AGENDA ITEM NO.10
Meeting Date: 11/14/18

AGENDA ITEM

SILICON VALLEY
ANIMAL CONTROL AUTHORITY

CalPERS Unfunded Liability (UAL)

RECOMMENDED MOTION

That the Board of Directors fund 50% ($319,601) of the projected CalPERS Unfunded Liability (UAL) with unrestricted reserve funds and agree that Mountain View is not responsible for the UAL liability ($351,120) prior to becoming a SVACA member in 2012.

DISCUSSION

Earlier in the year, the Board discussed options on how to fund the Projected CalPERS Unfunded Liability (UAL) which is currently $639,202.

Staff has since met with Member Agency staff and the following was discussed. When Mountain View joined SVACA in 2012, SVACA had an existing liability of $351,120. Member Agency staff agreed that Mountain View should not be responsible for that amount. Staff also reviewed funding options and Member Agency staff is proposing that half of the liability be paid at this time. Staff wants to once again point out that even if the liability is paid in full, there will very likely be additional liabilities in the years to come. As was discussed at prior meetings, unrestricted reserve funds could be used.

The following table displays the proportionate share totals.

	6/30/2019	Unrestricted Reserves
Campbell 15.22%	$64,960	$64,960
Mountain View 27.64%	$39,816	$39,816
Monte Sereno 1.20%	$5,204	$5,204
Santa Clara 55.93%	$209,621	$209,621
Total	**$319,601**	**$319,601**

DOCUMENTS ATTACHED

Reserves Table
SVACA CalPERS Unfunded Liability Allocation Table
CalPERS Valuation Reports

SVACA Reserves (UNRESTRICTED)
10/31/18

SVACA Reserves (UNRESTRICTED)

Capital Project Improvement Fund	$	34,000.00
Operating Reserve Fund	$	131,396.00
Reserve for Unknown Losses	$	203,003.00
Vehicle Replacement Fund	$	10,679.00
Undesignated Reserve	$	14,400.00
SB 90 Reimbursement	$	902,600.00
Total:	$	1,296,078.00

SVACA Reserves (UNRESTRICTED)		$	1,296,078.00
CalPERS UAL FYE 6-30-19	50%	$	(319,601.00)
Balance		$	976,477.00

SVACA CalPERS Unfunded Liability Allocation

Projected UAL @ 6-30-19	639,202.00
Unfunded Accrued Liability @ 6-30-12	(351,120.00)
	288,082.00

	% Share	Pre 2012	% Share	Post 2012	Total
Total Liability FYE 6-30-19		351,120		288,082	639,202
Campbell	24.51%	86,060	15.22%	43,860	129,920
Monte Sereno	1.98%	6,952	1.20%	3,457	10,409
Santa Clara	73.51%	258,108	55.93%	161,134	419,242
Mountain View	0.00%	-	27.64%	79,631	79,631
Total	100.00%	351,120	100.00%	288,082	639,202

CalPERS
California Public Employees' Retirement System
Actuarial Office
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August 2018

Miscellaneous Plan of the Silicon Valley Animal Control Authority
(CalPERS ID: 3346262594)
Annual Valuation Report as of June 30, 2017

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2017 actuarial valuation report of the pension plan.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2017.

Section 2 can be found on the CalPERS website at (www.calpers.ca.gov). From the home page, go to "*Forms & Publications*" and select "*View All*". In the search box, enter "*Risk Pool*" and from the results list download the Miscellaneous or Safety Risk Pool Actuarial Valuation Report as appropriate.

Your June 30, 2017 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your assigned CalPERS staff actuary, whose signature appears in the Actuarial Certification section on page 1, is available to discuss the report with you after August 1, 2018.

The exhibit below displays the minimum employer contributions, before any cost sharing, for Fiscal Year 2019-20 along with estimates of the required contributions for Fiscal Year 2020-21. Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The employer contributions in this report do not reflect any cost sharing arrangements you may have with your employees.**

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability
2019-20	9.680%	$37,537
Projected Results		
2020-21	*10.3%*	*$45,000*

The actual investment return for Fiscal Year 2017-18 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 7.25 percent. ***If the actual investment return for Fiscal Year 2017-18 differs from 7.25 percent, the actual contribution requirements for the projected years will differ from those shown above.***

Moreover, the projected results for Fiscal Year 2020-21 assume that there are no future plan changes, no further changes in assumptions other than those recently approved, and no liability gains or losses. Such changes can have a significant impact on required contributions. Since they cannot be predicted in advance, the projected employer results shown above are estimates. The actual required employer contributions for Fiscal Year 2020-21 will be provided in next year's report.

For additional details regarding the assumptions and methods used for these projections please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section.

The "Risk Analysis" section of the valuation report also contains estimated employer contributions in future years under a variety of investment return scenarios.

Changes since the Prior Year's Valuation

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on Page 5 are calculated under the assumption that the discount rate will be lowered to 7.00 percent next year as adopted by the Board.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in your actuarial valuations and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent was used and a rate of 2.50 percent will be used in the following valuation.

