



City of Palo Alto

Finance Committee Staff Report

(ID # 9030)

Report Type: Action Items

Meeting Date: 4/3/2018

Summary Title: FY 2019 Water Financial Plan and Rate Proposals

Title: Utilities Advisory Commission Recommendation that the City Council Adopt: (1) a Resolution Approving the Fiscal Year 2019 Water Utility Financial Plan; and (2) a Resolution Increasing Water Rates by 4% by Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service)

From: City Manager

Lead Department: Utilities

RECOMMENDATION

Staff and the Utilities Advisory Commission (UAC) request that the Finance Committee recommend that the Council:

1. Adopt a resolution (Attachment A) approving the fiscal year (FY) 2019 Water Utility Financial Plan (Attachment B); and
2. Adopt a resolution (Attachment C) increasing water rates by amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service).

EXECUTIVE SUMMARY

The FY 2019 Water Utility Financial Plan includes projections of the utility's costs and revenues for FY 2018 through FY 2028. Costs are projected to rise by about 4% per year over the next several years, primarily due to increasing water supply and capital project costs. As a result, staff projects the need for a 4% water rate increase on July 1, 2018 and 7% rate increases in FY 2020 and FY 2021. The 4% increase in 2018 is needed to raise revenue for rising capital and operations expenses. Over the longer term, increases are primarily associated with increasing water supply costs, with some of the increase related to rising capital costs.

The UAC reviewed the Water Financial Plan and Rate Proposals at its meeting on March 7,

2018. Staff noted that the proposal had not changed from the preliminary rate review brought to the UAC on February 7, 2018, and the UAC voted unanimously to recommend staff's proposal.

BACKGROUND

Every year staff presents the UAC and Finance Committee with Financial Plans for its Electric, Gas, Water, and Wastewater Collection Utilities and recommends any rate adjustments required to maintain their financial health. These Financial Plans include a comprehensive overview of the utility's operations, both retrospective and prospective, and are intended to be a reference for UAC and Council members as they review the budget and staff's rate recommendations. Each Financial Plan also contains a set of Reserves Management Practices describing the reserves for each utility and the management practices for those reserves.

DISCUSSION

Staff's annual assessment of the financial position of the City's water utility is completed to ensure adequate revenue to fund operations, in compliance with the cost of service requirements set forth in the California Constitution (Proposition 218). This includes making long-term projections of market conditions, the physical condition of the system, and other factors that could affect utility costs, and setting rates adequate to recover these costs. The current rate proposals are also based on the cost of service methodology described in the 2012 *Palo Alto Water Cost of Service & Rate Study*, the 2015 *Study* update, and the 2015 Drought Rate memorandum completed by Raftelis Financial Consultants.

Staff proposes to adjust water rates to the levels shown in Tables 1 and 2, below, effective July 1, 2018, to recover costs related to growing capital improvement, operations and maintenance, and general administrative costs, as discussed below. These changes are projected to increase the system average water rate by roughly 4%. This includes a smaller increase in water consumption charges and a larger increase in fixed charges, for an overall increase in residential customer bills of roughly 3% to 4%.

Concurrently, staff is also evaluating whether it would be appropriate to apply a single fixed charge to smaller meter sizes, which was an issue raised in the 2017 metering audit. If implemented, this change would require an update to the utility's cost of service analysis. The evaluation will be completed for possible implementation on or before July 1, 2019.

The rate changes proposed for July 1, 2018 are included in the proposed amended rate schedules in Attachment D, and outlined here in Tables 1 through 3.

Table 1: Water Consumption Charges in \$/CCF (Current and Proposed)

	Current (7/1/16)	Proposed (7/1/17)	Change	
			\$/CCF	%

W-1 (Residential) Volumetric Rates (\$/CCF)				
Tier 1 Rates	6.66	6.66	-	-
Tier 2 Rates	9.18	9.48	0.30	3%
W-2 (Construction) Volumetric Rates (\$/CCF)				
Uniform Rate	7.68	7.80	0.12	2%
W-4 (Commercial) Volumetric Rates (\$/CCF)				
Uniform Rate	7.68	7.80	0.12	2%
W-7 (Irrigation) Volumetric Rates (\$/CCF)				
Uniform Rate	9.08	9.37	0.29	3%

Table 2: Current and Proposed Monthly Service Charges for W-1, W-4, and W-7

Meter Size	Monthly Service Charge (\$/month based on meter size)		Change	
	Current (7/1/17) Residential (W-1) Commercial (W-4) Irrigation (W-7)	Proposed (7/1/18) Residential (W-1) Commercial (W-4) Irrigation (W-7)	\$	%
5/8"	\$16.77	\$18.71	\$1.94	11.6%
3/4"	\$22.60	\$25.21	\$2.61	11.6%
1"	\$34.26	\$38.22	\$3.96	11.6%
1 1/2"	\$63.40	\$70.73	\$7.33	11.6%
2"	\$98.37	\$109.75	\$11.38	11.6%
3"	\$209.11	\$233.29	\$24.18	11.6%
4"	\$372.31	\$415.36	\$43.05	11.6%
6"	\$762.81	\$851.02	\$88.21	11.6%
8"	\$1,403.94	\$1,566.29	\$162.35	11.6%
10"	\$2,219.92	\$2,476.63	\$256.71	11.6%
12"	\$2,919.34	\$3,256.93	\$337.59	11.6%

Table 3: Current and Proposed Monthly Service Charges for Fire Services (W-3)

Meter Size	Monthly Service Charge (\$/month based on meter size)		Change	
	Current (7/1/17)	Proposed (7/1/18)	\$	%

2"	\$3.79	\$4.23	\$0.44	11.6%
4"	\$23.42	\$26.13	\$2.71	11.6%
6"	\$68.03	\$75.90	\$7.87	11.6%
8"	\$144.97	\$161.73	\$16.76	11.6%
10"	\$260.70	\$290.85	\$30.15	11.6%
12"	\$421.11	\$469.81	\$48.70	11.6%

Bill Impact of Proposed Rate Changes

Table 5 shows the impact of the proposed July 1, 2018 rate changes on residential bills. The average increase in revenue is projected to be about four percent, but some customers may see slightly higher or lower increases in their bill due to slight changes in the composition of the utility's costs. The change represents about a 12% increase to the distribution portion of the water rates to recover projected increases in capital projects, such as reservoir and tank rehabilitations, main replacement projects and meter upgrades, as well as inflationary increases to operations costs. This is offset by lower water supply costs than were projected by staff during last year's forecasting process. Because water consumption increased as the Bay Area exited the drought last year, the current estimate of the FY 2019 SFPUC W-25 rate (Wholesale Use with Long-Term Contract) is \$4.10/ccf, compared to last year's projection, which was \$4.37/ccf. The SFPUC will not determine its final wholesale rate until May or June. However, in order to have the City's water rates in place for July 1, staff must provide notice to CPAU customers by the end of April. Should the SFPUC increase rates beyond \$4.10/ccf after the City's July 1 water rates are adopted, current Operations Reserves should provide sufficient funds until an adjustment to Palo Alto's rates can be made next year.

Table 5 shows the impact of the proposed changes.

Table 5: Impact of Proposed Rate Changes on Residential Bills

Usage (CCF/month)	Bill under Existing Rates (7/1/17)	Bill under Proposed Rates (7/1/18)	Change	
			\$/mo.	%
4	\$43.41	\$45.35	\$1.94	4.5%
(Winter median) 7	\$65.91	\$68.15	\$2.24	3.4%
(Annual median) 9	\$84.27	\$87.11	\$2.84	3.4%
(Summer median) 14	\$130.17	\$134.51	\$4.34	3.3%
25	\$231.15	\$238.79	\$7.64	3.3%

Table 6 shows the impact of the proposed July 1, 2018 rate changes on various representative commercial customer bills.

Table 6: Impact of Proposed Rate Changes on Commercial Bills

Usage (CCF/month)	Bill under Current Rates (7/1/17)	Bill under Proposed Rates (7/1/18)	Change	
			\$/mo.	%
Commercial (W-4) (5/8" meters)				
(Annual median) 12	\$108.93	\$112.31	\$3.38	3.1%
(Annual average) 64	\$508.29	\$517.91	\$9.62	1.9%
Irrigation (W-7) (1 ½" meters)				
(Winter median) 9	\$ 145.12	\$ 155.06	\$ 9.94	6.9%
(Summer median) 37	\$ 399.36	\$ 417.42	\$ 18.06	4.5%
(Winter average) 56	\$ 571.88	\$ 595.45	\$ 23.57	4.1%
(Summer average) 199	\$ 1,870.32	\$ 1,935.36	\$ 65.04	3.5%

FY 2019 Financial Plan's Projected Rate Adjustments for the Next Five Fiscal Years

Table 7 shows the projected rate adjustments over the next five years and their impact on the annual median residential water bill.

Table 7: Projected Rate Adjustments, FY 2019 to FY 2023

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Water Utility	4%	7%	7%	6%	4%
Estimated Bill Impact (\$/mo)*	\$2.84	\$6.10	\$6.52	\$5.98	\$4.23
* estimated impact on median residential water bill, which is currently \$84.27.					

The largest projected increases in water rates occur between now and FY 2024, with lower increases afterward. Figures 1 and 2 below illustrate the projected increases in the Water Utility's costs between FY 2018 and FY 2024:

Figure 1: FY 2018 and FY 2024 costs

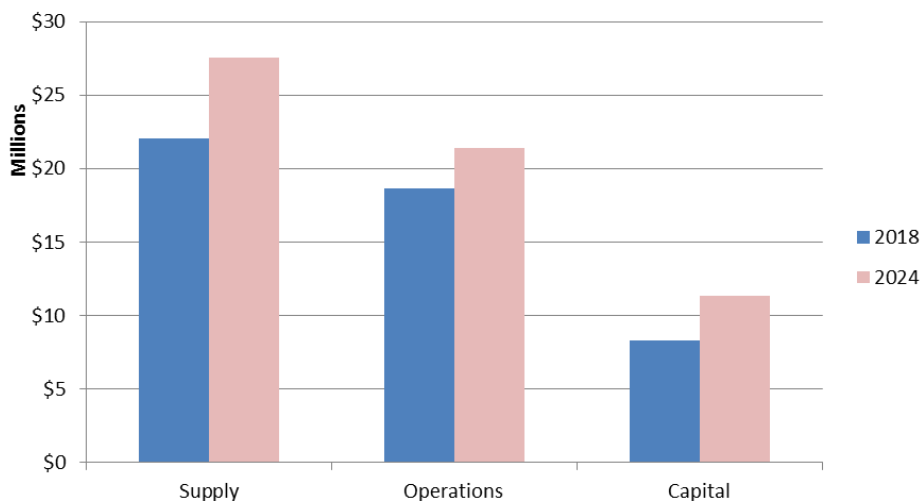
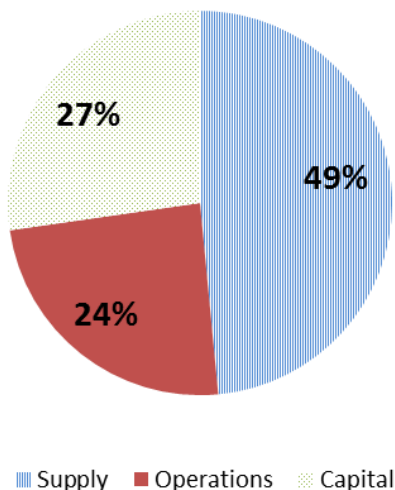


Figure 2: Percentage of Total Cost Increase From FY 2018 to FY 2024 Attributed to Supply, Capital, and Operations Costs



A major driver for the increase in the water utility's costs (and therefore rates) over the next several years is the cost of water. Wholesale water costs are adopted by the SFPUC, and generally change on an annual basis, but are projected to increase by 3.8% from FY 2018 to FY 2024. The SFPUC is currently engaged in a \$4.8 billion Water System Improvement Project (WSIP), funding of which is 60% complete but is not forecast for final completion until late 2021. Current major projects underway are replacement of Calaveras dam, restoration work to the Alameda Creek Watershed, and work on regional groundwater storage and recovery. The SFPUC is forecasting the need for additional Transmission, Supply & Storage and Treatment system upgrade projects, starting after the WSIP is complete. All future and in-progress construction work will require bond funding, and the SFPUC's financial plans show debt service cost growing by 77% between FY 2018 and FY 2024, and nearly doubling by FY 2028. Initial

wholesale rate increase projections range from 5% to 7% per year through FY 2024 to cover increases in debt service cost. In later years (FY 2024 through FY 2028), water supply costs are projected to rise by about 1.0% percent per year on average, though the later year forecast is highly uncertain.

Changes in usage due to drought, or recovery from drought, can also make the magnitude of future increases difficult to predict. The SFPUC's costs to operate the Regional Water System are primarily fixed costs, so the water rate charged to wholesale customers like the City of Palo Alto is highly dependent on usage by all users of the Regional Water System. The City's FY 2019 Water Utility Financial Plan assumes that, while the drought has ended and usage has started to increase, based on CPAU's experience, consumption is not anticipated to return to pre-drought levels. The SFPUC is currently working on its budget for FY 2019, and the long-range changes to wholesales costs are subject to change. Staff will reflect those increases in future financial forecasts, as they become available.

There remains some uncertainty in the forecasts of capital costs for the water utility in coming years. Water main replacement costs have risen substantially in recent years. The regional and even national focus on infrastructure improvement has created labor shortages, leading to higher bids than were seen in the past. Capital cost projections increased by 5.4% from FY 2018 through FY 2024. In part this is because the FY 2018 capital budget, like previous years, was lower due to main replacement project delays, so the increase in capital costs is more pronounced. However, the increased costs also are due to the higher construction costs CPAU has seen in recent capital project bids, as well as large one-time capital costs in FY 2019, FY 2020, and FY 2021 related to reservoir rehabilitation and additional costs required to invest in an advanced metering infrastructure (AMI). AMI is a foundational technology that will improve customer experience and enable more effective detection of water leaks. Over the entire forecast period (through FY 2028), capital costs are projected to rise on average by 4.4%. Operations costs are projected to increase by 2.1% over the forecast period due to materials and services cost inflation as well as benefit costs that are increasing faster than inflation.

Higher bid costs and delays in project schedules resulted in a deferment of main replacement projects in FY 2017, temporarily lowering costs, and greater than anticipated sales post-drought resulted in higher revenues. These have resulted in the Operations Reserve increasing to the maximum guideline level, and with surplus reserves available to phase in rate increases gradually over the forecast period by drawing down reserves.

Water Bill Comparison with Surrounding Cities

Table 8 compares water bills for residential customers to those in surrounding communities as of February 1, 2018 (under current the City's current water rates). Palo Alto customers have the highest monthly bills of the group, although bills for smaller water users are lower than in some surrounding communities. It is unclear at this time what water rate changes may be implemented in these communities for FY 2019.

Table 8: Residential Monthly Water Bill Comparison

Usage (CCF/month)	Residential monthly bill comparison (\$/month)* As of February 2018					
	Palo Alto	Menlo Park	Mountain View	Hayward	Redwood City	Santa Clara
4	43.41	50.51	37.10	33.20	50.10	22.76
(Winter median) 7	65.91	73.36	57.50	54.62	70.56	39.83
(Annual median) 9	84.27	88.60	71.10	68.90	84.20	51.21
(Summer median) 14	130.17	126.70	105.10	106.51	128.86	79.66
25	231.15	210.50	220.70	199.02	247.97	142.25

*Based on the FY 2013 BAWSCA survey, the fraction of SFPUC as the source of potable water supply was 100% for Palo Alto, 95% for Menlo Park, 100% for Redwood City, 87% for Mountain View, 10% for Santa Clara and 100% for Hayward.

Cost Drivers and Cost Containment

Because the City's water rates are higher than in most of the comparison cities in Table 8 above, it is worth noting the drivers for these costs, as well as the City's efforts to contain costs.

The primary driver for rising costs in recent years has been the increasing cost of Hetch Hetchy water due to rehabilitation and seismic strengthening of the one hundred year old system. A secondary but significant driver has been the rising cost of construction for Palo Alto infrastructure replacement, as well as the cost the City's emergency supply system. Other agencies in the area that buy Hetch Hetchy water have been similarly affected by these trends, but Palo Alto's rates remain higher. Some of the key reasons include:

- As one of the earliest cities to develop on the Peninsula, Palo Alto has older infrastructure that requires more spending on replacement. In addition, other cities have allowed more redevelopment, which means that developers pay fees to upgrade and replace the system when they create capacity impacts.
- Palo Alto's system is more spread out, with reservoirs and transmission lines running into the Foothills rather than being more centrally located. This results in higher operational and capital replacement costs.
- Palo Alto's consumption patterns are different. With larger lot sizes and more irrigation, Palo Alto residents use more water and are allocated a larger share of costs than residents in cities with denser development. Some cities also have industrial users that use significant amounts of water, helping to offset the cost of water to residents.

Even though costs have risen in recent years, they have not risen as much as they would have if City staff did not make an effort to contain costs. Some examples include:

- The City partners with other small utilities to push the SFPUC to control its costs through the Bay Area Water Supply and Conservation Agency (BAWSCA). These efforts result in real savings. For example, efforts by BAWSCA recently resulted in \$12 million in refunds for wholesale customers, including Palo Alto. BAWSCA is also beginning an audit of the SFPUC's

capital spending, and has strongly advocated to enforce contractual provisions to avoid improper allocation of costs to wholesale customers.

- City staff looks for opportunities to save money operationally, small opportunities that add up. For example, the City recently creatively rebid its contract for construction material supply and spoils hauling to go from using a single vendor to multiple vendors that each specialized in specific materials, realizing nearly \$250,000 in savings over three years.
- City staff also looks for strategic opportunities to save money. For example, rather than replacing aging reservoirs “as is,” staff is examining whether there are strategic opportunities to consolidate or relocate reservoirs to reduce operational and capital costs.
- The current climate of high construction costs results in less capital replacement for dollars invested. Staff will continue to prioritize near-term projects to address immediate needs, and potentially defer projects where system reliability will not be impacted to ensure full value is extracted from existing infrastructure.
- As reflected in the Utilities Strategic Plan, staff is raising the ongoing attention to effective use of available resources particularly across Divisions.
- Utility consumers also see some long-term cost savings from City-wide efforts to manage personnel costs.

