purchase commitments of approximately $83.5 million related to new or existing contracts and agreements. These encumbrances represent commitments of the Funds and do not represent actual expenses or liabilities.

(b) San Felipe Project Water Deliveries

The District has contracted with the U.S. Department of the Interior (USDI) for water deliveries from the Central Valley Project. The contract requires the District to operate and maintain Reach 1, Reach 2, and Reach 3 of the San Felipe Division facilities of the USDI.

During fiscal year 2017, the District amended this contract. The amended contract provided for compliance with the Central Valley Project Improvement Act and converted the repayment of the San Felipe Division facilities from a water service contract to a repayment contract with fixed semi-annual payments. The semi-annual payments for January 2007 through July 2016 are $7,466,867. The semi-annual payments starting January 2017 is $7,742,285. The amended contract preserved the attributes of a water service contract for other Central Valley Project costs.

The total commitment, including applicable interest, of the repayment contract was $440,492,081. The remaining commitment as of June 30, 2018 was $267,927,891.

(c) Participation Rights in Storage Facilities

In December 1995, the District entered into a water banking and exchange program with Semitropic Water Storage District and its Improvement Districts that entitles the District to storage, withdrawal, and exchange rights for the District's State Water Project supplies. The District's share of the total program capital costs is $46.9 million based on a 35 percent vesting in the program. The District pays the program capital costs when storing and recovering Tier 1 water. The agreement terminates in December 2035.

The District pays the program capital costs when storing and recovering Tier 1 water. As of June 30, 2018, the District has paid $38.7 million towards the base fee obligation of this agreement. During the first 10 years, the District has a reservation for the full 35 percent allocation; by January 1, 2006, if the District's contributions towards the program capital costs did not equal $46.9 million the District's permanent storage allocation would have been reduced. The District decided to utilize its total allowable storage rights at 35 percent on January 1, 2006.

The District currently has a storage allocation of 350,000 acre-feet. As of June 30, 2018, the District has 256,725 acre-feet of water in storage. The participation rights are amortized using the straight-line method over the life of the agreement. Amortization of $26.4 million has been recorded through fiscal year 2018.

(16) CONTINGENCIES

(a) Litigation

It is normal for a public entity like the District, with its size and activities, to be a defendant, co-defendant, or cross-defendant in court cases in which money damages are sought. Discussed below are all pending litigations that the District is aware of which are significant and may have a potentially impact on the financial statements.

Great Oaks Water Company v. Santa Clara Valley Water District

In 2005, Great Oaks Water Company (hereinafter "Great Oaks") filed an administrative claim alleging that the groundwater charges for 2005-06 violated the Law and sought a partial refund. After the claim was deemed denied, Great Oaks filed its lawsuit that subsequently included an allegation that the groundwater production charges violated Proposition 218, or Article XIII D of the state constitution because proceeds are used to fund projects and services that benefit the general public, not just ratepayers. Great Oaks demanded a partial refund as well as declaratory, injunctive and mandamus relief.

On February 3, 2010, the Honorable Kevin Murphy issued Judgment After Trial and decided that the District owes Great Oaks a refund of groundwater charges in the amount of $4,623,096 plus interest at 7% per annum. The award of pre-judgment interest as of December 1, 2009, amounted to $1,285,524. Judge Murphy also awarded post-judgment interest at the rate of $886.62 per day until the date of the entry of judgment. Judge Murphy also decided that the District owes Great Oaks damages in the amount of $1,306,830. Recovery of this damages amount is in the alternative to the award of refund described above. The District appealed this decision to the Sixth District Court of Appeals.

During the pendency of the appeal, in accordance with the requirements of GASB Statement No. 62, the District recorded a liability in the amount of $5,930,000, which includes the Judgment After Trial decision amount plus interest in fiscal year 2008-09. The District recorded $160,000 in Fiscal Year 2009-10, $324,000 in Fiscal Year 2010-11, $325,000 in Fiscal Year 2011-12, and $324,000 in Fiscal Years 2012-13 and 2013-14 as liability for the post-judgment interest from January 1, 2010 through June 30, 2014 at the rate of $886.62 per day. No further interest was booked after the favorable judgement on March 26, 2015 by the Sixth District Court of Appeals, which is discussed further below.