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. This Policy has been temporarily suspended during the period over which the discount rate is being lowered. More details on the Risk Mitigation Policy can be found on our website.

Besides the above noted changes, there may also be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after August 1 to contact us with actuarial related questions.

If you have other questions, please call our customer contact center at (888) CalPERS or (888-225-7377).

Sincerely,

SCOTT TERANDO
Chief Actuary

Actuarial Valuation
as of June 30, 2017

for the
Miscellaneous Plan
of the
Silicon Valley Animal Control Authority

(CalPERS ID: 3346262594)

Required Contributions
for Fiscal Year
July 1, 2019 - June 30, 2020

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Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Plan Specific Information for the Miscellaneous Plan of the Silicon Valley Animal Control Authority

(CalPERS ID: 3346262594)
(Rate Plan: 3927)

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Actuarial Certification

Section 1 of this report is based on the member and financial data contained in our records as of June 30, 2017 which was provided by your agency and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2017 provided by employers participating in the Miscellaneous Risk Pool to which the plan belongs and benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the risk pool containing your Miscellaneous Plan has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the plan, it is my opinion as the plan actuary that Unfunded Accrued Liability amortization bases as of June 30, 2017 and employer contribution as of July 1, 2019, have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary for CalPERS, a member of both the American Academy of Actuaries and Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

David Clement

DAVID CLEMENT, ASA, MAAA, EA
Senior Pension Actuary, CalPERS
Plan Actuary

Highlights and Executive Summary

- Introduction
- Purpose of Section 1
- Required Employer Contributions
- Plan's Funded Status
- Projected Employer Contributions
- Changes Since the Prior Year's Valuation
- Subsequent Events

Introduction

This report presents the results of the June 30, 2017 actuarial valuation of the Miscellaneous Plan of the Silicon Valley Animal Control Authority of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the required employer contributions for Fiscal Year 2019-20.

Purpose of Section 1

This Section 1 report for the Miscellaneous Plan of the Silicon Valley Animal Control Authority of the California Public Employees' Retirement System (CalPERS) was prepared by the plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2017;
- Determine the minimum required employer contribution for this plan for the fiscal year July 1, 2019 through June 30, 2020; and
- Provide actuarial information as of June 30, 2017 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to GASB Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 9.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 6.0 percent, 7.0 percent and 8.0 percent.

Required Employer Contributions

		Fiscal Year
Required Employer Contributions		**2019-20**
Employer Normal Cost Rate		**9.680%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**3,128.08**
Or		
2) Annual Lump Sum Prepayment Option	**$**	**36,246**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).

Only the UAL portion of the employer contribution can be prepaid ***(which must be received in full no later than July 31)****. Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

		Fiscal Year 2018-19		Fiscal Year 2019-20
Development of Normal Cost as a Percentage of Payroll[1]				
Base Total Normal Cost for Formula		15.794%		16.586%
Surcharge for Class 1 Benefits[2]				
None		0.000%		0.000%
Phase out of Normal Cost Difference[3]		0.000%		0.000%
Plan's Total Normal Cost		15.794%		16.586%
Formula's Expected Employee Contribution Rate		6.902%		6.906%
Employer Normal Cost Rate		8.892%		9.680%
Projected Payroll for the Contribution Fiscal Year	$	1,091,157	$	1,076,981
Estimated Employer Contributions Based on Projected Payroll				
Plan's Estimated Employer Normal Cost	$	97,026	$	104,252
Plan's Payment on Amortization Bases[4]		28,337		37,537
% of Projected Payroll (illustrative only)		2.597%		3.485%
Estimated Total Employer Contribution	$	125,363	$	141,789
% of Projected Payroll (illustrative only)		11.489%		13.165%

[1] The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

[3] The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

[4] See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	$	4,166,748	$	4,600,168
2. Entry Age Normal Accrued Liability (AL)		2,856,897		3,209,856
3. Plan's Market Value of Assets (MVA)		2,268,843		2,630,726
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		588,054		579,130
5. Funded Ratio [(3) / (2)]		79.4%		82.0%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	9.680%	10.3%	10.3%	10.3%	10.3%	10.3%
UAL Payment	$37,537	$45,000	$54,000	$62,000	$66,000	$70,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Changes since the Prior Year's Valuation

Benefits

None. This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B of Section 2 for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on page 5 are calculated assuming that the discount rate will be lowered to 7.00 percent next year as adopted by the Board. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff. The specific decision adopted by the Board reflected recommendations from CalPERS staff and additional input from employer and employee stakeholder groups. Based on the investment allocation adopted by the Board and capital market assumptions, the reduced discount rate assumption provides a more realistic assumption for the long-term investment return of the fund.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent will be used and a rate of 2.50 percent in the following valuation.

Notwithstanding the Board's decision to phase into a 7.0 percent discount rate, subsequent analysis of the expected investment return of CalPERS assets or changes to the investment allocation may result in a change to this three-year discount rate schedule.