Changes from Last Year’s Financial Forecast

Table 9 compares current rate projections to those projected in the last two year’s Financial Plans. As shown, the FY 2019 rate projections are somewhat lower than projected last year. The cumulative projected increase in rates through FY 2028 is similar to last year’s projections.

Table 9: Projected Water Rate Trajectory for FY 2018 to FY 2027

Projection	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Current (FY 2019 Financial Plan)	4%	7%	7%	6%	4%	4%	1%	3%	1%	2%
Last year (FY 2018 Financial Plan)	6%	6%	6%	6%	6%	2%	2%	2%	1%	N/A
Two years ago (FY 2017 Financial Plan)	9%	6%	2%	2%	2%	3%	5%	3%	N/A	N/A

COMMISSION REVIEW AND RECOMMENDATION

The UAC reviewed this proposal at its March 7, 2018 meeting. After brief discussion the UAC voted unanimously to recommend the Financial Plan and rate increase as proposed. The excerpted draft minutes from the UAC’s March 7, 2018 meeting can be found [here](#).

TIMELINE

If the Finance Committee supports staff’s recommendation, notification of the rate increases will be sent to customers as required by Article XIIID of the State Constitution (added by Proposition 218). The Financial Plans and rate schedules will then go to the City Council with the FY 2019 budget for adoption, at which time the public hearing required by Article XIIID of

the State Constitution will be held. If the rate changes are approved, they will become effective July 1, 2018.

RESOURCE IMPACT

Normal year sales revenues for the Water Utility are projected to increase by roughly 4% (\$2.7 million) as a result of these rate increases. See the attached FY 2019 Water Financial Plan for a more comprehensive overview of projected cost and revenue changes for the next ten years.

POLICY IMPLICATIONS

The proposed water rate adjustments are consistent with Council-adopted Reserve Management Practices that are part of the Financial Plans, and were developed using a cost of service study and methodology consistent with the cost of service requirements of Proposition 218.

ENVIRONMENTAL REVIEW

The Finance Committee's review and recommendation to Council on the FY 2019 Water Financial Plans and rate adjustments does not meet the definition of a project requiring California Environmental Quality Act (CEQA) review under Public Resources Code Section 21065 thus no environmental review is required.

Attachments:

- Attachment A: Resolution Adopting FY 2019 Water Financial Plan
- Attachment B: FY 2019 Water Financial Plan
- Attachment C: Draft Resolution Adopting Water Rates Effective July 1, 2018
- Attachment D: Utility Rate Schedules W-1 W-2 W-3 W-4 and W-7

NOT YET APPROVED

Resolution No. _____

Resolution of the Council of the City of Palo Alto Approving the
Fiscal Year 2019 Water Utility Financial Plan

R E C I T A L S

A. Each year the City of Palo Alto (“City”) regularly assesses the financial position of its utilities with the goal of ensuring adequate revenue to fund operations. This includes making long-term projections of market conditions, the physical condition of the system, and other factors that could affect utility costs, and setting rates adequate to recover these costs. It does this with the goal of providing safe, reliable, and sustainable utility services at competitive rates. The City adopts Financial Plans to summarize these projections.

B. The City uses reserves to protect against contingencies and to manage other aspects of its operations, and regularly assesses the adequacy of these reserves and the management practices governing their operation. The status of utility reserves and their management practices are included in Reserves Management Practices attached to and made part of the Financial Plans.

The Council of the City of Palo Alto hereby RESOLVES as follows:

SECTION 1. The Council hereby adopts the FY 2019 Water Utility Financial Plan.

SECTION 2. The Council finds that the adoption of this resolution does not meet the California Environmental Quality Act’s (CEQA) definition of a project under Public Resources Code Section 21065 and CEQA Guidelines Section 15378(b)(5), because it is an administrative governmental activity which will not cause a direct or indirect physical change in the environment,, and therefore, no environmental review is required.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

NOT YET APPROVED

City Clerk

APPROVED AS TO FORM:

Assistant City Attorney

Mayor

APPROVED:

City Manager

Director of Utilities

Director of Administrative Services

**FY 2019 WATER
UTILITY
FINANCIAL PLAN
FY 2019 TO FY 2028**

FY 2019 WATER UTILITY FINANCIAL PLAN

FY 2019 TO FY 2028

TABLE OF CONTENTS

Section 1: Definitions and Abbreviations.....	4
Section 2: Executive Summary and Recommendations.....	4
<i>Section 2A: Overview of Financial Position.....</i>	<i>4</i>
<i>Section 2B: Summary of Proposed Actions</i>	<i>5</i>
Section 3: Detail of FY 2019 Rate and Reserves Proposals.....	6
<i>Section 3A: Rate Design.....</i>	<i>6</i>
<i>Section 3B: Current and Proposed Rates</i>	<i>6</i>
<i>Section 3C: Bill Impact of Proposed Rate Changes</i>	<i>8</i>
<i>Section 3D: Proposed Reserve Transfers</i>	<i>9</i>
Section 4: Utility Overview	9
<i>Section 4A: Water Utility History.....</i>	<i>10</i>
<i>Section 4B: Customer Base</i>	<i>10</i>
<i>Section 4C: Distribution System.....</i>	<i>11</i>
<i>Section 4D: Cost Structure and Revenue Sources</i>	<i>11</i>
<i>Section 4E: Reserves Structure.....</i>	<i>12</i>
<i>Section 4F: Competitiveness</i>	<i>12</i>
Section 5: Utility Financial Projections	13
<i>Section 5A: Load Forecast.....</i>	<i>13</i>
<i>Section 5B: FY 2012 to FY 2016 Cost and Revenue Trends</i>	<i>14</i>
<i>Section 5C: FY 2017 Results</i>	<i>15</i>
<i>Section 5D: FY 2018 Projections</i>	<i>16</i>
<i>Section 5E: FY 2019 – FY 2028 Projections</i>	<i>16</i>
<i>Section 5F: Risk Assessment and Reserves Adequacy</i>	<i>18</i>
<i>Section 5G: Alternate Scenarios.....</i>	<i>19</i>

<i>Section 5H: Long-Term Outlook</i>	19
Section 6: Details and Assumptions	19
<i>Section 6A: Water Purchase Costs</i>	20
<i>Section 6B: Operations</i>	21
<i>Section 6C: Capital Improvement Program (CIP)</i>	22
<i>Section 6D: Debt Service</i>	25
<i>Section 6E: Other Revenues</i>	26
<i>Section 6F: Sales Revenues</i>	26
Section 7: Communications Plan	27
Appendices	28
<i>Appendix A: Water Utility Financial Forecast Detail</i>	29
<i>Appendix B: Water Utility Capital Improvement Program (CIP) Detail</i>	31
<i>Appendix C: Water Utility Reserves Management Practices</i>	32
<i>Appendix D: Description of Water Utility Operational Activities</i>	35
<i>Appendix E: Sample of Water Utility Outreach Communications</i>	36

SECTION 1: DEFINITIONS AND ABBREVIATIONS

BAWSCA	Bay Area Water Supply and Conservation Agency
CCF	The standard unit of measurement for water delivered to water customers, equal to one hundred cubic feet, or roughly 748 gallons.
CIP	Capital Improvement Program
CPAU	City of Palo Alto Utilities Department
O&M	Operations and Maintenance
RFC	Raftelis Financial Consultants, Inc.
SFPUC	San Francisco Public Utilities Commission
SFWD	San Francisco Water Department
UAC	Utilities Advisory Commission
WSIP	The SFPUC's Water System Improvement Program to seismically strengthen the transmission lines of the Hetch Hetchy regional water system.

SECTION 2: EXECUTIVE SUMMARY AND RECOMMENDATIONS

This document presents a Financial Plan for the City's Water Utility for the next ten years. This Financial Plan provides revenues to cover the costs of operating the utility safely over that time while adequately investing for the future. It also addresses the financial risks facing the utility over the short term and long term, and includes measures to mitigate and manage those risks.

SECTION 2A: OVERVIEW OF FINANCIAL POSITION

Staff expect overall costs in the Water Utility to rise by about 2.8% per year from fiscal year (FY) 2018 to 2028. Excluding FY 2017 (which, unlike normal years, did not include a water main replacement project), most costs are projected to rise by 2-4% annually through the projection period. Water supply costs, the largest component of the utility's costs, are projected to rise nearly 3.7% per year through FY 2024, and at a lower rate in subsequent years, due to a series of major capital projects on the Hetch Hetchy water system. See *Section 6A: Water Purchase Costs* for more information. Capital projects, with several reservoir and tank rehabilitation projects scheduled for FY 2019 through FY 2021, as well as increases to main replacement project costs to reflect rising construction costs. More detail on CIP costs is discussed in *Section 6C: Capital Improvement Program (CIP)* below. Table 1 below shows the costs for the Water Utility from FY 2017 through FY 2028.

Table 1: Expenses for FY 2017 to FY 2028 (Thousand \$'s)

Expenses (\$000)	FY 2017 (act.)	FY 2018 (est.)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Water Purchases	20,075	22,062	22,611	23,356	24,190	25,318	26,207	27,534	27,680	28,458	28,558	28,659
Operations	15,965	18,627	19,142	19,615	20,088	20,529	20,973	21,364	21,743	22,154	22,430	22,826
Capital Projects	4,110	8,267	13,695	13,210	16,765	10,709	11,023	11,344	11,675	12,024	12,373	12,737
TOTAL	40,151	48,956	55,449	56,181	61,042	56,556	58,203	60,242	61,098	62,636	63,361	64,222

This proposed financial plan projects that the Water Utility needs the rate increases shown in Table 2 to ensure that revenues cover rising costs and reserves remain healthy. While costs are increasing roughly 3.5% per year through FY 2024, staff projects a need for sales revenue increases averaging roughly 4.7% per year over that period. This is due to the fact that revenue is currently slightly below costs and also because little or no increase is expected in non-sales revenue (e.g. interest, connection fees).

The table also shows rate projections from last year's Financial Plan. Last year's plan projected earlier, generally higher rate increases. However, the delay of FY 2017 water main replacement projects as well as post-drought sales revenues resulted in an increase in reserves, which enabled the more gradual increases projected in the current plan. This also means that the Rate Stabilization Reserve will be drawn down over a longer time frame than projected in last year's financial plan.

Table 2: Proposed and Projected Water Rate Changes for FY 2019 to FY 2028

Projection	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Current	4%	7%	7%	6%	4%	4%	1%	3%	1%	2%
Last year	6%	6%	6%	6%	6%	2%	2%	2%	1%	N/A
2 years	9%	6%	2%	2%	2%	3%	5%	3%	N/A	N/A

The Water Utility has a Rate Stabilization Reserve that can be used to smooth rate increases over several years. This Financial Plan projects that these reserves will be exhausted by the end of FY 2021. The Water Utility also has a Capital Improvement Program (CIP) Reserve that can be used to offset one-time unanticipated capital costs. This Financial Plan assumes that the CIP Reserve will be used for unanticipated capital expenses or returned to the Operations Reserve by the end of FY 2020. The Water Utility Operations Reserve was above the maximum guideline level at the end of FY 2017, mainly due to larger than anticipated drought surcharge revenue. However, these funds will be needed to fund the Water Utility in FY 2018 and FY 2019, bringing the Operations Reserve within guidelines by FY 2020. Table 3 shows the projected reserve transfers over the forecast period.

Table 3: Transfers To/(From) Reserves for FY 2018 to FY 2028 (\$000)

Reserve	FY 2018	FY 2019	FY 2020 to FY 2028
Capital Improvement	-	-	(2,726)
Rate Stabilization	-	-	(4,069)
Operations	-	-	6,785

SECTION 2B: SUMMARY OF PROPOSED ACTIONS

Staff proposes the following actions for the Water Utility in FY 2019:

1. Increase rates to raise an additional 4% in revenue to fund increases to capital expenditures and increased operations costs. Section 3B: *Current and Proposed Rates* describes this increase in more detail.

SECTION 3: DETAIL OF FY 2019 RATE AND RESERVES PROPOSALS

SECTION 3A: RATE DESIGN

The Water Utility's rates are evaluated and implemented in compliance with the cost of service requirements and procedural rules set forth in the California Constitution under Article 13 (per Proposition 218). The City structured current rates based on staff's assessment of the financial position of the Water Utility, and updated current rates using the methodology from the March 2012 *Palo Alto Water Cost of Service & Rate Study* by Raftelis Financial Consultants, Inc. (RFC) (Staff Report 2676), as well as RFC's 2015 *Memorandum: Proposed Water Rates* updating the 2012 Study and analyzing drought rates (Staff Report 5951). Staff plans to review and update this cost of service study in 1 to 2 years, unless any major changes occur to the utility's operations or customer base that would necessitate an earlier study. Before conducting any new cost of service study, staff will review current rates and the scope of the study with the Utilities Advisory Commission (UAC) and Council to determine the City's policy priorities.

In 2015 Council adopted a drought surcharge to assist the water utility in recovering its costs due to decreased revenue resulting from lower water consumption as customers conserved. With the State declaring the drought over in FY 2017, the drought surcharge was discontinued as of July 1, 2017.

SECTION 3B: CURRENT AND PROPOSED RATES

The current rates and surcharges were effective on July 1, 2017. Current rates reflect adjustments in accordance with the results of an updated cost of service study performed by RFC in 2015. The 2015 study developed the drought surcharges and evaluated the City's water rate methodology and structure in light of court decisions interpreting provisions of the State Constitution applicable to water rates. RFC validated the City's rate structure, recommending only minor adjustments to ensure that peaking costs were equitably allocated to each customer class and residential rate tier.

CPAU has five rate schedules: separately metered residential customers (W-1), commercial and master-metered multi-family residential customers (W-4), irrigation-only services (W-7), services to fire sprinkler systems in buildings and private hydrants (W-3), and service to fire hydrant rental meters used for construction (W-2). All customers pay a monthly service charge based on the size of their inlet meter. This charge represents meter reading, billing, and other customer service costs, but also the cost of maintaining the capability to deliver a peak flow for that customer corresponding to their meter size. All customers are also charged for each CCF (one hundred cubic feet) of water used. Separately metered residential customers are charged on a tiered basis, with the first 0.2 CCF per day (6 CCF for a 30 day billing period) charged at the first tier price per CCF, and all additional units charged a higher tier price per CCF. Commercial customers pay a uniform price for each CCF used, and a higher price for separately metered irrigation service.

For July 1, 2018 staff is proposing an increase in rates of approximately four percent. Water rates are composed of two general types of costs: commodity and distribution. Commodity

costs are mainly volumetric in nature and charged by the San Francisco Public Utilities Commission (SFPUC). In late December 2017, the SFPUC provided a preliminary estimate that their FY 2019 W-25 wholesale rate for agencies with long-term contracts would remain at \$4.10/CCF in FY 2019. The SFPUC will not determine its final rate until May or June. However, in order to have the City's water rates in place for July 1, staff must notify customers by the end of April. Staff is using the SFPUC's December 2017 estimate in this forecast.

For FY 2018, early indications were that the SFPUC would raise their rates to \$4.37/CCF, and this was what was used in CPAU staff's rate setting analysis. Since the SFPUC's actual rate increase was lower, and FY 2019 indications forecast no change, staff will reduce the commodity portion of CPAU's rates accordingly.

Distribution rates cover all the costs to deliver water within the City, such as operations, maintenance, metering and billing, and capital improvement. Capital improvement costs have been increasing by about 3.5% annually, are projected to continue rising in the future, and staff is reflecting these changes in distribution costs. Operations costs are discussed in *Section 6B: Operations*, below. The decrease in commodity rates partially offsets the distribution increases, thus the percentage change differs between volumetric rates and monthly service charges.

Table 4 shows the current and proposed consumption charges.

Table 4: Current and Proposed Water Consumption Charges

	Current (7/1/17)	Proposed (7/1/18)	Change	
			\$/CCF	%
W-1 (Residential) Volumetric Rates (\$/CCF)				
Tier 1 Rates	6.66	6.66	-	-
Tier 2 Rates	9.18	9.48	0.30	3%
W-2 (Construction) Volumetric Rates (\$/CCF)				
Uniform Rate	7.68	7.80	0.12	2%
W-4 (Commercial) Volumetric Rates (\$/CCF)				
Uniform Rate	7.68	7.80	0.12	2%
W-7 (Irrigation) Volumetric Rates (\$/CCF)				
Uniform Rate	9.08	9.37	0.29	3%

Table 5 shows the current and proposed monthly service charges for rate schedules W-1, W-4, and W-7.

Table 5: Current and Proposed Monthly Service Charges for W-1, W-4, and W-7

Meter Size	Monthly Service Charge (\$/month based on meter size)		Change	
	Current (7/1/17) Residential (W-1) Commercial (W-4) Irrigation (W-7)	Proposed (7/1/18) Residential (W-1) Commercial (W-4) Irrigation (W-7)	\$	%
5/8"	\$16.77	\$18.71	\$1.94	11.6%
3/4"	\$22.60	\$25.21	\$2.61	11.6%
1"	\$34.26	\$38.22	\$3.96	11.6%
1 ½"	\$63.40	\$70.73	\$7.33	11.6%
2"	\$98.37	\$109.75	\$11.38	11.6%
3"	\$209.11	\$233.29	\$24.18	11.6%
4"	\$372.31	\$415.36	\$43.05	11.6%
6"	\$762.81	\$851.02	\$88.21	11.6%
8"	\$1,403.94	\$1,566.29	\$162.35	11.6%
10"	\$2,219.92	\$2,476.63	\$256.71	11.6%
12"	\$2,919.34	\$3,256.93	\$337.59	11.6%

Table 6 shows the current and proposed monthly service charges for rate schedule W-3

Table 6: Current and Proposed Monthly Service Charges for Fire Services (W-3)

Meter Size	Monthly Service Charge (\$/month based on meter size)		Change	
	Current (7/1/17)	Proposed (7/1/18)	\$	%
2"	\$3.79	\$4.23	\$0.44	11.6%
4"	\$23.42	\$26.13	\$2.71	11.6%
6"	\$68.03	\$75.90	\$7.87	11.6%
8"	\$144.97	\$161.73	\$16.76	11.6%
10"	\$260.70	\$290.85	\$30.15	11.6%
12"	\$421.11	\$469.81	\$48.70	11.6%

SECTION 3C: BILL IMPACT OF PROPOSED RATE CHANGES

Table 7 shows the impact of the proposed July 1, 2018 rate changes on the median residential bill. The average increase is projected to be about four percent, but some customers may see slightly higher or lower increases due to slight changes in the composition of the utility's costs.