On March 26, 2015, the California Court of Appeal for the Sixth Appellate District ("Court of Appeal") reversed in full the judgment of the trial court in the Great Oaks case. The Court of Appeal found that under Proposition 218 the District's groundwater charge is a "property-related fee," but also a fee for water service excepted from the voter ratification requirement. The Court of Appeal also found that the trial court erred when it found that the 2005-06 groundwater charges failed to satisfy the applicable procedural requirements. The Court of Appeal also reversed the trial court's finding that the District had failed to comply with the Law in setting the groundwater fee. The effect of the Court of Appeals decision is to reverse the refund the trial court had ordered the District to pay to Great Oaks, as well as reverse the awards of damages, pre-judgment interest, and certain other amounts. The Court of Appeal remanded the case to the trial court for proceedings consistent with its decision.

On April 10, 2015, the District and Great Oaks each filed their separate petitions for rehearing with the Court of Appeal, which were granted on April 24, 2015. On August 12, 2015, the Court of Appeal again reversed in full the judgment of the trial court in the Great Oaks case, leaving intact the substantive findings from its prior opinion. On August 27, 2015, Great Oaks again filed its petition for rehearing. On September 10, 2015, the Court of Appeal, without requiring any reply by the District granted Great Oaks petition for rehearing. On December 8, 2015, the Court of Appeal again reversed in full the judgment of the trial court in the Great Oaks case. Based on the recent court decisions, the total liability of $7.4 million previously recognized was reversed in fiscal year 2017.

Great Oaks has filed refund actions for subsequent years of annual groundwater charges, all of which are currently stayed (Santa Clara Superior Court Case Nos. 107-CV-087884; 108-CV-119465; 108-CV-123064; 109-CV-146018; 110-CV-178947; 111-CV-205462; 112-CV-228340; 113-CV-249349; 115-CV-281385; 16-CV-292097; 17-CV-308140; and 18-CV-327641).

On November 8, 2018, the Sixth District Court of Appeal issued its latest opinion in the Great Oaks versus District case, reaffirming that Great Oaks failed to prove that the District's 2005-06 groundwater charges were legally flawed. Regardless of this recent Court decision, Great Oaks may attempt to retry its 2005 case based on new principles.

Shatto Corporation, Mike Rawitser Golf Shop and Santa Teresa Golf Club, et al v. Santa Clara Valley Water District

Similar to the Great Oaks Case, Shatto Corporation, Mike Rawitser Golf Shop and Santa Teresa Golf Club have filed a refund action, Santa Clara Superior Court under Case No. 111-CV-195879. The action is currently stayed.

Other water retailers including San Jose Water Company, the cities of Morgan Hill, Gilroy and Santa Clara and the Los Altos Golf and Country Club, and Stanford University dispute the District's groundwater charges and have subsequently entered into tolling agreements with the District pending the final decision in the Great Oaks Case.

The District filed its petition for review in the California Supreme Court on January 19, 2016, and on March 23, 2016 review was granted, however it was placed on hold pending resolution of the City of Buenaventura v. United Water Conservation District (UWCD) case which argued in September of 2017. On

December 5, 2017, the Supreme Court released a decision in the UWCD case, and unanimously decided that Proposition 210 does not apply to UWCD's groundwater charges. However, the Supreme Court did determine that Proposition 26 applied to ground water charges; thus the District's groundwater charges are also likely subject to Proposition 26's requirements. Meanwhile, the District awaits further direction from the Supreme Court in light of its decision in the UWCD case. The District cannot predict the nature or extent of proceedings of how the Great Oaks case will be handled by the Supreme Court.

The District is currently reviewing its estimates of potential liability with respect to this case as well as other cases filed by Great Oaks and other plaintiffs or potential claimants which have either been stayed or are subject to tolling agreements.