Table 7: Impact of Proposed Water Rate Changes on Residential Bills

Usage (CCF/month)	Bill under Current Rates (7/1/17)	Bill under Proposed Rates (7/1/18)	Change	
			\$/mo.	%
4	\$43.41	\$45.35	\$1.94	4.5%
(Winter median) 7	\$65.91	\$68.15	\$2.24	3.4%
(Annual median) 9	\$84.27	\$87.11	\$2.84	3.4%
(Summer median) 14	\$130.17	\$134.51	\$4.34	3.3%
25	\$231.15	\$238.79	\$7.64	3.3%

Table 8 shows the impact of the proposed July 1, 2018 rate changes on various representative commercial customer bills.

Table 8: Impact of Proposed Water Rate Changes on Commercial Bills

Usage (CCF/month)	Bill under Current Rates (7/1/17)	Bill under Proposed Rates (7/1/18)	Change	
			\$/mo.	%
Commercial (W-4) (5/8" meters)				
(Annual median) 12	\$108.93	\$112.31	\$3.38	3.1%
(Annual average) 64	\$508.29	\$517.91	\$9.62	1.9%
Irrigation (W-7) (1 ½" meters)				
(Winter median) 9	\$ 145.12	\$ 155.06	\$ 9.94	6.9%
(Summer median) 37	\$ 399.36	\$ 417.42	\$ 18.06	4.5%
(Winter average) 56	\$ 571.88	\$ 595.45	\$ 23.57	4.1%
(Summer average) 199	\$ 1,870.32	\$ 1,935.36	\$ 65.04	3.5%

SECTION 3D: PROPOSED RESERVE TRANSFERS

In the FY 2018 Financial Plan, staff proposed transferring \$1.87 million from the Rate Stabilization Reserve to the Operations Reserve in FY 2018. This transfer was not necessary as increased sales during FY 2017 resulted in larger than expected revenues, largely from the drought surcharge. The drought surcharge was discontinued at the start of FY 2018. Customer sales recovery after the drought continues to be more robust than staff's initial projections.

Section 4E: Reserves Structure and Appendix A: Water Utility Financial Forecast Detail shows details of reserves levels.

SECTION 4: UTILITY OVERVIEW

This section provides an overview of the utility and its operations. It provides general background information and helps readers better understand the forecasts in *Section 5: Utility Financial Projections* and *Section 6: Details and Assumptions*.

SECTION 4A: WATER UTILITY HISTORY

The Water Utility was established on May 9, 1896, two years after the city was incorporated. Voters of the 750 person community approved a \$40,000 bond to buy local, private water companies who operated one or more shallow wells to serve the nearby residents. The city grew and the well system expanded until nine wells were in operation in 1932. Palo Alto began receiving water from the San Francisco Water Department (SFWD) in 1937 to supplement these sources.

A 1950 engineering report noted, “the capricious alternation of well waters and the San Francisco Water Department water...has made satisfactory service to the average customer practically impossible”. By 1950, only eight wells were still in operation. Despite this, groundwater production increased in the 1950’s leading to lower groundwater tables and water quality concerns. In 1962, a survey of water softening costs to CPAU customers determined that CPAU should purchase 100% of its water supply needs from the SFWD. CPAU signed a 20-year contract with SFWD, and CPAU’s wells were placed in standby condition. The SFWD later became known as the SFPUC. Since 1962 (except for some very short periods) CPAU’s entire supply of potable water has come from the SFPUC.

As the city grew, so did the number of mains in the water system. The system of mains expanded along with the city, while existing sections of the system continued to age. In the mid-1980s, the number of breaks in cast iron mains installed during the 1940s and earlier started to accelerate. In FY 1994, to combat deterioration of older sections of the system, CPAU performed an analysis of cost effective system improvements and increased the rate of main replacement from one mile per year to three. CPAU began a plan to replace 75 miles of deficient mains within 25 years.

In 1999, a study of system reliability concluded that major upgrades were needed to the distribution system to provide adequate water supply during a natural disaster. This ultimately resulted in the \$40 million Emergency Water Supply and Storage Project, completed in 2013, which involved a new underground reservoir in El Camino Park, the siting and construction of several emergency supply wells, and the upgrade of several existing wells and the Mayfield pump station. Upon completion, the city began to focus reliability efforts on its system of water storage reservoirs and transmission lines in the Foothills.

At the same time that CPAU was evaluating the reliability of its own system, the SFPUC, in consultation with BAWSCA members, was evaluating the reliability of the Hetch Hetchy water system, which crosses two major fault lines between the Sierras and the Bay Area. That evaluation concluded that major upgrades to the system were required. This planning process culminated in the SFPUC’s \$4.8 billion Water System Improvement Project (WSIP), which is ongoing. The SFPUC continues to evaluate its aging system for other needed infrastructure improvements.

SECTION 4B: CUSTOMER BASE

CPAU’s Water Utility provides water service to the residents and businesses of Palo Alto, plus a handful of residential customers not in Palo Alto (Los Altos Hills, primarily). Nearly 20,300

customers are connected to the water system, approximately 16,500 (81%) of which are separately metered residential customers and 3,800 (19%) of which are commercial, master-metered residential, irrigation and fire service customers.

Judging from seasonal consumption patterns, between 35% and 50% of Palo Alto's water is used for irrigation, and that consumption is heavily weather dependent. It also varies significantly by season. As a result of these two factors, there is significant variability in the amount of water that is demanded from the system month to month and year to year.

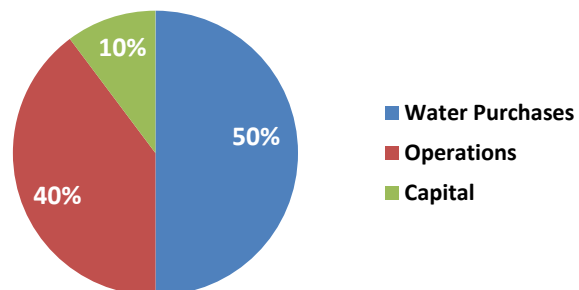
SECTION 4C: DISTRIBUTION SYSTEM

To deliver water to its customers, CPAU owns roughly 233 miles of mains (which transport the water from the SFPUC meters at the city's borders to the customer's service laterals and meters), eight wells (to be used in emergencies), five water storage reservoirs (also for emergency purposes) and several tanks used to moderate pressure and deal with peaks in flow and demand (due to fire suppression, heavy usage times, etc.). These represent the vast majority of the infrastructure used to distribute water in Palo Alto.

SECTION 4D: COST STRUCTURE AND REVENUE SOURCES

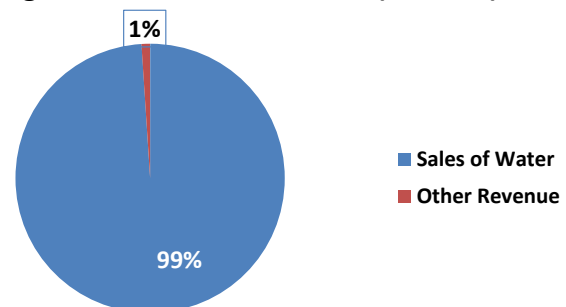
As shown in Figure 1, water purchase costs accounted for roughly 50% of the Water Utility's costs in FY 2017. Operational costs represented roughly 40%, and capital investment was responsible for the remaining 10%. These percentage distributions are projected to remain similar over the forecast period with the capital investment increasing to approximately 20% of the Water Utility's costs and operations declining to approximately 35%.

Figure 1: Cost Structure (FY 2017)



The Water Utility receives nearly all of its revenue from sales of water and the remainder from capacity and connection fees, interest on reserves, and other sources. *Appendix A: Water Utility Financial Forecast Detail* shows more detail on the utility's cost and revenue structures. Roughly 15% of the utility's revenues come from fixed service charges, though most of its costs are fixed.

Figure 2: Revenue Structure (FY 2017)



SECTION 4E: RESERVES STRUCTURE

CPAU maintains six reserves for its Water Utility to manage various types of contingencies. The descriptions below summarize these reserves; see *Appendix C: Water Utility Reserves Management Practices* for more detailed definitions and guidelines for reserve management:

- **Reserve for Commitments:** A reserve equal to the utility's outstanding contract liabilities for the current fiscal year. Most City funds, including the General Fund, have a Commitments Reserve.
- **Reserve for Reappropriations:** A reserve for funds dedicated to projects reappropriated by the City Council, nearly all of which are capital projects. Most City funds, including the General Fund, have a Reappropriations Reserve.
- **Capital Improvement Program (CIP) Reserve:** The CIP reserve can be used to accumulate funds for future expenditure on CIP projects and is anticipated to be empty unless a major one-time CIP expenditure is expected in future years. This CIP can also act as a contingency reserve for the CIP. This type of reserve is used in other utility funds (Electric, Gas, and Wastewater Collection) as well.
- **Rate Stabilization Reserve:** This reserve is intended to be empty unless the city anticipates one or more large rate increases in the forecast period. In that case, funds can be accumulated to spread the impact of those future rate increases across multiple years. This type of reserve is used in other utility funds (Electric, Gas, and Wastewater Collection) as well.
- **Operations Reserve:** This is the primary contingency reserve for the Water Utility, and is used to manage yearly variances from the budget for operational water supply costs. This type of reserve is used in other utility funds (Electric, Gas, and Wastewater Collection) as well.
- **Unassigned Reserve:** This reserve is for any funds not assigned to the other reserves and is normally empty.

SECTION 4F: COMPETITIVENESS

Table 9 shows the current water bills for residential customers compared to what they would be under surrounding communities' rate schedules. CPAU has the highest monthly bills of the group, although bills for smaller water users are less than in some surrounding communities.

Table 9: Residential Monthly Water Bill Comparison

Usage (CCF/month)	Residential monthly bill comparison (\$/month)* As of January 2018					
	Palo Alto	Menlo Park	Mountain View	Hayward	Redwood City	Santa Clara
4	43.41	50.51	37.10	33.20	50.10	22.76
(Winter median) 7	65.91	73.36	57.50	54.62	70.56	39.83
(Annual median) 9	84.27	88.60	71.10	68.90	84.20	51.21
(Summer median) 14	130.17	126.70	105.10	106.51	128.86	79.66
25	231.15	210.50	220.70	199.02	247.97	142.25

* All comparisons use the 5/8" meter size.

SECTION 5: UTILITY FINANCIAL PROJECTIONS

SECTION 5A: LOAD FORECAST

Figure 3 shows 40 years of water consumption history. Average water use has trended downward over time even as Palo Alto's population has grown. Significant water use reductions over the 40-year history were in response to requests to reduce water use in the 1976-77 and 1988-92 drought periods. During these periods, customers invested in efficient equipment and modified behavior to achieve water reduction goals. Reductions in usage achieved during these drought periods endured even after those periods. More recently, water sales decreased substantially during the 2007-2009 recession and during the 2014 - 2017 drought. Usage has started to recover after the drought, though the level at which usage will finally plateau is unknown.

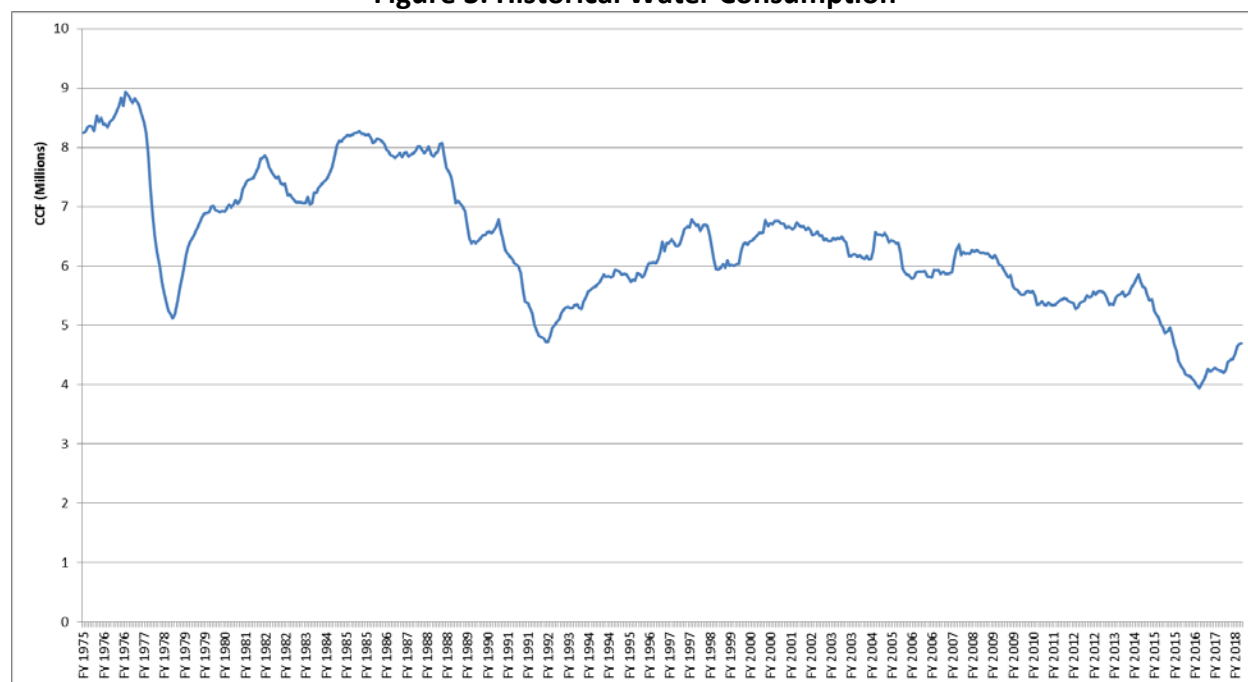
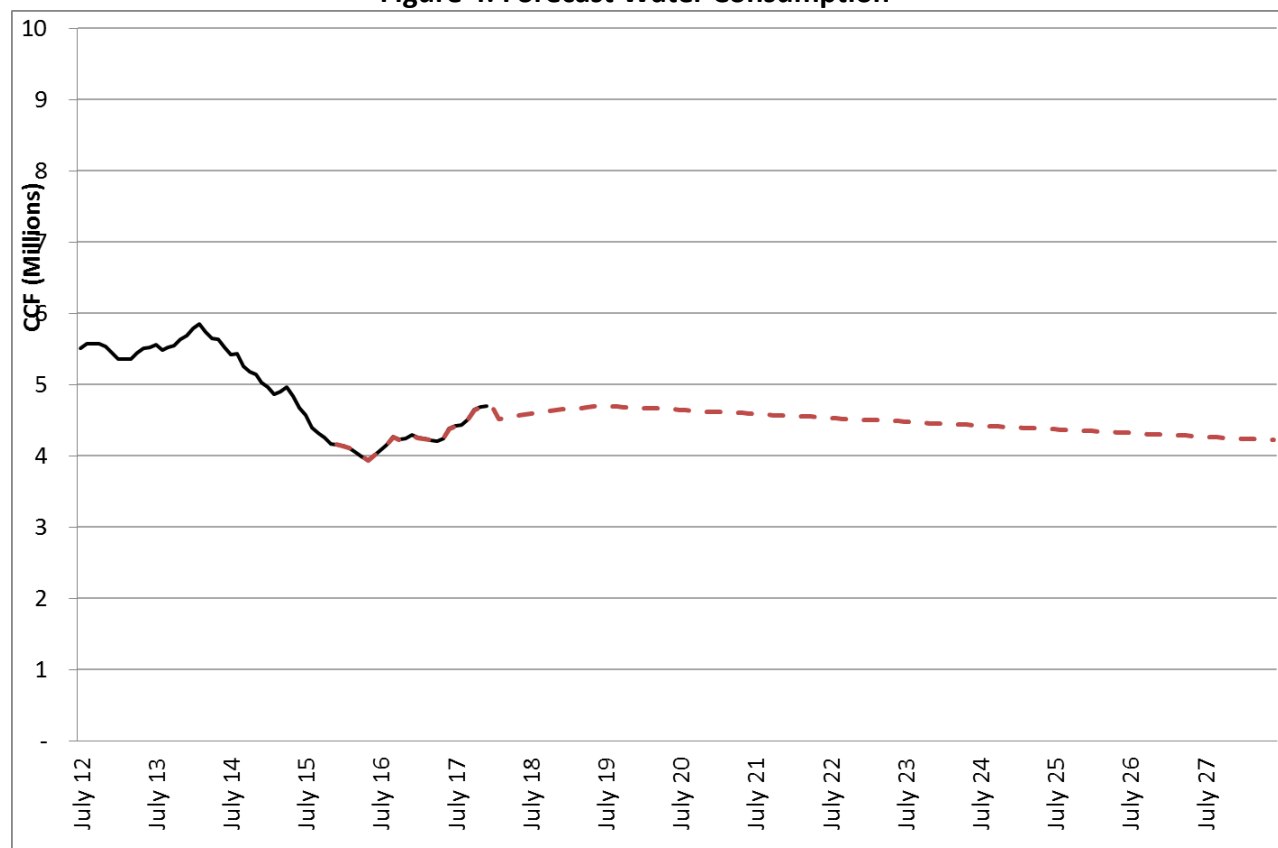
Figure 3: Historical Water Consumption


Figure 4 shows the forecast of water consumption through FY 2028, as denoted by the dotted line.

Figure 4: Forecast Water Consumption



California has until recently been experiencing drought conditions, and the State had mandated a 24% water use restriction for Palo Alto up until May 2016. Customers continue to conserve, but water usage has been increasing. Based on patterns experienced in previous droughts and in recognition of continued state-level calls for conservation, this forecast assumes consumption will only rebound by 50% of the difference between pre-drought and drought levels, then resume with the previous trend of decreasing usage over time.