(b) Grants and Subventions

The District has received federal and state grants for specific purposes that are subject to review and audit. Although such audits could result in expenditure disallowances under grant terms, any required reimbursements are not expected to be material.

(c) Central Valley Project

On June 7, 1977, the District entered into a contract with the U.S. Bureau of Reclamation for water service from the San Felipe Division of the Federal Central Valley Project (CVP). The CVP water service provides for both agricultural operation and maintenance (O&M) and municipal and industrial (M&I) water deliveries to the District up to a total maximum annual entitlement of 152,500 acre-feet per year. The contract specified initial water rates for O&M and M&I water service and provided for periodic adjustments for the respective water rates in accordance with prevailing CVP water rate policies commencing in the year 1993 for the in-basin M&I rate component; 1996 for the agricultural O&M rate component; 2001 for the full agricultural water rate; and 2008 for the out-of-basin M&I rate component. The methodology of CVP water rate setting has historically recovered current year operating costs and the applicable construction costs over 50 years.

The District's initial CVP water rates were determined based on a November 1974 CVP water rate policy and estimated construction costs of the San Felipe Division. The actual construction costs of the San Felipe Division were significantly higher than the estimates used in the initial rate calculation, and changes in the Federal Reclamation Law during the 1980's have led to the development of new CVP water rate policies. These policies, coupled with the terms of the original contract, resulted in the District facing significant increases for repayment of the San Felipe Division.

In compliance with the Central Valley Improvement Act (CVPIA), the District entered into negotiations, along with all other CVP contractors, with the U.S. Bureau of Reclamation for contract renewal. Because of concerns related to litigation challenging the renewal process, the District entered into an amended contract. The amendment maintained the basic provisions of the original contract, implemented provisions of CVPIA, and allowed the establishment of a fixed repayment for the San Felipe Division facilities.

(d) Perchlorate

In 2003, perchlorate released from the Olin Corporation facility at Tennant Avenue in Morgan Hill was discovered in groundwater in much of the Llagas Subbasin in South County, impacting many water supply wells. The investigation and clean-up of the contamination are under the jurisdiction of the Central Coast Regional Water Quality Control Board. Due to ongoing remediation by Olin and managed recharge by the District, both the plume size and number of wells impacted have been reduced. As of June 2018, perchlorate is present above the Maximum Contaminant Level (MCL) in fewer than 10 domestic water supply wells. The perchlorate plume exceeding the MCL extends south from the Tennant Avenue site for about 3 miles. Olin's remedial efforts have included on-site soil removal and groundwater treatment as well as off-site plume remediation.

(e) President's Day Flood Event

Following a series of storms, a flood event occurred on the Coyote Creek in San Jose, California on or about February 21, 2017. The Coyote Creek is approximately 42 miles long and is the longest creek in the County. In the southern portion of the County, the District owns and maintains the Leroy Anderson Dam and Reservoir along the Coyote Creek near Morgan Hill, California. The Anderson Dam is upstream from the City of San Jose. After the reservoir reached capacity, water began going over the Anderson Dam spillway on February 18, 2017. The spillover volume peaked on the morning of February 21, 2017, increasing flows on Coyote Creek. Beginning on or about February 21, 2017, certain residential and non-residential areas of San Jose along Coyote Creek experienced flooding due to rising water levels in the creek. Thousands of residents were temporarily evacuated, and numerous properties experienced flood damage. Such flood water has now receded.

The District has received 420 claims with respect to the flooding along Coyote Creek. The aggregate stated value of these claims is approximately $3,000,000. Eighteen lawsuits alleging damage from the Coyote Creek flood event have been filed against the District in Santa Clara County Superior Court. The District is evaluating all claims and lawsuits and cannot predict the outcomes or financial impacts of these or any future claims and lawsuits with respect to the Coyote flood event. The District intends to vigorously defend any actions brought against it with respect to flood-related property damage caused by the flooding along Coyote Creek.

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Required

Supplementary

Information

SANTA CLARA VALLEY WATER DISTRICT

Schedule of Changes In Net Pension Liability and Related Ratios
as of June 30, 2018
Last 10 Years*

	2015	2016	2017	2018
Total pension liability				
Service cost	$ 14,351,245	$ 13,735,953	$ 13,764,288	$ 15,752,291
Interest on total pension liability	46,261,670	48,842,236	51,160,517	53,109,673
Differences between expected and actual experience	-	(184,479)	(3,173,782)	(4,716,605)
Changes in assumptions	-	(12,079,891)	-	44,289,025
Benefit payments, including refunds of employee contributions	(25,004,849)	(27,800,233)	(30,428,304)	(32,498,706)
Net change in pension liability	35,608,066	22,513,586	31,322,719	75,935,678
Total pension liability, beginning	622,149,061	657,757,127	680,270,713	711,593,432
Total pension liability, ending (a)	$ 657,757,127	$ 680,270,713	$ 711,593,432	$ 787,529,110
Plan fiduciary net position				
Contributions - employer	$ 13,804,460	$ 15,157,939	$ 17,044,538	$ 19,055,019
Contributions - employee	9,036,853	6,242,234	6,567,551	6,624,798
Net investment income	75,675,314	11,478,076	2,752,954	56,514,065
Benefits payment	(25,004,849)	(27,800,233)	(30,428,304)	(32,498,706)
Net plan to plan resource movement	-	-	370	370
Administrative expense	-	(566,550)	(312,496)	(750,585)
Net change in fiduciary net position	73,511,778	4,511,466	(4,375,387)	48,944,961
Plan fiduciary net position, beginning	434,729,646	508,241,424	512,752,890	508,377,503
Plan fiduciary net position, ending (b)	$ 508,241,424	$ 512,752,890	$ 508,377,503	$ 557,322,464
Net pension liability, ending (a - b)	$ 149,515,703	$ 167,517,823	$ 203,215,929	$ 230,206,646

Plan fiduciary net position as a percentage of total pension liability	77.27%	75.37%	71.44%	70.77%
Covered payroll	$ 77,885,844	$ 78,009,731	$ 79,663,661	$ 84,110,908
Net pension liability as a percentage of covered payroll	191.97%	214.74%	255.09%	273.69%
Discount rate	7.50%	7.65%	7.65%	7.15%

** Fiscal year 2015 was the first year of GASB 68 implementation, therefore only 4 years are shown.*

SANTA CLARA VALLEY WATER DISTRICT
Schedule of Employer Pension Contributions
June 30, 2018*

	2015	2016	2017	2018
Actuarially determined contribution	$ 13,948,105	$ 16,532,182	$ 18,568,910	$ 19,746,343
Contributions in relation to the actuarially determined contribution	(13,948,105)	(16,532,182)	(18,568,910)	(19,746,343)
Contribution Deficiency	$ -	$ -	$ -	$ -
Covered payroll [1]	$ 78,009,731	$ 79,663,661	$ 84,110,908	$ 86,634,235
Contribution as a percentage of covered payroll	17.88%	20.75%	22.08%	22.79%

[1] The covered payroll noted on this page is different from the covered payroll presented on the previous page as the previous page is payroll related to the net pension liability in the applicable measurement period.

The covered payroll for the current year is from the actuarial valuation study using a prior year measurment date, adjusted to the current year using a 3% increase.