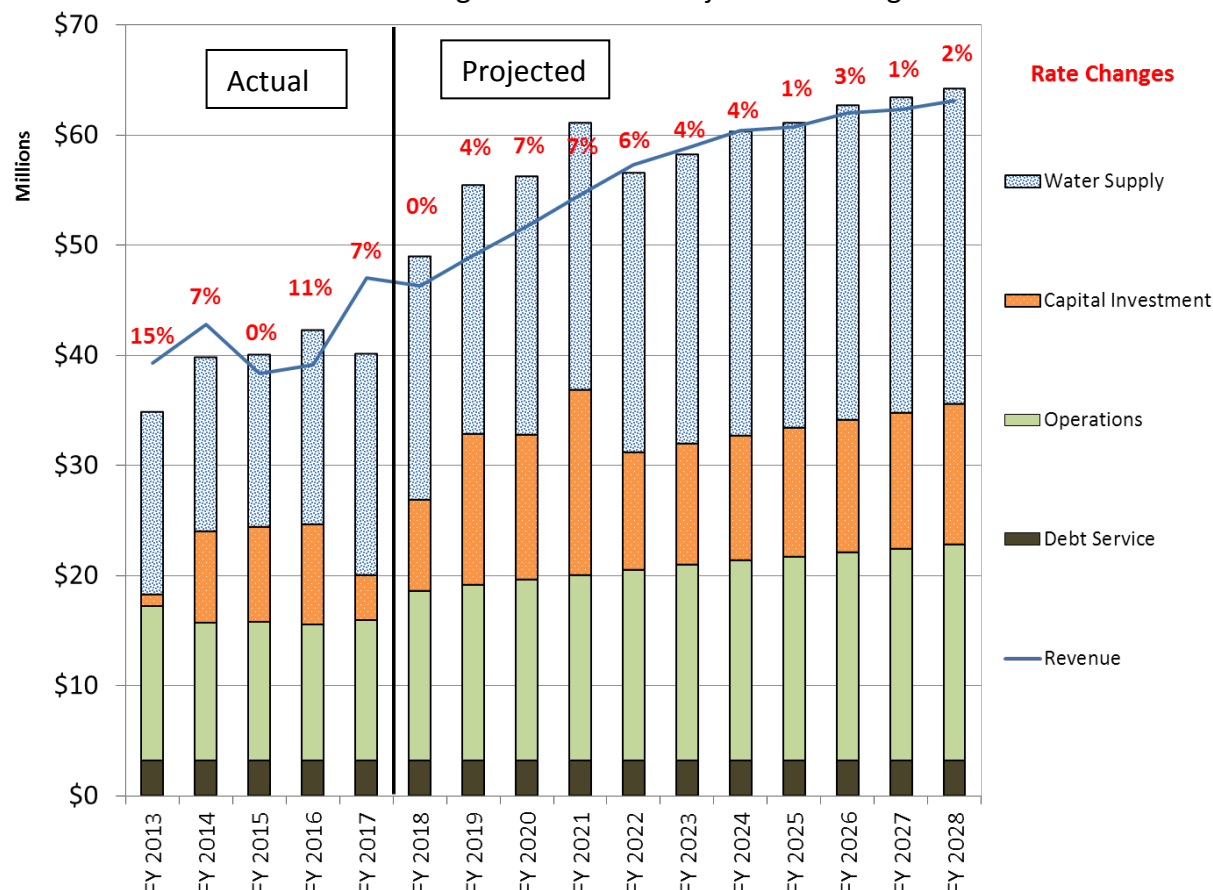
SECTION 5B: FY 2012 TO FY 2016 COST AND REVENUE TRENDS

Figure 5 and the tables in *Appendix A: Water Utility Financial Forecast Detail* show how costs have changed during the last five years as well as how staff projects they will change over the next decade.

The annual expenses for the water utility rose substantially between 2013 and 2017. The increases were primarily related to water purchase costs, which increased 21% from \$16.6 million in FY 2013 to \$20.1 million in FY 2017. *Section 6A: Water Purchase Costs* contains a more in-depth discussion of water purchase costs. Operations costs have remained fairly steady since FY 2014, while CIP costs have generally increased but fluctuated down in certain years. For example, in FY 2013 a new water main replacement project was delayed to permit completion of a backlog of projects budgeted in prior years. In FY 2017, delays were in part due

to the rising CIP costs; during that year a water main replacement project that was put out for bid resulted in very few contractors competing, and project bids that were higher than budgeted.

Figure 5: Water Utility Expenses, Revenues, and Rate Changes:
Actual Costs through FY 2017 and Projections through FY 2028



SECTION 5C: FY 2017 RESULTS

Actual revenues for FY 2017 were higher than projected (\$47.5 million vs. \$41.8 million). The drought was declared over by the Governor during FY 2017, and customers started consuming more water. Higher sales, along with the drought surcharge in place until the beginning of FY 2018, resulted in higher revenue. The trend of higher connection and capacity fee income continued during FY 2017. Costs were also lower during FY 2017, mainly due to savings in operations, administrative fees and some CIP savings, although increased purchase costs from higher sales offset some of this. Table 10 summarizes the variances from forecast.

Table 10: FY 2017, Actual Results vs. Financial Plan Forecast

	Net Cost/ (Benefit) (000)	Type of change
Higher sales revenues	\$(3,185)	Revenue increase
Increased connection and capacity fees, other income	(2,453)	Revenue increase
Operations and maintenance, general admin costs lower than expected	(1,634)	cost savings
Purchase costs higher than expected	833	cost increase
Net Cost / (Benefit) of Variances	\$(6,439)	

SECTION 5D: FY 2018 PROJECTIONS

Sales levels for FY 2018 were increased based on recent usage trends, and estimated sales revenues are also estimated to increase by about \$4.2 million. Other revenues are also expected to increase, partially due to the trend of higher connection and capacity fee income, but also from higher interest income resulting from larger reserve balances. On the expense side, the most notable change from the FY 2018 budget identified at this time are increases for CIP expenditures. The effort to rehabilitate mains along University Avenue is anticipated to have much higher costs than initially projected, and some additional projects were included after last year's financial plan was created. Additional expense increases are anticipated from higher water supply costs associated with higher water sales, as well as some increases to operations and administrative costs. Table 11 summarizes the changes from last year's forecast.

Table 11: FY 2018 Change in Projected Results, 2018 Forecast vs 2019 Forecast

	Net Cost/ (Benefit)	Type of Change
Higher sales revenues	\$(4,232)	revenue increase
Higher misc. revenues	(1,269)	revenue increase
Increase in capital projects	4,185	cost increase
Higher operations and purchase budgets	1,233	cost increase
Net Cost / (Benefit) of Variances	\$(83)	

SECTION 5E: FY 2019 – FY 2028 PROJECTIONS

Figure 5 above shows that costs for the Water Utility are increasing through the rest of the forecast period. Water supply costs are the largest component, and are generally projected to grow steadily by two to three percent over the coming years. Operations and capital investment costs are also expected to increase at the same rate of inflation used in the City's long-term financial plans (2.5% to 3.0% per year). While future CIP costs have been revised upwards to reflect the higher construction costs seen in recent projects, there is still uncertainty with regard to the utility's future costs for main replacement. See *Section 6: Details and Assumptions* for more detail on the costs that make up these projections, as well as the various assumptions underlying the projections.

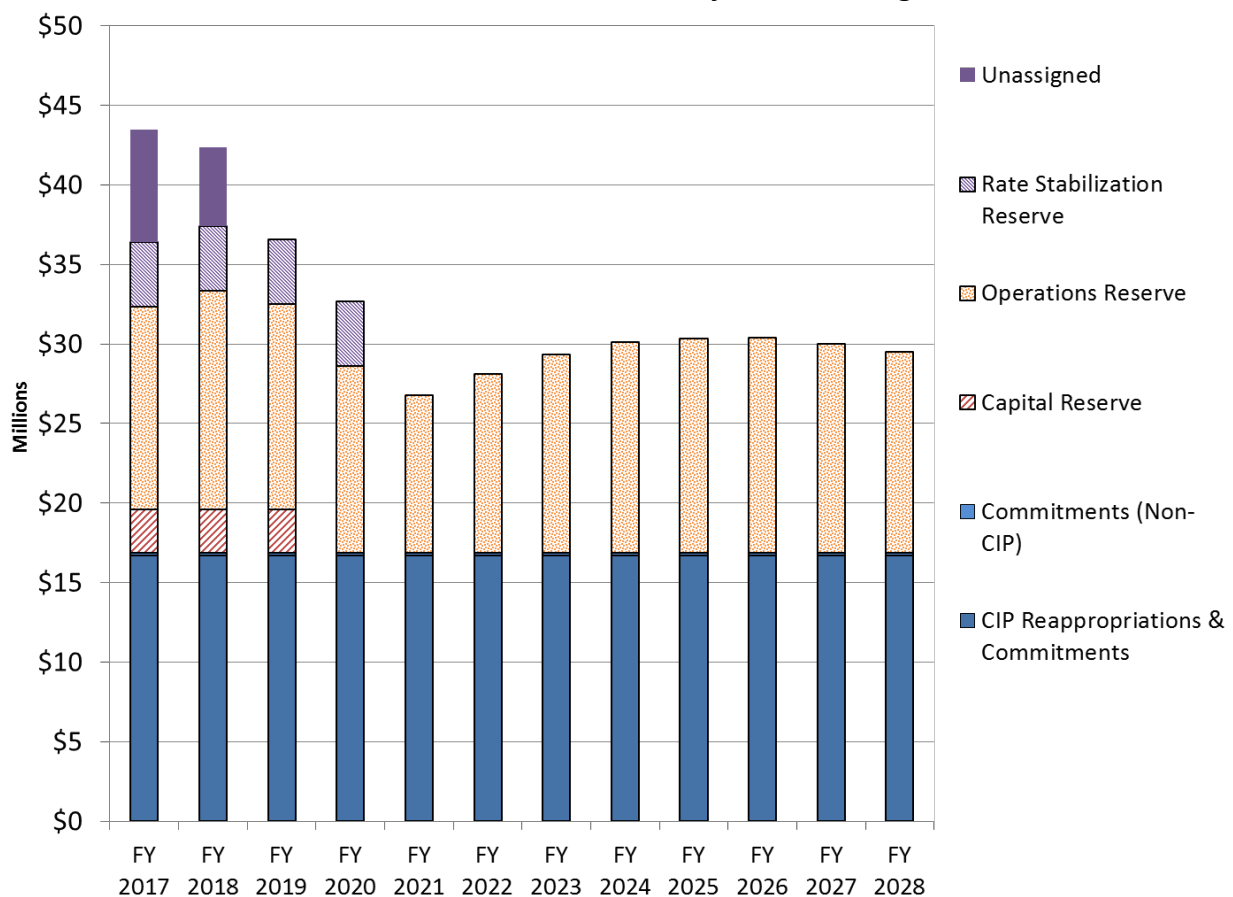
As shown in Figure 5, above, staff currently projects revenues to be below expenses for FY 2018 and for the three subsequent years. Revenues exceeded expenses in FY 2017 due to delays in water main replacement projects, leading to lower annual CIP spending in that year, as well as drought surcharge revenue that made up for reduced distribution revenue as a result of drought conservation. As main replacement resumes, the Water Utility requires rate increases

of between 4% and 7% per year through FY 2024 to bring revenues up to match annual expenses. This forecast assumes the use of the Rate Stabilization Reserve to spread the increases over multiple years.

Figure 6 below shows reserves trends based on these revenue projections. Staff projects the Rate Stabilization Reserve to have a zero balance by the end of FY 2021, and the CIP Reserve to decrease by \$2.7 million by the end of FY 2020. Assuming these increases in revenue, staff expects the Operations Reserve, the main contingency reserve, to remain above the minimum reserve level and that this reserve will be adequate to meet all identified risks, as discussed in *Section 5F: Risk Assessment and Reserves Adequacy*. In addition, the Unassigned reserve reflects reserve funds in the Operations reserve above the maximum guideline level. With the expected increase in costs between FY 2018 and FY 2019, these excess reserves will be utilized quickly and moderate the pace of increases going forward, but must be used before Rate Stabilization Reserve funds are utilized.

These projections assume that drought restrictions are not re-imposed by the State.

Figure 6: Water Utility Reserves
Actual Reserve Levels for FY 2017 and Projections through FY 2028



SECTION 5F: RISK ASSESSMENT AND RESERVES ADEQUACY

The Water Utility currently has one contingency reserve, the Operations Reserve, and this Financial Plan maintains reserves within the approved reserve maximum and minimum guidelines throughout the forecast period, as shown in Figure 7. Funds in excess of the maximum as of the end of FY 2018 will be recommended to be moved to the Unassigned Reserve. Operations Reserve exceed the short term risk assessment for the utility.

Figure 7: Operations Reserve Adequacy

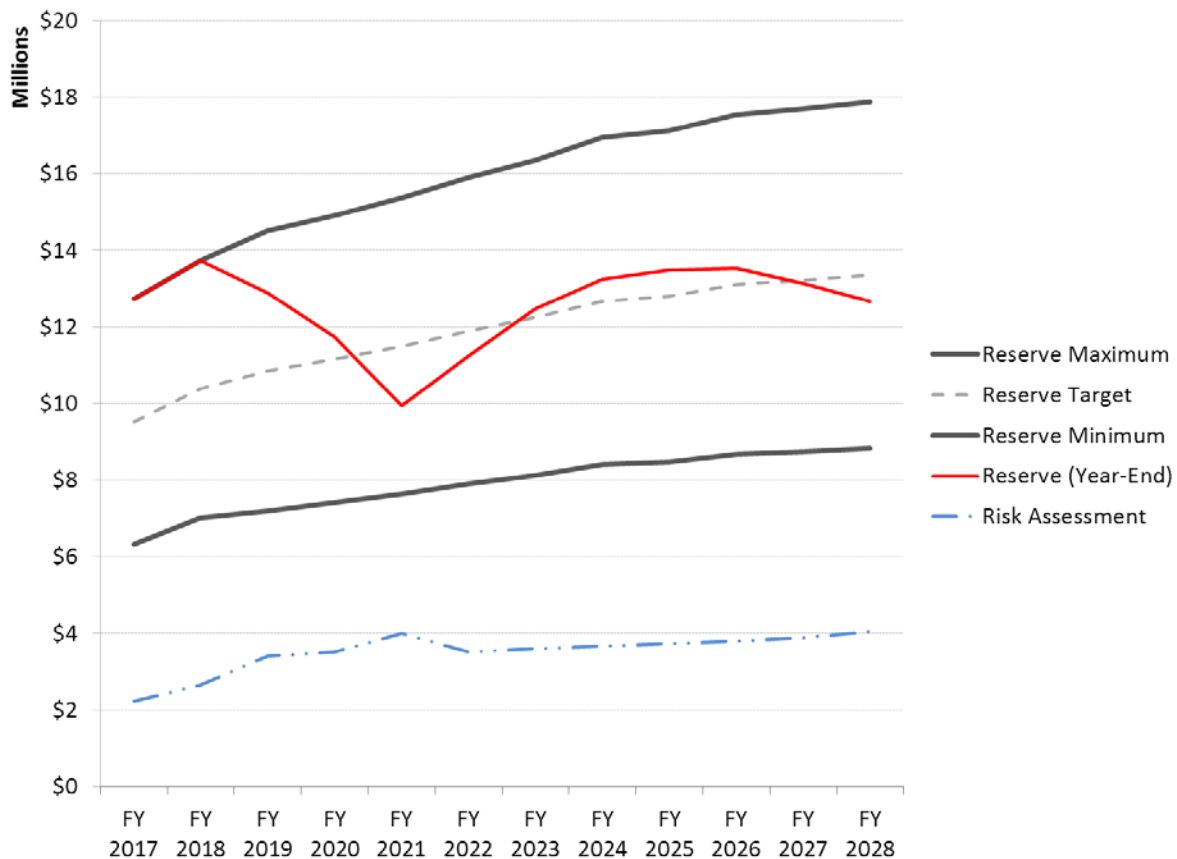


Table 12 summarizes the risk assessment calculation for the Water Utility through FY 2023. Staff used the same methodology for FY 2024 through FY 2028 as well. The risk assessment includes the revenue shortfall that could accrue due to:

1. Lower than forecasted sales revenue; and
2. An increase of 10% of planned system improvement CIP expenditures for the budget year.

Table 12: Water Risk Assessment (\$000)

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Total non-commodity revenue	\$20,597	\$22,039	\$23,581	\$24,760	\$25,330
Max. revenue variance, previous ten years	13%	13%	13%	13%	13%
Risk of revenue loss	\$2,035	\$2,178	\$2,330	\$2,447	\$2,503
CIP Budget	\$13,695	\$13,210	\$16,765	\$10,709	\$11,023
CIP Contingency @10%	\$1,369	\$1,321	\$1,676	\$1,071	\$1,102
Total Risk Assessment value	\$3,405	\$3,499	\$4,007	\$3,517	\$3,605

SECTION 5G: ALTERNATE SCENARIOS

No alternative scenarios were considered as part of this financial plan.

SECTION 5H: LONG-TERM OUTLOOK

CPAU has put its Water Utility on strong footing by investing in its distribution system infrastructure and emergency water facilities over the last 20 years. The Water System Master Plan, recently completed and under review, will give CPAU a better picture of the long-term outlook for its infrastructure and will result in a plan for an appropriate schedule for infrastructure replacement and upgrades. In addition, CPAU's water supplier, the SFPUC, has replaced and seismically strengthened its water transmission infrastructure, which will benefit Palo Alto and all Hetch Hetchy customers over the long term.

The opportunities for CPAU's Water Utility to obtain additional supplies over the long term may be in alternative water supplies such as recycled water, groundwater, and water from the Santa Clara Valley Water District. These alternatives have been analyzed in the past, and will be analyzed again in an upcoming update to the Water Integrated Resource Plan. Some of these alternatives may provide cost savings or increased drought protection.

Climate change may begin to present challenges for the Water Utility over the next 20 to 40 years. Availability of water from SFPUC's Regional Water System may change with changing seasonal precipitation patterns. Water consumption patterns may change. Consumption could increase due to drier weather or decrease as customers become even more focused on water conservation. Droughts may become more frequent. The risk of wildfire in the foothills could increase, possibly threatening utility infrastructure or placing greater demands on it. Sea level rise could result in greater exposure of utility infrastructure to saltwater intrusion or the need to protect infrastructure from inundation, possibly resulting in higher maintenance and replacement costs. It could also affect the groundwater aquifer that the utility relies on in emergencies. Any of these could result in increases to the costs of operating the Water Utility. As part of the Sustainability/Climate Action Plan, CPAU is currently working on a Climate Change Adaptation Roadmap that will begin to assess some of these risks.

SECTION 6: DETAILS AND ASSUMPTIONS

SECTION 6A: WATER PURCHASE COSTS

CPAU purchases all of the potable water supplies from the SFPUC, which owns and operates the Hetch Hetchy Regional Water System. CPAU is one of several agencies that purchase water from the SFPUC, all of whom are members of the Bay Area Water Supply and Conservation Agency (BAWSCA). Palo Alto uses roughly 7% of the water delivered by the SFPUC to BAWSCA member agencies.

The Hetch Hetchy Regional Water System begins with a system of reservoirs and tunnels in the high Sierra in Yosemite County and water is transported by a gravity-fed pipeline to the Bay Area. Currently, the SFPUC is in the midst of a \$4.8 billion bond-financed capital improvement program (the Water System Improvement Program, or WSIP) to seismically retrofit the facilities that transport water to the Bay Area. As of September 2017, nearly 60% of the program (by dollar value) had been completed, while 40% was under construction.¹ This has resulted in large increases in the annual debt service costs assigned to wholesale customers like Palo Alto. The wholesale customer debt service share of the WSIP is increasing from \$53 million in FY 2010 to over \$200 million in FY 2020. As a result, the SFPUC's wholesale water rate has already increased from \$1.43 per CCF in FY 2009 to \$4.10 per CCF in FY 2018, and is forecasted to increase to over nearly \$6.00 per CCF by FY 2023 (these projections are subject to change based on future SFPUC budget estimates). Figure 8 shows the SFPUC's actual wholesale water rate since FY 2009 and a projection through FY 2027. Note that the wholesale water rate decreased in FY 2014, but the apparent rate decrease is due to a part of the debt being directly paid by the BAWSCA agencies. This cost is paid in addition to the wholesale water rate and adds about \$0.35 to \$0.45 per CCF to the wholesale rate.

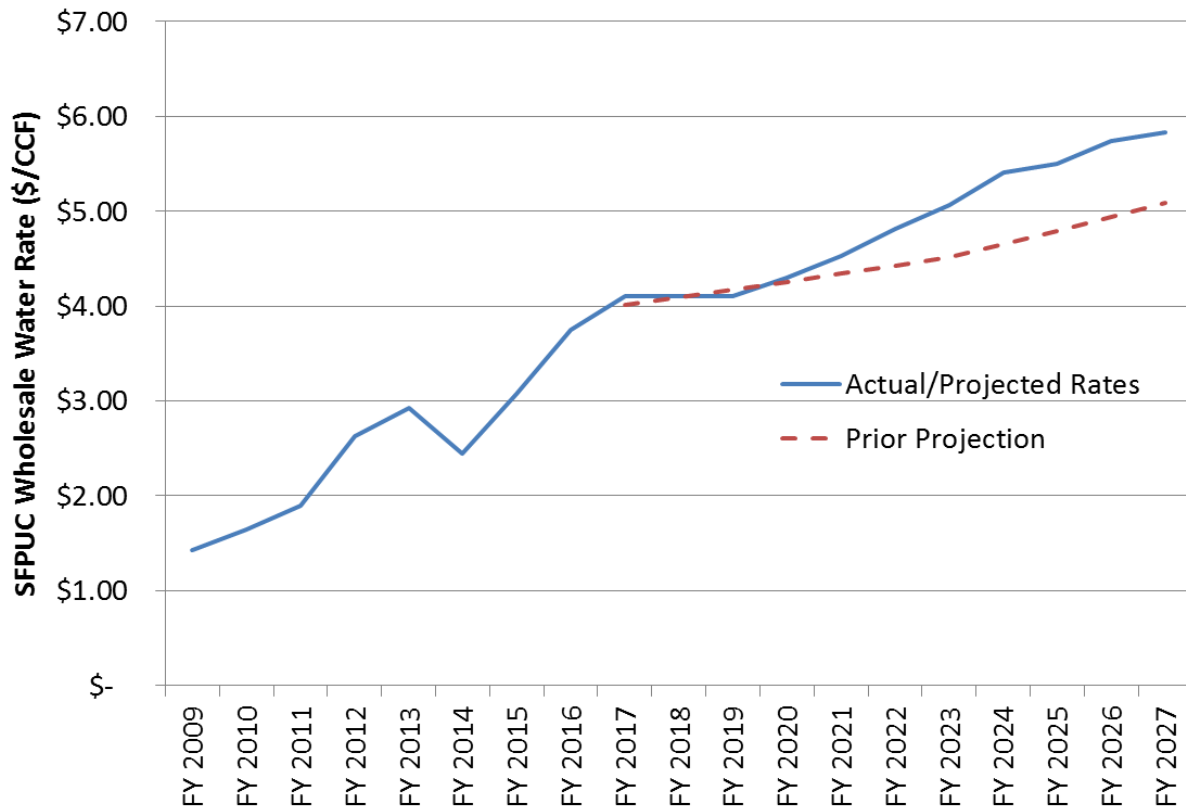
The SFPUC's water rate projections show a less steeply increasing rate trajectory after all of the debt for the WSIP has been issued. Still, debt service costs are projected to nearly double between FY 2019 and FY 2028. Parts of SFPUC's system not included in the WSIP will also need rehabilitation after the WSIP is completed, and some of these projects are already included in the SFPUC's rate projections, such as additional Transmission, Supply & Storage and Treatment system upgrade projects, slated to start after the WSIP ends. The SFPUC is also conducting condition assessments of other "up-country" facilities, located in the Sierras, in the coming years. Current estimates are that \$1.8 billion will be needed between FY 2019 and FY 2028 for these non-WSIP projects, but if these assessments identify other facilities that need replacement, it may result in additional rate increases as new debt is issued to finance the projects. For comparison, the WSIP was \$4.8 billion.

In December 2017, the SFPUC provided an early estimate for FY 2019 wholesale water rates to remain at \$4.10 per CCF. Staff has yet to receive a new estimate, but there is much uncertainty surrounding continued lower water usage by the BAWSCA agencies. While drought restrictions ended in May 2016, customers' behavior changes are showing a steady increase during the dry winter of 2018.

¹ First Quarter FY 2017-18 WSIP Regional Quarterly Report, <http://www.sfwater.org/index.aspx?page=307>

As the drought ended in FY 2017 and sales have started increasing, if that trend continues in upcoming years, rate projections may level out. However, if snow and rain do not materialize in future years further calls for restricted usage may reoccur.

Figure 8: Historical and Projected SFPUC Wholesale Water Rate



SECTION 6B: OPERATIONS

CPAU's Water Utility operations include the following activities:

- Administration, a category that includes charges allocated to the Water Utility for administrative services provided by the General Fund and for Utilities Department administration, as well as debt service and other transfers. Additional detail on Water Utility debt service is provided in *Section 6D: Debt Service*
- Customer Service
- Engineering work for maintenance activities (as opposed to capital activities)
- Operations and Maintenance of the distribution system; and
- Resource Management

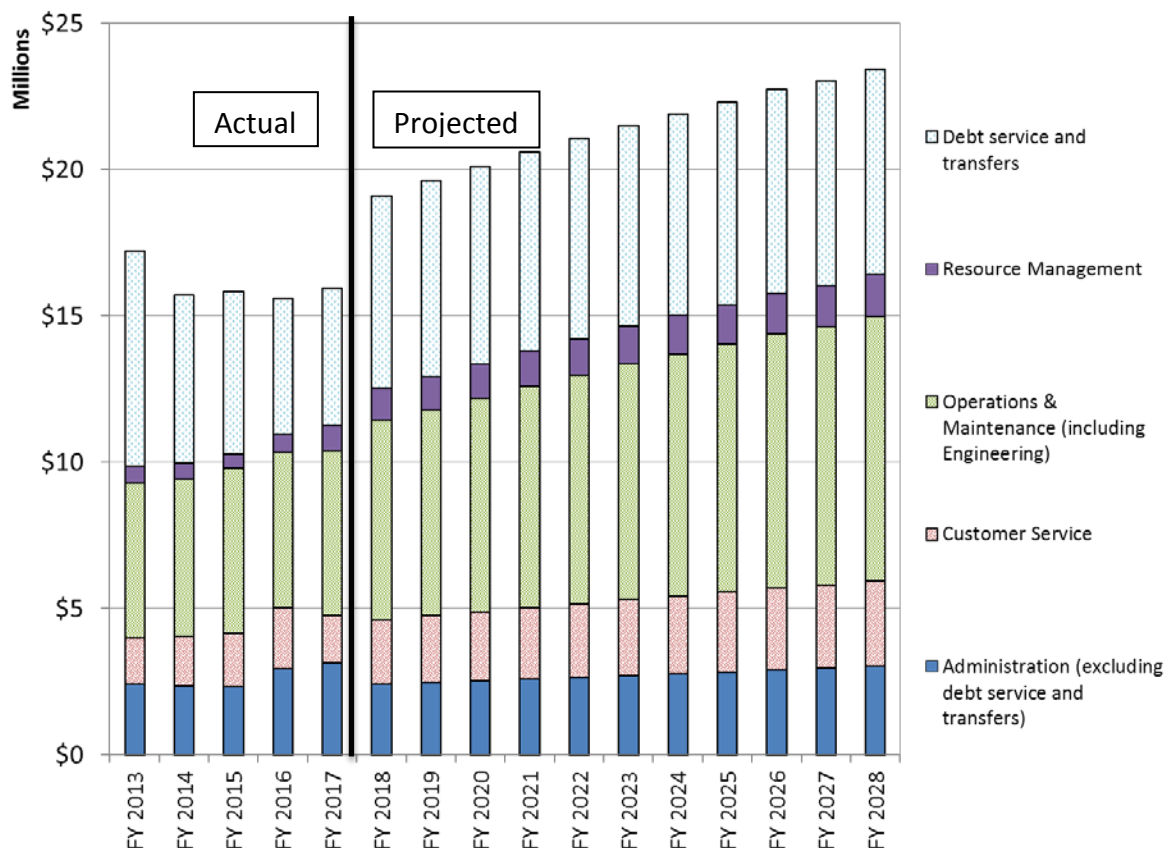
Appendix D: Description of Water Utility Operational Activities includes detailed descriptions of the work associated with each of these activities.

From FY 2013 to FY 2017 Operations costs (excluding debt service, rent, and transfers) increased 3.5% per year on average (see Figure 9). Operations costs were the main driver. Debt service costs increased by \$2.4 million per year as a result of a bond issued to finance the

Emergency Water Supply and Storage Project. Transfers have varied from year to year, but are expected to remain relatively low and stable through the forecast period.

Staff project inflationary increases for Operations costs with underlying assumptions for salary and benefit costs, consumer price index, and other cost projections that match the City's long-range financial forecast.

Figure 9: Historical and Projected Operational Costs



SECTION 6C: CAPITAL IMPROVEMENT PROGRAM (CIP)

The Water Utility's CIP consists of the following types of projects:

- One time projects, or large, non-recurring replacement of system assets (such as reservoir rehabilitation).
- Water main replacement, which represents the ongoing replacement of aging water mains, and sometimes the services associated with those mains.
- Ongoing projects, which represent the cost of replacing aging and under-recording meters and degraded boxes and covers, minor replacements of various types of distribution system equipment, and the cost of capitalized tools and equipment.
- Customer connections, which represents the cost when the Water Utility installs new services or upgrades existing services at a customer's request in response to

development or redevelopment. CPAU charges a fee to these customers to cover the cost of these projects.

Table 13 shows the FY 2018 projected budget and the five year CIP spending plan, although these figures are preliminary pending budget discussions starting in May. The 'committed' column represents funds committed to contracts for which work has not yet been completed or invoices paid.

Table 13: Budgeted Water Utility CIP Spending (\$000)

Project Category	Current Budget*	Spending, Curr. Yr	Remain. Budget**	Committed	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
One Time Projects	6,123	(606)	5,516	3,578	2,200	2,200	2,200	-	-
Water Main Replacement	10,637	(1,387)	9,251	4,780	7,685	6,454	6,647	6,847	7,055
Ongoing Projects	3,086	(518)	2,568	749	2,025	1,982	2,039	2,099	2,161
Customer Connections	773	(373)	401	72	732	754	777	800	824
TOTAL	20,619	(2,884)	17,736	9,180	12,642	11,389	11,663	9,746	10,040

*Includes unspent funds from previous years carried forward or reappropriated into the current fiscal year

**Equal to CIP Reserves (Reserve for Reappropriations + Reserve for Commitments).

The water main replacement program funds the replacement of deteriorating water mains. The water system consists of over 236 miles of mains, approximately 2,000 fire hydrants, and over 20,000 metered service connections spanning 9 pressure zones over a 26 square mile service area. CPAU utilizes an asset management database in conjunction with hydraulic modeling software to prioritize capital improvements. CPAU selects mains for replacement by researching the maintenance history of the system and identifying those that are undersized, corroded, and subject to recurring breaks. CPAU uses a scoring system based on criticality in order to prioritize which mains to replace first, and coordinates with the Public Works street maintenance program to avoid cutting into newly repaved streets. CPAU replaces approximately 3 miles of main per year, or 1.3% of the system.

Costs for the water main replacement program are increasing for a variety of reasons:

- Fire Code regulations now mandate fire sprinklers for new residential units. To accommodate increased fire flows, new main replacement projects require larger diameter pipe.
- CPAU has switched to high-density polyethylene (HDPE) for its mains. Installation costs for this material are slightly higher, though lifecycle costs are lower, and the material performs better. Joints in distribution mains are the most likely place for failure, and sections of HDPE pipe can be fused together rather than connected with fittings. In the long run, this will reduce losses and maintenance costs.
- To take full advantage of HDPE's fusibility, CPAU is now replacing the services along with the water mains with new HDPE services. In the past, the existing services were reconnected, regardless of the material. This new practice costs more in the short run, but will provide long term benefits.
- Lastly, costs have escalated after the recession. The regional and even national focus on infrastructure improvement has created labor shortages in the construction market, leading to higher bids than were seen in the past.

These factors have created some uncertainty in future water main replacement costs. As bids for new projects, such as upgrades to University Avenue, have consistently come in higher over the last few years, future main replacement project budgets have been increased from prior year's estimates to reflect expected bid estimates. If the cost of water main replacement continues to rise at its current levels, budgets may need to be revised further. However, CPAU is nearing the end of a long term water main replacement program initiated in 1993 to replace the oldest and most degraded parts of the system. Roughly 25% of the system has been replaced, and the rate of water leaks has decreased 50%. CPAU initiated a master planning process in FY 2015 that was completed in 2016 to evaluate the current state of the distribution system and determine the necessary rate of main replacement in future years. Currently the replacement rate of about 1.3% of the system each year is an 80-year replacement cycle.

In last year's financial forecast, staff projected a two year delay in new main replacement projects. However, some of these delayed projects are now moving forward. The University Avenue Business District project is progressing, and may require a budget increase of \$3 million in FY 2018 to continue. However, there still could be delays due to rising construction costs and also the ongoing issue with keeping and maintaining qualified staff to design and work on projects. The Water CIP estimates assume the resumption of annual main replacement projects, starting in FY 2019. Staff assumes capital investment cost increases in 2024 and beyond of approximately 3% annually.

Included in the one-time project budget is seismic water system upgrades and/or replacement for the Corte Madera, Park, Boronda and Dahl reservoirs to improve earthquake resistance. This work will improve protection from water loss at these reservoirs in a seismic event. If an earthquake caused a significant water leak, this could lead to loss of water for firefighting, loss of water storage for drinking, property damage from flooding or mudslides, and environmental damages. Staff estimates this work will cost \$2 million each year for three years beginning in FY 2019. In FY 2021, as part of the Electric fund CIP plan, there is an initiative to move meters to an Advanced Metering Infrastructure, or AMI, to allow for more advanced monitoring, metering and billing of the electric usage. This AMI network, however, can also be used to read water and gas meters as well, and thus the plan to transition all Utility meters to the AMI platform. Staff has included an additional \$1.5 million in FY 2019 and FY 2020 for preparatory work and meter testing, and \$4.16 million for general meter replacement costs in FY2021.

One project not included in this forecast is the seismic strengthening of a large water transmission line in the foothills. Staff has engaged a consultant to investigate alternatives for this project. The consultant is analyzing an alternative that involves installing a valve and hose system that could be used to bypass breaks in the line while they are repaired after an earthquake. This is a relatively low cost alternative that would not substantially affect the financial forecast. The study is not finalized yet, however, and if it is determined that the entire pipeline needs to be replaced, it could cost between \$15 million and \$20 million, which would likely require bond financing and would substantially affect the financial forecast.

Ongoing Projects and Customer Connections are projected to cost approximately \$2.8 million in FY 2019 and increase by an average of 2% per year through the end of the forecast period. Actual expenses for these projects fluctuate annually depending on how many defective meters are discovered and replaced during routine maintenance, as well as how much development

and redevelopment is going on that prompts the replacement or upgrade of water services. It is worth noting that property owners pay a fee for water service replacement or expansion during redevelopment, so when the number of projects go up (meaning higher costs for this activity), so does fee revenue.

Aside from customer connections, the CIP plan for FY 2019 to FY 2023 is funded by revenue from utility rates and capacity fees. *Appendix B: Water Utility Capital Improvement Program (CIP) Detail* shows the details of the plan.

SECTION 6D: DEBT SERVICE

The Water Utility's annual debt service is roughly \$3.2 million per year. This is related to two bond issuances, one requiring payments through 2026, the other through 2035. CPAU is in compliance with all covenants on both bonds.