** Fiscal year 2015 was the first year of GASB 68 implementation, therefore only 4 years are shown.*

SANTA CLARA VALLEY WATER DISTRICT
Schedule of Changes In Net OPEB Liability and Related Ratios
as of June 30, 2018
Last 10 Years*

	2018
Total OPEB liability	
Service cost	$ 2,913,500
Interest on total OPEB liability	12,017,600
Benefit payments	(8,471,200)
Net change in OPEB liability	6,459,900
Total OPEB liability, beginning	167,805,300
Total OPEB liability, ending (a)	$ 174,265,200
Plan fiduciary net position	
Contributions	$ 11,471,200
Benefits payment	(8,471,200)
Net investment income	6,259,202
Investment return - difference between expected and actual experience	2,924,898
Administrative expense	(44,900)
Net change in fiduciary net position	12,139,200
Plan fiduciary net position, beginning	84,500,500
Plan fiduciary net position, ending (b)	$ 96,639,700
Net OPEB liability, ending (a - b)	$ 77,625,500
Plan fiduciary net position as a percentage of total OPEB liability	55.46%
Covered payroll	$ 79,663,700
Net OPEB liability as a percentage of covered payroll	97.44%
Discount rate	7.28%

** Fiscal year 2018 was the first year of GASB 75 implementation, therefore only 1 year is shown.*

SANTA CLARA VALLEY WATER DISTRICT

Schedule of Employer Other Post Employment Benefit Contributions

June 30, 2018*

	2018
Actuarially determined contribution	$ 9,546,137
Contributions in relation to the actuarially determined contribution	(12,546,137)
Contribution Deficiency / (Excess)	$ (3,000,000)
Covered payroll [1]	$ 82,053,611
Contribution as a percentage of covered payroll	15.29%

[1] The covered payroll noted on this page is different from the covered payroll presented on the previous page as the previous page is payroll related to the net OPEB liability in the applicable measurement period.

The covered payroll for the current year is from the actuarial valuation study using a prior year measurement date, adjusted to the current year using a 3% increase.

** Fiscal year 2018 was the first year of GASB 75 implementation, therefore only 1 year is shown.*

Other Information

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VAVRINEK, TRINE, DAY & CO., LLP
Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Board of Directors
Santa Clara Valley Water District
San Jose, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate fund information of Santa Clara Valley Water District (District) as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise District's basic financial statements, and have issued our report thereon dated December 21, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered District's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of District's internal control. Accordingly, we do not express an opinion on the effectiveness of District's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

260 Sheridan Ave., Suite 440, Palo Alto, CA 94306 P 650.462.0400 F 650.462.0400 W vtdcpa.com

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the District's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Vavrinek, Trine, Day & Co. LLP

Palo Alto, California
December 21, 2018

WATER UTILITY ENTERPRISE FUNDS
OF THE
SANTA CLARA VALLEY WATER DISTRICTS

Schedule of Revenues and Expenses
(Budgetary Basis)
For the Year Ended June 30, 2018

	North County	South County	Total
Operating Revenues:			
Ground Water Charges	$ 84,747	$ 12,736	$ 97,483
Treated Water Charges	132,477	-	132,477
Surface and recycled water charges	401	640	1,041
Operating Grants	4,325	71	4,396
Other	4,217	-	4,217
Total Operating revenues	226,167	13,447	239,614
Operating Expenses			
Sources of Supply	86,215	9,562	95,777
Water Treatment	36,719	257	36,976
Transmission and distribution:			
Raw Water	10,735	3,736	14,471
Treated Water	1,466	-	1,466
Administration and general	21,537	3,841	25,378
Capital Cost Recovery	(4,387)	4,387	-
Total Operating Expenses	152,285	21,783	174,068
Operating income (loss)	73,882	(8,336)	65,546
Nonoperating revenues (expenses):			
Property Taxes	34,085	3,332	37,417
Investment Income	1,267	-	1,267
Rental Income	81	34	115
Other	1,882	214	2,096
Interest and fiscal agent fees	(16,050)	-	(16,050)
Open Space Credit Transfer	(8,075)	8,075	-
Interest earned credit	(121)	121	-
Net Operating revenues	13,069	11,776	24,845
Change in Net Position	$ 86,951	$ 3,440	$ 90,391

Reconciliation to Statement of Revenues, Expenses and Changes in Net Position:

Income (Loss)	$ 90,391
Depreciation and amortization expenses not budgeted	(29,443)
Capital contributions	4,350
Interfund transfers	(8,225)
Reconcile GAAP to budgetary basis for operating expenses	(13,365)
Change in net position per Statement of Revenues, Expenses, and Change in Net Position	$ 43,708

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Santa Clara Valley Water District

File No.: 19-0783

Agenda Date: 8/28/2019
Item No.: 5.2.