The first bond is the 2009 Water Revenue Bond, Series A, issued for \$35 million to finance construction of the Emergency Water Supply and Storage project (the El Camino Reservoir, new wells, rehabilitation of existing wells and tanks, etc.) and to be retired by 2035. As part of the 'Build America' bond program, there is an interest payment subsidy from the Federal Government of 35%. There is always the possibility that the federal government will choose to stop payment on this subsidy. The automatic federal spending cuts under the Budget Control Act (BCA) of 2011 have already reduced the subsidy by \$50,000 per year, and if planned cuts through 2021 proceed without amendment, staff estimates that the subsidy would be reduced by over \$200,000 per year by 2021. The Bipartisan Budget Act of 2013, which relieved some of the discretionary spending cuts in the 2011 BCA, did not affect automatic cuts to the subsidy, and actually extended the automatic cuts through 2023.

The second bond issuance is the 2011 Utility Revenue Refunding Bond, Series A, which is to be retired in 2026. This \$17.2 million issuance refinanced an earlier Water and Gas Utility bond issuance, the 2002 Utility Revenue Bonds, Series A, which was issued to finance various capital improvements for both systems. The Water Utility's share of the issuance was roughly \$7.8 million.

Table 14 shows the cost of debt service for the Water Utility's share of these bond issuances for the financial forecast period:

Table 14: Water Utility Debt Service (\$000)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
2009 Water Revenue Bonds, Series A (net of grants)	2,066	2,081	2,097	2,114	2,132	2,151	2,151	2,151
2011 Utility Revenue Bonds, Series A	656	654	654	656	657	658	658	658

Both the 2009 and 2011 Bonds include the following covenants: 1) net revenues plus Available Reserves shall at least equal 125% of the maximum annual debt service, and 2) Available Reserves shall be at least 5 times the maximum annual debt service. Note that "Available Reserves," as defined for both bonds, include the reserves for the Gas and Electric systems, not

just the Water system. This Financial Plan maintains compliance with these covenants throughout the forecast period, as shown in *Appendix A: Water Utility Financial Forecast Detail*.

The net revenues (but not the reserves) of the Water Utility are also pledged for one other bond as shown in Table 15 below, even though the Water Utility is not responsible for the debt service payments. The Water Utility's reserves or net revenues would only be called upon if the responsible utilities are unable to make their debt service payments. Staff does not currently foresee this occurring. Requirements of the California Constitution require that any amounts advanced from one utility to pay debt service for another utility must be repaid by the borrowing fund.

Table 15: Other Issuances Secured by the Water Utility's Revenues or Reserves

Bond Issuance	Responsible Utilities	Annual Debt Service (\$000)	Secured by Water Utility's:	
			Net Revenues	Reserves
1995 Series A Utility Revenue Bonds	Storm Drain	\$680	Yes	No

SECTION 6E: OTHER REVENUES

The Water Utility receives most of its revenues from sales of water. The next largest source is connection and capacity fees, which in FY 2017 represented 58% of revenue from sources other than water sales. The remainder consisted of a variety of miscellaneous charges, transfers and interest income.

Revenues from connection and capacity fees have more than doubled since FY 2009. Connection fees are charged to new developments that need new or replacement service connections, while capacity fees are charged to development that put additional demands on the water distribution system. Revenue from these sources decreased slightly during the recession, but has increased substantially since then. Staff is forecasting lower revenue from these sources in subsequent years, but has increased connection fees that are expected to offset these reductions to some extent.

Other revenue sources are projected to stay stable through the forecast period, though interest income always fluctuates depending on changes in interest rates. Some uncertainty also exists related to the Federal government's commitment to continuing to pay the interest subsidy on the Build America Bonds.

SECTION 6F: SALES REVENUES

Staff based the sales revenue projections on the load forecast in *Section 5A: Load Forecast* and the projected rate changes shown in Figure 5. Except where stated otherwise, these load forecasts are based on normal precipitation. Precipitation can vary substantially, and this can affect revenues substantially. In dry years customers use more water, increasing revenues, and in wet years they use less. One factor that is difficult to predict is customer usage recovery post-drought. Usage will continue to rise until customers reach their level of desired consumption. Where this new 'normal' level plateaus at, and the speed with which it reaches

level, is difficult to predict. Staff will continue to monitor these patterns and adjust projections accordingly.

SECTION 7: COMMUNICATIONS PLAN

In FY 2019, communications will continue to focus on water utility rate increases, including the reasons why and how rates may change contingent upon varying precipitation levels. Additionally, we will focus on how infrastructure costs and rising rates from our wholesale water supplier, the San Francisco Public Utilities Commission, increases CPAU costs and must be recovered through rate increases. Rates communications will include a substantial update to information on a webpage dedicated to Utilities rates, “breaking news” on the Utility home webpage, discussion in the Proposition 218 rate adjustment notice, bill insert and frequent educational updates to internal and external stakeholders (customer service, marketing, City Manager’s Office, UAC, City Council, business and residential customers). Other communications vehicles will include financial plans, presentations to UAC, Finance Committee, City Council and any media coverage as a result of the rate increases. CPAU will continue its outreach about continuing to make water conservation a way of life, regardless of drought or rain conditions. Messaging will reinforce the importance of water use efficiency, and that although rates are increasing, efficient usage should mean that a customer should not see a significant increase in water utility costs on their bills.

Water conservation outreach will promote water use efficiency rebates, incentives and easy water-saving behaviors through bill inserts, web updates, email newsletters, videos for the web and television, presentations to customer groups and the use of social media. To keep customers apprised of the status and accomplishments of CIP projects, a network of project web pages are maintained. Traffic is driven to the website via ads in publications, newspaper inserts, and through the comprehensive portfolio of outreach strategies as outlined above. Safety topics are also emphasized year-round. For all utility outreach, while print materials and website pages still feature prominently, CPAU is placing more emphasis on digital advertising content, direct mail, community safety/emergency preparation events and presentations.

APPENDICES

Appendix A: Water Utility Financial Forecast Detail

Appendix B: Water Utility Capital Improvement Program (CIP) Detail

Appendix C: Water Utility Reserves Management Practices

Appendix D: Description of Water Utility Operational Activities

Appendix E: Sample of Water Utility Outreach Communications

APPENDIX A: WATER UTILITY FINANCIAL FORECAST DETAIL

1	FISCAL YEAR	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
2																	
3	WATER SUPPLY																
4	Purchases	5,532,947	5,507,153	4,671,433	4,127,085	4,172,038	4,852,150	4,986,189	4,926,355	4,867,238	4,808,832	4,751,126	4,694,112	4,637,783	4,582,129	4,527,144	4,472,818
5	Sales	5,097,392	5,047,148	4,433,016	3,858,825	3,852,185	4,580,430	4,706,962	4,650,479	4,594,673	4,539,537	4,485,063	4,431,242	4,378,067	4,325,530	4,273,624	4,222,340
6																	
7	BILL AND RATE CHANGES																
8	Variable Charge (Supply)	11%	-16%	25%	22%	9%	7%	-6%	5%	5%	6%	5%	7%	2%	4%	2%	2%
9	Variable Charge (Distribution)	17%	30%	-16%	10%	5%	-1%	13%	8%	9%	6%	3%	2%	1%	3%	1%	2%
10	Service Charge (Distribution)	75%	9%	0%	-10%	3%	0%	12%	7%	7%	5%	2%	1%	1%	2%	2%	4%
11	Change in System Average Rate	22%	8%	0%	11%	7%	2%	4%	7%	7%	6%	4%	4%	1%	3%	1%	2%
12	Change in Average Residential Bill	21%	7%	-1%	17%	4%	-2%	3%	5%	5%	5%	3%	3%	1%	2%	2%	3%
13																	
14	STARTING RESERVES																
15	Reappropriations (Non-CIP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Commitments (Non-CIP)	714,000	2,000	347,000	347,000	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273
17	Restricted for Debt Service	3,225,000	3,225,000	3,331,000	3,316,000	3,299,194	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000
18	Emergency Plant Replacement	1,000,000	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Capital Reserve	-	-	-	4,000,000	2,726,096	2,726,096	2,726,096	2,726,096	-	-	-	-	-	-	-	-
20	Rate Stabilization Reserve	7,996,000	17,272,000	20,133,000	6,567,000	1,877,437	4,069,000	4,069,000	4,069,000	4,069,000	-	-	-	-	-	-	-
21	Operations Reserve	-	-	-	11,663,836	14,606,828	12,734,948	13,741,000	12,896,930	11,728,634	9,937,852	11,244,928	12,473,900	13,253,905	13,498,028	13,525,556	13,122,780
22	Unassigned	-	-	-	-	-	7,056,052	4,986,007	-	-	-	-	-	-	-	-	-
23	TOTAL STARTING RESERVES	12,935,000	21,499,000	24,811,000	25,893,836	22,686,828	30,023,369	28,959,376	23,129,299	19,234,907	13,375,125	14,682,201	15,911,173	16,691,178	16,935,301	16,962,829	16,560,053
24																	
25	REVENUES																
26	Net Sales	36,647,924	39,029,262	33,654,549	36,136,644	41,657,382	43,189,169	45,946,518	48,550,827	51,381,619	53,992,359	55,490,378	56,986,955	57,211,828	58,435,519	58,630,830	59,331,362
27	Other Revenues and Transfers In	<u>6,811,461</u>	<u>4,053,920</u>	<u>7,504,848</u>	<u>3,258,936</u>	<u>5,829,851</u>	<u>4,702,923</u>	<u>3,671,998</u>	<u>3,735,314</u>	<u>3,800,902</u>	<u>3,870,756</u>	<u>3,942,093</u>	<u>4,034,793</u>	<u>4,129,947</u>	<u>4,227,619</u>	<u>4,327,878</u>	<u>4,430,793</u>
28	TOTAL REVENUES	43,459,385	43,083,182	41,159,397	39,395,579	47,487,233	47,892,092	49,618,516	52,286,141	55,182,521	57,863,115	59,432,471	61,021,747	61,341,775	62,663,138	62,958,709	63,762,155
29																	
30	EXPENSES																
31	Water Purchases	16,605,351	15,705,288	15,669,935	17,626,020	20,075,322	22,061,917	22,611,475	23,355,859	24,190,148	25,318,382	26,207,075	27,533,642	27,680,356	28,458,072	28,558,184	28,658,677
32	Operating Expenses																
33	Administration																
34	Allocated Charges	2,422,880	2,366,077	2,342,985	2,953,291	3,151,373	2,438,768	2,490,375	2,540,960	2,597,475	2,657,609	2,719,082	2,773,765	2,829,463	2,911,318	2,966,458	3,034,716
35	Rent	1,911,963	2,192,454	2,249,457	1,803,087	1,720,711	2,931,563	3,092,799	3,120,634	3,148,720	3,177,058	3,208,829	3,240,917	3,273,326	3,306,059	3,339,120	3,372,511
36	Debt Service	3,219,165	3,220,208	3,218,869	3,222,606	3,219,316	3,222,669	3,220,858	3,220,638	3,222,843	3,223,563	3,224,553	3,224,553	3,224,553	3,224,553	3,224,553	3,224,553
37	Transfers and Other Adjustments	<u>2,241,793</u>	<u>335,808</u>	<u>63,612</u>	<u>(377,200)</u>	<u>(256,608)</u>	<u>391,302</u>	<u>399,129</u>	<u>407,111</u>	<u>415,253</u>	<u>423,558</u>	<u>432,030</u>	<u>432,030</u>	<u>432,030</u>	<u>432,030</u>	<u>432,030</u>	<u>432,030</u>
38	Subtotal, Administration	9,795,801	8,114,546	7,874,923	7,601,785	7,834,792	8,984,302	9,203,160	9,289,342	9,384,290	9,481,788	9,584,493	9,671,264	9,759,372	9,873,960	9,962,160	10,063,809
39	Resource Management	557,910	570,040	488,331	592,744	868,038	1,089,530	1,121,904	1,163,283	1,204,080	1,241,610	1,278,957	1,312,198	1,344,159	1,378,016	1,399,695	1,432,650
40	Operations and Mtc	4,944,064	4,986,274	5,283,426	5,038,570	5,290,549	6,426,788	6,623,269	6,878,570	7,128,663	7,356,594	7,583,011	7,784,574	7,977,523	8,175,463	8,301,450	8,497,350
41	Engineering (Operating)	338,659	381,502	358,128	282,472	355,852	397,451	409,827	426,073	441,926	456,290	470,543	483,234	495,348	507,516	515,230	527,406
42	Customer Service	1,584,759	1,677,926	1,821,447	2,076,559	1,616,008	2,193,588	2,262,089	2,352,159	2,439,994	2,519,510	2,598,397	2,668,637	2,735,657	2,802,749	2,845,252	2,912,511
43	Allowance for Unspent Budget	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(464,458)</u>	<u>(477,834)</u>	<u>(494,626)</u>	<u>(511,325)</u>	<u>(526,854)</u>	<u>(542,343)</u>	<u>(556,130)</u>	<u>(569,447)</u>	<u>(583,993)</u>	<u>(593,360)</u>	<u>(607,300)</u>
44	Subtotal, Operating Expenses	17,221,192	15,730,288	15,826,254	15,592,128	15,965,239	18,627,201	19,142,414	19,614,801	20,087,627	20,528,938	20,973,059	21,363,777	21,742,612	22,153,711	22,430,426	22,826,428
45	Capital Program Contribution	1,068,841	8,335,605	8,580,372	9,082,021	4,110,131	8,266,967	13,694,704	13,209,873	16,764,528	10,708,718	11,023,365	11,344,323	11,674,684	12,023,827	12,372,875	12,736,548
46	TOTAL EXPENSES	34,895,385	39,771,182	40,076,561	42,300,170	40,150,692	48,956,085	55,448,593	56,180,534	61,042,304	56,556,039	58,203,499	60,241,742	61,097,652	62,635,610	63,361,485	64,221,653
47																	
48	ENDING RESERVES																
49	Reappropriations (Non-CIP)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	Commitments (Non-CIP)	2,000	347,000	347,000	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273	177,273
51	Restricted for Debt Service	3,225,000	3,331,000	3,316,000	3,299,194	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000	3,260,000
52	Emergency Plant Replacement	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	Capital Reserve	-	-	4,000,000	2,726,096	2,726,096	2,726,096	2,726,096	-	-	-	-	-	-	-	-	-
54	Rate Stabilization Reserve	17,272,000	20,133,000	6,567,000	1,877,437	4,069,000	4,069,000	4,069,000	4,069,000	-	-	-	-	-	-	-	-
55	Operations Reserve	-	-	11,663,836	14,606,828	12,734,948	13,741,000	12,896,930	11,728,634	9,937,852	11,244,928	12,473,900	13,253,905	13,498,028	13,525,556	13,122,780	12,663,281
56	Unassigned	-	-	-	-	7,056,052	4,986,007	-	-	-	-	-	-	-	-	-	-
57	TOTAL ENDING RESERVES	21,499,000	24,811,000	25,893,836	22,686,828	30,023,369	28,959,376	23,129,299	19,234,907	13,375,125	14,682,201	15,911,173	16,691,178	16,935,301	16,962,829	16,560,053	16,100,554
58																	
59	OPERATIONS RESERVE																
60	Min (60 days of non-capital expenses)	-	-	5,230,611	5,145,323	6,320,551	7,015,601	7,197,171	7,403,859	7,625,531	7,890,478	8,116,649	8,398,943	8,485,334	8,680,756	8,742,700	8,824,316
61	Target (90 days of non-capital expenses)	-	-	9,395,240	8,698,557	9,527,750	10,378,300	10,847,792	11,159,004	11,493,609	11,893,618	12,235,541	12,668,887	12,808,565	13,116,527	13,219,432	13,354,222
62	Max (120 days of non-capital expenses)	-	-	13,559,870	12,251,790	12,734,948	13,741,000	14,498,412	14,914,150	15,361,686	15,896,759	16,354,432	16,938,832	17,131,796	17,552,298	17,696,164	17,884,127
63	Risk Assessment Value			2,481,768	2,677,436	2,229,786	2,645,469	3,404,677	3,498,658	4,006,561	3,517,485	3,605,222	3,662,346	3,720,662	3,806,640	3,893,630	4,036,251
64																	
65	DEBT SERVICE COVERAGE RATIO																
66	Net Revenues (125% of Debt Service)	951%	876%	878%	931%	1020%	1163%	1196%	1234%	1274%	1322%	1363%	1416%	1433%	1470%	1481%	1497%
67	Available Reserves (5x Debt Service)*	5.7	6.6	6.9	6.0	8.3	7.9	6.1	4.9	3.1	3.5	3.9	4.1	4.2	4.2	4.1	3.9

Appendix A (continued)

1	FISCAL YEAR	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
2																	
3	REVENUES																
4	Net Sales	84%	91%	82%	92%	88%	90%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
5	Other Revenues and Transfers In	16%	9%	18%	8%	12%	10%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
6	TOTAL REVENUES	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7																	
8	EXPENSES																
9	Water Purchases	48%	39%	39%	42%	50%	45%	41%	42%	40%	45%	45%	46%	45%	45%	45%	45%
10	Operating Expenses																
11	Administration																
12	Allocated Charges	7%	6%	6%	7%	8%	5%	4%	5%	4%	5%	5%	5%	5%	5%	5%	5%
13	Rent	5%	6%	6%	4%	4%	6%	6%	6%	5%	6%	6%	5%	5%	5%	5%	5%
14	Debt Service	9%	8%	8%	8%	8%	7%	6%	6%	5%	6%	6%	5%	5%	5%	5%	5%
15	Transfers and Other Adjustments	6%	1%	0%	-1%	-1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
16	Subtotal, Administration	28%	20%	20%	18%	20%	18%	17%	17%	15%	17%	16%	16%	16%	16%	16%	16%
17	Resource Management	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
18	Operations and Mtc	14%	13%	13%	12%	13%	13%	12%	12%	12%	13%	13%	13%	13%	13%	13%	13%
19	Engineering (Operating)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
20	Customer Service	5%	4%	5%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	5%
21	Allowance for Unspent Budget	0%	0%	0%	0%	0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
22	Subtotal, Operating Expenses	49%	40%	39%	37%	40%	38%	35%	35%	33%	36%	36%	35%	36%	35%	35%	36%
23	Capital Program Contribution	3%	21%	21%	21%	10%	17%	25%	24%	27%	19%	19%	19%	19%	19%	20%	20%
24	TOTAL EXPENSES	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
25																	
26	RISK ASSESSMENT DETAIL																
27	Distribution Revenue Variance			1,623,731	1,769,234	1,818,772	1,818,772	2,035,206	2,177,671	2,330,108	2,446,613	2,502,885	2,527,914	2,553,193	2,604,257	2,656,342	2,762,596
28	10% CIP Program Contingency			858,037	908,202	411,013	826,697	1,369,470	1,320,987	1,676,453	1,070,872	1,102,337	1,134,432	1,167,468	1,202,383	1,237,287	1,273,655
29	Total Risk Assessment Value			2,481,768	2,677,436	2,229,786	2,645,469	3,404,677	3,498,658	4,006,561	3,517,485	3,605,222	3,662,346	3,720,662	3,806,640	3,893,630	4,036,251
30	Projected Operations Reserve			11,663,836	14,606,828	12,734,948	13,741,000	12,896,930	11,728,634	9,937,852	11,244,928	12,473,900	13,253,905	13,498,028	13,525,556	13,122,780	12,663,281
31	Operations Reserve, % of Risk Value			470%	546%	571%	519%	379%	335%	248%	320%	346%	362%	363%	355%	337%	314%
32																	
33	OPERATIONS RESERVE																
34	Min (60 days of non-capital expenses)	-	-	5,230,611	5,145,323	6,320,551	7,015,601	7,197,171	7,403,859	7,625,531	7,890,478	8,116,649	8,398,943	8,485,334	8,680,756	8,742,700	8,824,316
35	Target (90 days of non-capital expenses)	-	-	9,395,240	8,698,557	9,527,750	10,378,300	10,847,792	11,159,004	11,493,609	11,893,618	12,235,541	12,668,887	12,808,565	13,116,527	13,219,432	13,354,222
36	Max (120 days of non-capital expenses)	-	-	13,559,870	12,251,790	12,734,948	13,741,000	14,498,412	14,914,150	15,361,686	15,896,759	16,354,432	16,938,832	17,131,796	17,552,298	17,696,164	17,884,127
37	Risk Assessment Value			2,481,768	2,677,436	2,229,786	2,645,469	3,404,677	3,498,658	4,006,561	3,517,485	3,605,222	3,662,346	3,720,662	3,806,640	3,893,630	4,036,251
38																	
39	DEBT SERVICE COVERAGE RATIO																
40	Net Revenues (125% of Debt Service)	951%	876%	878%	931%	1020%	1163%	1196%	1234%	1274%	1322%	1363%	1416%	1433%	1470%	1481%	1497%
41	Available Reserves (5x Debt Service)*	5.7	6.6	6.9	6.0	8.3	7.9	6.1	4.9	3.1	3.5	3.9	4.1	4.2	4.2	4.1	3.9
42	* For the purposes of debt covenants, the unrestricted reserves of other utilities may be counted toward the available reserves for meeting this measure. A ratio below 5x means that this utility is relying on the reserves of other utilities to meet its debt covenants.																

APPENDIX B: WATER UTILITY CAPITAL IMPROVEMENT PROGRAM (CIP) DETAIL

Project #	Project Name	Reappropriated / Carried Forward from Previous Years	Current Year Funding	Proposed Budget Amendments	Spending, Current Year	Remaining in CIP Reserve Fund	Commitments	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
ONE TIME PROJECTS												
WS-07000	Regulation Station Imp.	776,358	196,054	-	-	972,412	624,149	-	-	-	-	-
WS-07001	Water Recycling Facilities	-	395,649	-	-	395,649	-	-	-	-	-	-
WS-08001	Water Reservoir Coating	1,130,852	-	-	(152,532)	978,320	621,825	-	-	-	-	-
WS-09000	Seismic Water System	2,495,234	1,128,594	-	(453,807)	3,170,021	2,332,347	2,000,000	2,000,000	2,000,000	-	-
WS-15004	Water System Master Plan	16	-	-	-	16	16	-	-	-	-	-
WS-19000	Mayfield Reservoir	-	-	-	-	-	-	200,000	200,000	200,000	-	-
Subtotal, One-time Projects		4,402,460	1,720,297	-	(606,339)	5,516,418	3,578,337	2,200,000	2,200,000	2,200,000	-	-
WATER MAIN REPLACEMENT PROGRAM												
WS-11000	WMR- Project 25	381,939	-	-	-	381,939	-	-	-	-	-	-
WS-12001	WMR- Project 26	5,410,048	1,143,000	3,027,320	(1,386,803)	8,193,565	4,780,180	600,000	-	-	-	-
WS-13001	WMR - Project 27	80,000	595,000	-	-	675,000	-	6,500,000	-	-	-	-
WS-14001	WMR - Project 28	-	-	-	-	-	-	585,107	5,851,070	-	-	-
WS-15002	WMR - Project 29	-	-	-	-	-	-	-	602,660	6,026,602	-	-
WS-16001	WMR - Project 30	-	-	-	-	-	-	-	-	620,740	6,207,400	-
WS-19001	WMR - Project 31	-	-	-	-	-	-	-	-	-	639,362	6,396,320
WS-20000	WMR - Project 32	-	-	-	-	-	-	-	-	-	-	658,820
Subtotal, Water Main Replacement Prog.		5,871,987	1,738,000	3,027,320	(1,386,803)	9,250,504	4,780,180	7,685,107	6,453,730	6,647,342	6,846,762	7,055,140
ONGOING PROJECTS												
WS-80014	Services/Hydrants	11,158	412,000	-	(231,440)	191,718	30,534	424,360	437,091	450,204	463,710	477,621
WS-80015	Water Meters	-	565,000	-	(87,733)	477,267	-	500,000	515,000	530,450	546,364	562,755
WS-02014	W-G-W Utility GIS Data	148,826	402,628	-	(43,526)	507,928	405,300	442,890	456,177	469,862	483,958	498,477
WS-13002	Equipment/Tools	-	50,000	-	-	50,000	-	50,000	50,000	50,000	50,000	50,000
WS-11003	Dist. Sys. Improvements	863,136	247,000	-	(128,810)	981,326	126,122	354,000	261,620	269,469	277,553	285,880
WS-11004	Supply Sys. Improvements	139,213	247,000	-	(26,493)	359,720	187,227	254,000	261,620	269,469	277,553	285,880
Subtotal, Ongoing Projects		1,162,333	1,923,628	-	(518,002)	2,567,959	749,183	2,025,250	1,981,508	2,039,454	2,099,138	2,160,613
CUSTOMER CONNECTIONS (FEE FUNDED)												
WS-80013	Water System Extensions	62,665	710,700	-	(372,686)	400,679	71,918	732,021	753,981	776,601	799,899	823,896
Subtotal, Customer Connections		62,665	710,700	-	(372,686)	400,679	71,918	732,021	753,981	776,601	799,899	823,896
GRAND TOTAL		11,499,445	6,092,625	3,027,320	(2,883,830)	17,735,560	9,179,618	12,642,378	11,389,219	11,663,397	9,745,799	10,039,649
Funding Sources												
Connection/Capacity Fees			902,280	-				929,348	957,228	985,946	1,015,524	1,045,990
Other Utility Funds (Asset Mgmt, GIS Systems)			268,418	-				295,260	304,118	313,242	322,640	332,320
Water Service Hydrant Replacement								1,224,608	1,261,346	1,299,188	1,338,164	1,378,310
Utility Rates			4,921,927	3,027,320				10,193,162	8,866,527	9,065,021	7,069,471	7,283,029
CIP-RELATED RESERVES DETAIL		6/30/2017 (Actual)				6/30/2018 (Unaudited)						
Reappropriations (excl. Bond Funded)			1,292,081			8,555,942						
Commitments (excl. Bond Funded)			10,207,364			9,179,618						

APPENDIX C: WATER UTILITY RESERVES MANAGEMENT PRACTICES

The following reserves management practices shall be used when developing the Water Utility Financial Plan:

Section 1. Definitions

- a) “Financial Planning Period” – The Financial Planning Period is the range of future fiscal years covered by the Financial Plan. For example, for the Water Utility Financial Plan delivered in conjunction with the FY 2015 budget, FY 2015 to FY 2021 is the Financial Planning Period.
- b) “Fund Balance” – As used in these Reserves Management Practices, Fund Balance refers to the Utility’s Unrestricted Net Assets.
- c) “Net Assets” - The Government Accounting Standards Board defines a Utility’s Net Assets as the difference between its assets and liabilities.
- d) “Unrestricted Net Assets” - The portion of the Utility’s Net Assets not invested in capital assets (net of related debt) or restricted for debt service or other restricted purposes.

Section 2. Reserves

The Water Utility’s Fund Balance is reserved for the following purposes:

- a) For existing contracts, as described in Section 3 (Reserve for Commitments)
- b) For operating and capital budgets re-appropriated from previous years, as described in Section 4 (Reserve for Re-appropriations)
- c) For cash flow management and contingencies related to the Water Utility’s Capital Improvement Program (CIP), as described in Section 5 (CIP Reserve)
- d) For rate stabilization, as described in Section 6 (Rate Stabilization Reserve)
- e) For operating contingencies, as described in Section 7 (Operations Reserve)
- f) Any funds not included in the other reserves will be considered Unassigned Reserves and shall be returned to ratepayers or assigned a specific purpose as described in Section 8 (Unassigned Reserves).

Section 3. Reserve for Commitments

At the end of each fiscal year the Reserve for Commitments will be set to an amount equal to the total remaining spending authority for all contracts in force for the Water Utility at that time.

Section 4. Reserve for Re-appropriations

At the end of each fiscal year the Reserve for Re-appropriations will be set to an amount equal to the amount of all remaining capital and non-capital budgets, if any, that will be re-appropriated to the following fiscal year in accordance with Palo Alto Municipal Code Section 2.28.090.

Section 5. CIP Reserve

The CIP Reserve is used to manage cash flow for capital projects and acts as a reserve for capital contingencies. Staff will manage the CIP Reserve according to the following practices:

- a) The following guideline levels are set forth for the CIP Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period based on the levels of CIP expense budgeted for that year.

Minimum Level	12 months of budgeted CIP expense
Maximum Level	24 months of budgeted CIP expense

- b) Changes in Reserves: Staff is authorized to transfer funds between the CIP Reserve and the Reserve for Commitments when funds are added or removed from to that reserve as a result of a change in contractual commitments related to CIP projects. Any other additions to or withdrawals from the CIP reserve require Council action.
- c) Minimum Level:
- Funds held in the Reserve for Commitments may be counted as part of the CIP Reserve for the purpose of determining compliance with the CIP Reserve minimum guideline level.
 - If, at the end of any fiscal year, the minimum guideline is not met, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered by the end of the following fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the next fiscal year. For example, if the CIP Reserve is below its minimum level at the end of FY 2017, staff must present a plan by June 30, 2018 to return the reserve to its minimum level by June 30, 2019. In addition, staff may present, and the Council may adopt, an alternative plan that takes longer than one year to replenish the reserve, or that does so in a shorter period of time.
- d) Maximum Level: If, at any time, the CIP Reserve reaches its maximum level, no funds may be added to this reserve. If there are funds in this reserve in excess of the maximum level staff must propose to transfer these funds to another reserve or return them to ratepayers in the next Financial Plan. Staff may also seek City Council to approve holding funds in this reserve in excess of the maximum level if they are held for a specific future purpose related to the CIP.

Section 6. Rate Stabilization Reserve

Funds may be added to the Rate Stabilization Reserve by action of the City Council and held to manage the trajectory of future year rate increases. Withdrawal of funds from the Rate Stabilization Reserve requires Council action. If there are funds in the Rate Stabilization Reserve at the end of any fiscal year, any subsequent Water Utility Financial Plan must result in the withdrawal of all funds from this Reserve by the end of the next Financial Planning Period.

Section 7. Operations Reserve

The Operations Reserve is used to manage normal variations in costs and as a reserve for contingencies. Any portion of the Water Utility's Fund Balance not included in the reserves described in Section 3-Section 6 above will be included in the Operations Reserve unless this reserve has reached its maximum level as set forth in Section 7(d) below. Staff will manage the Operations Reserve according to the following practices:

- a) The following guideline levels are set forth for the Operations Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period based on the levels of Operations and Maintenance (O&M) and commodity expense forecasted for that year in the Financial Plan.

Minimum Level	60 days of O&M and commodity expense
Target Level	90 days of O&M and commodity expense
Maximum Level	120 days of O&M and commodity expense

- b) Minimum Level: If, at the end of any fiscal year, the funds remaining in the Operations Reserve are lower than the minimum level set forth above, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered within six months of the end of the fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the following fiscal year. For example, if the Operations Reserve is below its minimum level at the end of FY 2014, staff must present a plan by December 31, 2014 to return the reserve to its minimum level by June 30, 2015. In addition, staff may present, and the Council may adopt, an alternative plan that takes longer than one year to replenish the reserve.
- c) Target Level: If, at the end of any fiscal year, the Operations Reserve is higher or lower than the target level, any Financial Plan created for the Water Utility shall be designed to return the Operations Reserve to its target level within four years.
- d) Maximum Level: If, at any time, the Operations Reserve reaches its maximum level, no funds may be added to this reserve. Any further increase in the Water Utility's Fund Balance shall be automatically included in the Unassigned Reserve described in Section 8, below.

Section 8. Unassigned Reserve

If the Operations Reserve reaches its maximum level, any further additions to the Water Utility's Fund Balance will be held in the Unassigned Reserve. If there are any funds in the Unassigned Reserve at the end of any fiscal year, the next Financial Plan presented to the City Council must include a plan to assign them to a specific purpose or return them to the Water Utility ratepayers by the end of the first fiscal year of the next Financial Planning Period. For example, if there were funds in the Unassigned Reserves at the end of FY 2015, and the next Financial Planning Period is FY 2016 through FY 2021, the Financial Plan shall include a plan to return or assign any funds in the Unassigned Reserve by the end of FY 2016. Staff may present an alternative plan that retains these funds or returns them over a longer period of time.

APPENDIX D: DESCRIPTION OF WATER UTILITY OPERATIONAL ACTIVITIES

This appendix describes the activities associated with the various operational activities referred to in *Section 6B: Operations* of this Financial Plan.

Administration: Accounting, purchasing, legal, and other administrative functions provided by the City's General Fund staff, as well as shared communications services, CPAU administrative overhead, and billing system maintenance costs. This category also includes Water Utility debt service and rent paid to the General Fund for the land associated with reservoirs and various other facilities.

Customer Service: This category includes the Water Utility's share of the call center, meter reading, collections, and billing support functions. Billing support encompasses staff time associated with bill investigations and quality control on certain aspects of the billing process. It does not include maintenance of the billing system itself, which is included in Administration. This category also includes CPAU's key account representatives, who work with large commercial customers who have more complex requirements for their water services.

Engineering (Operating): The Water Utility's engineers focus primarily on the CIP, but a small portion of their time is spent assisting with distribution system maintenance.

Operations and Maintenance: This category includes the costs of a variety of distribution system maintenance activities, including:

- investigating reports of damaged mains or services and performing emergency repairs;
- testing and operating valves;
- monitoring water quality and reservoir levels;
- monitoring the status of the different pressure zones;
- flushing water at hydrants and other closed end points of the system;
- building and replacing water services for new or redeveloped buildings; and
- testing and replacing meters to ensure accurate sales metering.

This category also includes a variety of functions the utility shares with other City utilities, including:

- the Field Services team (which does field research of various customer service issues);
- the Cathodic Protection team (which monitors and maintains the systems that prevent corrosion in metal tanks and reservoirs); and
- the General Services team (which manages and maintains equipment, paves and restores streets after gas, water, or sewer main replacements, and provides welding services)

Resource Management: This category includes water procurement, contract management, water resource planning, interaction with BAWSCA, the SFPUC, and the SCVWD, and tracking of legislation and regulation related to the water industry.

GET WATER-WISE

Reduce your indoor water use with these simple steps



A TOILET LEAK CAN WASTE
200
GALLONS OF WATER EVERY DAY
Source: U.S. EPA

DO-IT-YOURSELF (DIY) WATER-WISE INDOOR SURVEY
Palo Alto residents can request a free indoor water survey kit that can help conserve water and save money on utility bills.

KIT INCLUDES:

- Step-by-step written and video guide to evaluate your own water use. Learn how to conduct meter leak tests, toilet leak tests, sink/shower flow rate tests, and general indoor leak tests
- Free flow-rate bag for testing shower and sink flow rates
- Dye tablets to test toilets for leaks
- Booklet to record your results
- Form to request your free water conservation tools, such as a low-flow showerhead

GET STARTED
To request your DIY Water-Wise Indoor Survey kit or learn more, contact Palo Alto's partner in water conservation, Santa Clara Valley Water District.

VISIT: watersavings.org **CALL:** (408) 630-2554

WINTER IS COMING

It's a great time to learn how to save energy and water



"How can I get the most out of my heating system?"

"How can I make my home more comfortable in cooler months?"

"Do my plants need the same amount of water in winter and summer?"

HOME EFFICIENCY GENIE
(650) 713-3411

THE HOME EFFICIENCY GENIE HAS THE ANSWERS YOU NEED

EARTH DAY and GREAT RACE FOR SAVING WATER



**SATURDAY
APRIL 14
9AM-1PM**
5K RACE STARTS AT 9AM
PALO ALTO BAYLANDS ATHLETIC CENTER

FESTIVAL
JOIN US FOR... ELECTRIC VEHICLE RIDE & DRIVE | LIVE MUSIC
FOOD TRUCKS | ARTS & CRAFTS | ZOO ANIMALS | OUTDOOR GAMES
BIRD WALK | GUIDED BIKE RIDE | RAFFLE | LIBRARY BOOK MOBILE
ENVIRONMENTAL AND PUBLIC SAFETY RESOURCES...and much more!

5K FUN RUN & WALK
Runners, walkers, kids, dogs—all are welcome in this friendly 5K race and walk for water conservation.