COMMITTEE AGENDA MEMORANDUM

Board Audit Committee

SUBJECT:
Introduction of Maze and Associates, Valley Water's new Financial Auditor.

RECOMMENDATION:
Receive and discuss information regarding the Statement of Auditing Standards (SAS) 114 and an overview of the financial audit process, presented by Maze and Associates, Valley Water's new Financial Auditor.

SUMMARY:
At the May 28, 2019, Board meeting, the Board of Directors approved the agreement with Maze and Associates for financial audit services for Fiscal Years 2019, 2020, and 2021.

Maze & Associates has over 29 years in the municipal audit business and manages nearly one hundred municipal clients, making them a reputable and known municipal audit, consulting and accounting firm. Their audit portfolio has included cities, counties, Water & Sewer Districts, Transit Agencies, Joint Power Agencies and more in Northern and Central California. Maze & Associates are current with pronouncements issued by the Governmental Accounting Standards Board.

At the June 26, 2019, Board Audit Committee (BAC) meeting, the BAC requested to meet Maze and Associates, Valley Water's new Financial Auditor and for Maze and Associates to provide an overview of the financial audit process. Attachment 1 is the Statement of Auditing Standards Discussion, which covers Audit Timing, Scope, and Management Representations.

ATTACHMENTS:
Attachment 1: Statement of Auditing Standards Discussion

UNCLASSIFIED MANAGER:
Darin Taylor, 408-630-3068

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SANTA CLARA VALLEY WATER DISTRICT
STATEMENT OF AUDITING STANDARDS DISCUSSION
For The Year Ended June 30, 2019

Date of Meeting: August 28, 2019

Form of communication: Board Audit Committee Meeting

Audit Firm: Maze and Associates

Purpose of meeting: Cover discussions related to Statement of Auditing Standards (SAS) 114.

The main purpose of this discussion is to open up two-way communication between the auditors and those in charge of governance.

SAS 114 – Audit Timing, Scope and Management Representation

Audit Timing

Interim phase fieldwork was the weeks of June 17th and 24th, 2019 and final phase fieldwork is scheduled for the weeks of September 16th and 23rd, 2019. The finalized drafts are scheduled to be presented at the December 2019 Board Meeting.

Audit Scope

Scope of work includes:

- Perform a risk assessment - brainstorm with team

- Create an audit plan tailored to the District

- Review and document our understanding of the District's internal controls and segregation of duties. Here we have a focused attention on conflict of duties – employees with access to assets and related records used to control and account for those assets, and we test mitigating controls.

- Determine the most effective way to test significant audit areas and balances, usually by:

Interim Audit Phase
- Testing controls over key transaction cycles via sampling (such as disbursements, payroll and journal entries)
- Testing information system application controls
- Sending 3rd party confirmations when effective
- Testing accruals at year end

Final Audit Phase
- Analytical Review
- Projections and forecasts
- Testing bank reconciliations
- Testing capital asset transactions
- Testing long-term debt transactions
- Reviewing actuarial studies utilized for Retirement Plans and OPEB

- Perform compliance tests
  - Certain Government code provisions applicable to cash and investments
  - Local policy compliance, typically:
    - Investment
    - Purchasing
  - Grants (Single Audits)

- Financial Statement preparation assistance
  - Staff has requested that we provide assistance with the preparation of financial statements and disclosures.
  - We are satisfied staff have the capability to perform this task themselves.

Management Representations

We will request representations from management that data and assertions provided are complete and accurate. We rely primarily on our audit verification tests and procedures; however, management assertions and judgment unavoidably affect financial data.

David Alvey, CPA
Audit Partner
davida@mazeassociates.com
925-930-0902 Ext. 227

MAZE & ASSOCIATES

"We are in the business to help our clients succeed"