EARN EXTRA RAFFLE TICKETS!
Blue to the event, bring in old athletic shoes and/or unwanted books to recycle and get an extra raffle ticket!

LANDSCAPE REBATE PROGRAM

Reduce your water use with water efficient landscaping



UP TO
\$2 PER SQ. FT.
WITH A TOTAL REBATE CAP OF
\$3,000
PER SINGLE FAMILY HOME

LANDSCAPE CONVERSION REBATE
The City of Palo Alto Utilities and Santa Clara Valley Water District offer rebates to Palo Alto residents who replace a high water use landscape (i.e. irrigated turf or functional swimming pool) with a qualifying low water use landscape.

STEPS

1. Pre-inspection required
2. Submit application for approval
3. Install qualifying landscape
4. Receive up to \$2 per sq. ft. in rebates

Funds are first-come, first-served, while funding is available.

GET STARTED
Contact Palo Alto's partner in water conservation, Santa Clara Valley Water District.

VISIT: watersavings.org
CALL: (408) 630-2554

WATER CONSERVATION IS A WAY OF LIFE
The City of Palo Alto Utilities can provide you with other tips for water efficiency and information on water resources.
VISIT: cityofpaloalto.org/water | **CALL:** (650) 329-2241

Individually with disabilities who require accommodations to access City facilities, services or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact the City's ADA Coordinator at (650) 329-2241 (voice) or email ada@cityofpaloalto.org.
Printed on 100% post-consumer recycled paper, bleached without chlorine.

Resolution No. _____

Resolution of the Council of the City of Palo Alto Increasing Water Rates by 4% by Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service)

R E C I T A L S

A. Pursuant to Chapter 12.20.010 of the Palo Alto Municipal Code, the Council of the City of Palo Alto may by resolution adopt rules and regulations governing utility services, fees and charges.

B. On_____, 2018, the City Council held a full and fair public hearing regarding the proposed rate increase and considered all protests against the proposals.

C. As required by Article XIII D, Section 6 of the California Constitution and applicable law, notice of the_____2018 public hearing was mailed to all City of Palo Alto Utilities water customers by_____, 2018.

D. The City Clerk has tabulated the total number of written protests presented by the close of the public hearing, and determined that it was less than fifty percent (50%) of the total number of customers and property owners subject to the proposed water rate amendments, therefore a majority protest does not exist against the proposal.

The Council of the City of Palo Alto hereby RESOLVES as follows:

SECTION 1. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-1 (General Residential Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-1, as amended, shall become effective July 1, 2018.

SECTION 2. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-2 (Water Service from Fire Hydrants) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-2, as amended, shall become effective July 1, 2018.

SECTION 3. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-3 (Fire Service Connections) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-3, as amended, shall become effective July 1, 2018.

SECTION 4. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-4 (Residential Master-Metered and General Non-Residential Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-4, as amended, shall become effective July 1, 2018.

SECTION 5. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Utility Rate Schedule W-7 (Non-Residential Irrigation Water Service) is hereby amended to read as attached and incorporated. Utility Rate Schedule W-7, as amended, shall become effective July 1, 2018.

SECTION 6. The City Council finds as follows:

a. Revenues derived from the water rates approved by this resolution do not exceed the funds required to provide water service.

b. Revenues derived from the water rates approved by this resolution shall not be used for any purpose other than providing water service, and the purposes set forth in Article VII, Section 2, of the Charter of the City of Palo Alto.

c. The amount of the water rates imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the water service attributable to the parcel.

SECTION 7. The Council finds that the fees and charges adopted by this resolution are charges imposed for a specific government service or product provided directly to the payor that are not provided to those not charged, and do not exceed the reasonable costs to the City of providing the service or product.

SECTION 8. The Council finds that the adoption of this resolution changing water rates to meet operating expenses, purchase supplies and materials, meet financial reserve needs and obtain funds for capital improvements necessary to maintain service is not subject to the California Environmental Quality Act (CEQA), pursuant to California Public Resources Code Sec. 21080(b)(8) and Title 14 of the California Code of Regulations Sec. 15273(a). After reviewing the staff report and all attachments presented to Council, the Council incorporates these documents herein and finds that sufficient evidence has been presented setting forth with specificity the basis for this claim of CEQA exemption.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

Mayor

APPROVED AS TO FORM:

APPROVED:

Assistant City Attorney

City Manager

Director of Utilities

Director of Administrative Services

GENERAL RESIDENTIAL WATER SERVICE

UTILITY RATE SCHEDULE W-1**A. APPLICABILITY:**

This schedule applies to ~~all~~ separately metered single-family residential dwelling receiving Wwater Sservices from the City of Palo Alto Utilities.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides Wwater Sservices.

C. RATES:

<u>Monthly Service Charge:</u>	Per Meter Per Month
For 5/8-inch meter	\$ 16.77 <u>18.71</u>
For 3/4 inch meter	22.60 <u>25.21</u>
For 1 inch meter	34.26 <u>38.22</u>
For 1 1/2 inch meter	63.40 <u>70.73</u>
For 2-inch meter	98.37 <u>109.75</u>
For 3-inch meter	209.11 <u>233.29</u>
For 4-inch meter	372.31 <u>415.36</u>
For 6-inch meter	762.81 <u>851.02</u>
For 8-inch meter	1,403.94 <u>1566.29</u>
For 10-inch meter	2,219.92 <u>2476.63</u>
For 12-inch meter.....	32,919.34 <u>256.93</u>

Commodity Rate: (To be added to Service Charge and applicable to all pressure zones.)

Per Hundred Cubic Feet (ccf) <u>Per Month</u>	<u>All Pressure Zones</u>
Tier 1 usage	\$6.66
Tier 2 usage (All usage over 100% of Tier 1).....	9. 48 <u>18</u>

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-1-1
dated 7-1-2017~~6~~



CITY OF PALO ALTO
UTILITIES

Effective 7-1-2018~~7~~
Sheet No **W-1-1**

GENERAL RESIDENTIAL WATER SERVICE

UTILITY RATE SCHEDULE W-1

Drought Surcharges (deactivated):

A drought surcharge will be added to the Customer's applicable ~~c~~Commodity ~~R~~ate for Tier 1 and Tier 2 ~~W~~water usage when the City Council has determined that a ~~W~~water reduction level is in effect for the City as described in Section D.3. The drought surcharges in the table below are measured in dollars per hundred cubic feet (ccf).

Water Usage Reduction level	Level 1 (10/15%)	Level 2 (20%)	Level 3 (25%)
Tier 1	0.20	0.43	0.64
Tier 2	0.58	1.21	1.85

Temporary Service – Developers

Temporary unmetered service to residential
subdivision developers, per connection \$6.00

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a ~~C~~eustomer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Calculation of Usage Tiers

Tier 1 ~~W~~water usage shall be calculated and billed based upon a level of 0.2 ccf per day rounded to the nearest whole ccf, based on ~~M~~meter reading days of ~~S~~service. As an example, for a 30 day bill, the Tier 1 level would be 0 through 6 ccf. For further discussion of bill calculation and proration, refer to Rule and Regulation 11.

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-1-2
dated 7-1-201~~7~~⁶



CITY OF PALO ALTO
UTILITIES

Effective 7-1-201~~8~~⁷
Sheet No **W-1-2**

GENERAL RESIDENTIAL WATER SERVICE

UTILITY RATE SCHEDULE W-1

3. Drought Surcharge

During period of ~~W~~water shortage or restrictions on local ~~W~~water use, the City Council may, by resolution, declare the need for citywide ~~W~~water conservation at the 10/15%, 20% or 25% level. While such a resolution is in effect, a drought surcharge will apply. The purpose of the ~~d~~Drought ~~s~~Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

CITY OF PALO ALTO UTILITIES

Issued by the City Council

*Supersedes Sheet No W-1-3
dated 7-1-201~~7~~⁶*



**CITY OF PALO ALTO
UTILITIES**

Effective 7-1-201~~8~~⁷
Sheet No **W-1-3**

WATER SERVICE FROM FIRE HYDRANTS

UTILITY RATE SCHEDULE W-2

A. APPLICABILITY:

This schedule applies to all ~~W~~water taken from fire hydrants for construction, maintenance, and other uses in conformance with provisions of a Hydrant Meter Permit.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides ~~W~~water ~~S~~services.

C. RATES:

1. Monthly Service Charge.

METER SIZE

5/8 inch	50.00
3 inch	125.00

2. Commodity Rate: (per hundred cubic feet) ~~\$7.68~~7.80

3. Drought Surcharges (deactivated):

A drought surcharge will be added to the Customer's applicable ~~C~~Commodity ~~R~~rate when the City Council has determined that a ~~W~~water reduction level is in effect for the City as described in Section D.5. The drought surcharges in the table below are measured in dollars per hundred cubic feet (ccf).

Water Usage Reduction level	Level 1 (10/15%)	Level 2 (20%)	Level 3 (25%)
Surcharge	0.26	0.53	0.77

D. SPECIAL NOTES:

- Monthly charges shall include the applicable monthly ~~S~~service ~~C~~charge in addition to usage billed at the commodity rate.
- Any ~~person or company applicant~~ using a hydrant without ~~first~~ obtaining a valid Hydrant Meter Permit ~~or any permittee using a hydrant without a Hydrant Meter Permit~~ shall pay a fee of \$50.00

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-2-1
dated 7-1-201~~6~~7



CITY OF PALO ALTO
UTILITIES

Effective 7-1-201~~8~~7
Sheet No W-2-1

WATER SERVICE FROM FIRE HYDRANTS

UTILITY RATE SCHEDULE W-2

for each day of such use in addition to all other costs and fees provided in this schedule. A hydrant permit may be denied or revoked for failure to pay such fee.

3. A ~~M~~meter deposit of \$750.00 may be charged any applicant for a Hydrant Meter Permit as a prerequisite to the issuance of a permit and ~~M~~meter(s). A charge of \$50.00 per day will be added for delinquent return of hydrant ~~M~~mmeters. A fee will be charged for any ~~M~~meter returned with missing or damaged parts.
4. Any person or company using a fire hydrant improperly or without a permit, or who draws ~~W~~water from a hydrant without a ~~M~~meter installed and properly recording usage shall, in addition to all other applicable charges be subject to criminal prosecution pursuant to the Palo Alto Municipal Code.
5. During period of ~~W~~water shortage or restrictions on local ~~W~~water use, the City Council may, by resolution, declare the need for citywide ~~W~~water conservation at the 10/15%, 20% or 25% level. While such a resolution is in effect, a drought surcharge will apply. The purpose of the ~~d~~Drought ~~s~~Surcharge is to recover revenues lost as a result of reduced consumption.

{End}

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-2-2
dated 7-1-201~~6~~7



Effective 7-1-201~~8~~7
Sheet No W-2-2

FIRE SERVICE CONNECTIONS

UTILITY RATE SCHEDULE W-3

A. APPLICABILITY:

This schedule applies to all public fire hydrants and private fire Sservice connections.

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides Wwater Sservices.

C. RATES:

1. Monthly Service Charges

Public Fire Hydrant \$5.00

Private Fire Service:

2-inch connection ~~\$3.79~~4.23

4-inch connection ~~23.42~~26.13

6-inch connection ~~68.03~~75.90

8-inch connection ~~144.97~~161.73

10-inch connection ~~260.70~~290.85

12-inch connection ~~421.11~~469.81

2. Commodity (To be added to Service Charge unless Wwater is used for fire extinguishing or testing purposes.)

Per Hundred Cubic Feet

All water usage \$10.00

D. SPECIAL NOTES:

- Service under this schedule may be discontinued if Wwater is used for any purpose other than fire extinguishing or testing and repairing the fire extinguishing facilities. Using hydrants and fire Sservices for other purposes is illegal and will be subject to the commodity charge as noted above, fines, and criminal prosecution pursuant to the Palo Alto Municipal Code.
- For a combination Wwater and fire Sservice, the ~~general Wwater~~ Sservice schedule shall apply.

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-3-1
dated ~~97-1-2016~~5



CITY OF PALO ALTO
UTILITIES

Effective 7-1-201~~8~~6
Sheet No **W-3-1**

FIRE SERVICE CONNECTIONS

UTILITY RATE SCHEDULE W-3

3. Utilities Rule and Regulation No. 21 provides additional information on Automatic Fire Services.
4. Repairs and testing of fire extinguishing facilities are not considered unauthorized use of Water if records and documentation are supplied by the Customer.

{End}

CITY OF PALO ALTO UTILITIES

Issued by the City Council

*Supersedes Sheet No W-3-2
dated ~~97~~-1-201~~65~~*



Effective 7-1-201~~86~~
Sheet No **W-3-2**

**RESIDENTIAL MASTER-METERED AND
GENERAL NON-RESIDENTIAL WATER SERVICE**

UTILITY RATE SCHEDULE W-4

A. APPLICABILITY:

This schedule applies to Water Services to non-residential buildings, and multi-family residential dwellings served through a Master-Meter. ~~water service in the City of Palo Alto and its distribution area. This schedule is also applicable to multi-family residential customers served through a master meter.~~

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides Water Services.

C. RATES:

Monthly Service Charge		Per Meter Per Month
For	5/8-inch meter	\$ 16.77 <u>18.71</u>
For	3/4-inch meter	22.60 <u>25.21</u>
For	1-inch meter	34.26 <u>38.22</u>
For	1 1/2-inch meter	63.40 <u>70.73</u>
For	2-inch meter	98.37 <u>109.75</u>
For	3-inch meter	209.11 <u>233.29</u>
For	4-inch meter	372.31 <u>415.36</u>
For	6-inch meter	762.81 <u>851.02</u>
For	8-inch meter	1,403.94 <u>1566.29</u>
For	10-inch meter	2,219.92 <u>2476.63</u>
For	12-inch meter	32,919.34 <u>256.93</u>

Commodity Rates: (to be added to Service Charge)

Per Hundred Cubic Feet (ccf)
Per Month

All Pressure Zones

Per ccf \$ ~~7.68~~7.80

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-4-1
dated 7-1-2017~~6~~



CITY OF PALO ALTO
UTILITIES

Effective 7-1-2017~~8~~
Sheet No **W-4-1**

**RESIDENTIAL MASTER-METERED AND
GENERAL NON-RESIDENTIAL WATER SERVICE**

UTILITY RATE SCHEDULE W-4

Drought Surcharges (deactivated):

A drought surcharge will be added to the Customer's applicable ~~C~~commodity ~~R~~ate when the City Council has determined that a ~~W~~water reduction level is in effect for the City as described in Section D.2. The drought surcharges in the table below are measured in dollars per hundred cubic feet (ccf).

Water Usage Reduction level	Level 1 (10/15%)	Level 2 (20%)	Level 3 (25%)
Surcharge	0.26	0.53	0.77

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a ~~C~~ustomer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Drought Surcharge

During period of ~~W~~water shortage or restrictions on local ~~W~~water use, the City Council may, by resolution, declare the need for citywide ~~W~~water conservation at the 10/15%, 20% or 25% level. While such a resolution is in effect, a drought surcharge will apply. The purpose of the ~~D~~drought ~~s~~urcharge is to recover revenues lost as a result of reduced consumption.

{End}

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-4-2
dated 7-1-201~~7~~**6**



CITY OF PALO ALTO
UTILITIES

Effective 7-1-201~~7~~**8**
Sheet No **W-4-2**

NON-RESIDENTIAL IRRIGATION WATER SERVICE

UTILITY RATE SCHEDULE W-7

A. APPLICABILITY:

This schedule applies to non-residential Water Wservice supplying dedicated irrigation Mmeters ~~in the City of Palo Alto and its distribution area.~~

B. TERRITORY:

This schedule applies everywhere the City of Palo Alto provides Water Services.

C. RATES:

<u>Monthly Service Charge</u>			<u>Per Meter Per Month</u>
For	5/8-inch meter	.....	\$ 16.77 18.71
For	3/4-inch meter	.....	22.60 25.21
For	1-inch meter	.....	34.26 38.22
For	1 1/2 inch meter	.....	63.40 70.73
For	2-inch meter	.....	98.37 109.75
For	3-inch meter	.....	209.11 233.29
For	4-inch meter	.....	372.31 415.36
For	6-inch meter	.....	762.81 851.02
For	8-inch meter	.....	1,403.94 1566.29
For	10-inch meter	.....	2,219.92 2476.63
For	12-inch meter	.....	32,919.34 256.93

Commodity Rates: (to be added to Service Charge)

Per Hundred Cubic Feet (ccf)

Per Month

All Pressure Zones

Per ccf \$ ~~9.08~~9.37

Drought Surcharges (deactivated):

A drought surcharge will be added to the Customer's applicable cCommodity Rate when the City Council has determined that a Water reduction level is in effect for the City as described in Section D.2. The drought surcharges in the table below are measured in dollars per hundred cubic feet (ccf).

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-7-1
dated 7-1-201~~7~~6



CITY OF PALO ALTO
UTILITIES

Effective 7-1-201~~8~~7
Sheet No W-7-1

NON-RESIDENTIAL IRRIGATION WATER SERVICE

UTILITY RATE SCHEDULE W-7

Water Usage Reduction level	Level 1 (10/15%)	Level 2 (20%)	Level 3 (25%)
Surcharge	0.53	1.25	2.02

D. SPECIAL NOTES:

1. Calculation of Cost Components

The actual bill amount is calculated based on the applicable rates in Section C above and adjusted for any applicable discounts, surcharges and/or taxes. On a ~~C~~eustomer's bill statement, the bill amount may be broken down into appropriate components as calculated under Section C.

2. Drought Surcharge

During period of ~~W~~water shortage or restrictions on local ~~W~~water use, the City Council may, by resolution, declare the need for citywide ~~W~~water conservation at the 10/15%, 20% or 25% level. While such a resolution is in effect, a drought surcharge will apply. The purpose of the ~~D~~drought ~~S~~surcharge is to recover revenues lost as a result of reduced consumption.

{End}

CITY OF PALO ALTO UTILITIES

Issued by the City Council

Supersedes Sheet No W-7-2
dated 7-1-201~~7~~⁶



Effective 7-1-201~~7~~⁶
Sheet No **W-7-2**