Subsequent Events

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2017. Changes in the value of assets subsequent to that date are not reflected. Investment returns below the assumed rate of return will increase the retired contribution, while investment returns above the assumed rate of return will decrease the retired contribution.

This actuarial valuation report reflects statutory changes, regulatory changes and CalPERS Board actions through January 2018. Any subsequent changes or actions are not reflected.

Assets and Liabilities

- Breakdown of Entry Age Normal Accrued Liability
- Allocation of Plan's Share of Pool's Experience/Assumption Change
- Development of Plan's Share of Pool's MVA
- Schedule of Plan's Amortization Bases
- Amortization Schedule and Alternatives
- Employer Contribution History
- Funding History

Breakdown of Entry Age Normal Accrued Liability

Active Members	$	2,658,871
Transferred Members		41,781
Terminated Members		166,905
Members and Beneficiaries Receiving Payments		342,299
Total	$	3,209,856

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$	3,209,856
2.	Projected UAL balance at 6/30/17		621,001
3.	Pool's Accrued Liability[1]	$	15,780,998,593
4.	Sum of Pool's Individual Plan UAL Balances at 6/30/17[1]		3,912,002,885
5.	Pool's 2016/17 Investment & Asset (Gain)/Loss		(413,206,167)
6.	Pool's 2016/17 Other (Gain)/Loss		(21,126,605)
7.	Plan's Share of Pool's Asset (Gain)/Loss [(1) - (2)] / [(3) - (4)] * (5)		(90,128)
8.	Plan's Share of Pool's Other (Gain)/Loss [(1)] / [(3)] * (6)		(4,297)
9.	Plan's New (Gain)/Loss as of 6/30/2017 [(7) + (8)]	$	(94,425)
10.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]		258,379,047
11.	Plan's Share of Pool's Change in Assumptions [(1)] / [(3)] * (10)	$	52,554

[1] Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

12.	Plan's UAL [(2) + (9) + (11)]	$	579,130
13.	Plan's Share of Pool's MVA [(1) - (12)]	$	**2,630,726**

Schedule of Plan's Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2017.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date: Fiscal Year 2019-20.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the payment on the UAL for the fiscal year and adjusting for interest. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

Reason for Base	Date Established	Ramp Up/Down 2019-20	Amortization Period	Balance 6/30/17	Payment 2017-18	Balance 6/30/18	Payment 2018-19	Amounts for Fiscal 2019-20: Balance 6/30/19	Amounts for Fiscal 2019-20: Scheduled Payment for 2019-20
SHARE OF PRE-2013 POOL UAL	06/30/13	No Ramp	18	$115,555	$8,736	$114,886	$8,889	$114,010	$9,131
ASSET (GAIN)/LOSS	06/30/13	100% →	26	$245,456	$9,911	$252,988	$13,414	$257,438	$17,227
NON-ASSET (GAIN)/LOSS	06/30/13	100% →	26	$(2,358)	$(95)	$(2,431)	$(129)	$(2,474)	$(166)
ASSET (GAIN)/LOSS	06/30/14	80% ↗	27	$(206,772)	$(5,656)	$(215,906)	$(8,607)	$(222,646)	$(11,790)
NON-ASSET (GAIN)/LOSS	06/30/14	80% ↗	27	$215	$6	$224	$9	$231	$12
ASSUMPTION CHANGE	06/30/14	80% ↗	17	$133,961	$4,987	$138,509	$7,620	$140,660	$10,436
ASSET (GAIN)/LOSS	06/30/15	60% ↗	28	$141,743	$1,996	$149,952	$4,046	$156,633	$6,236
NON-ASSET (GAIN)/LOSS	06/30/15	60% ↗	28	$(10,704)	$(151)	$(11,324)	$(306)	$(11,828)	$(471)
ASSET (GAIN)/LOSS	06/30/16	40% ↗	29	$172,392	$0	$184,890	$2,566	$195,637	$5,273
NON-ASSET (GAIN)/LOSS	06/30/16	40% ↗	29	$(19,785)	$0	$(21,219)	$(294)	$(22,453)	$(605)
ASSUMPTION CHANGE	06/30/16	40% ↗	19	$51,298	$(4,587)	$59,767	$1,128	$62,932	$2,317
ASSET (GAIN)/LOSS	06/30/17	20% ↗	30	$(90,128)	$0	$(96,662)	$0	$(103,670)	$(1,437)
NON-ASSET (GAIN)/LOSS	06/30/17	20% ↗	30	$(4,297)	$0	$(4,609)	$0	$(4,943)	$(69)
ASSUMPTION CHANGE	06/30/17	20% ↗	20	$52,554	$(7,373)	$64,000	$(7,585)	$76,494	$1,442
TOTAL				$579,130	$7,774	$613,065	$20,751	$636,021	$37,536

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is $0, because the minimum required contribution under PEPRA must be at least equal to the normal cost.

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze the current amortization schedule and illustrate the advantages of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on: 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternate "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. Note that the payments under each alternate scenario increase by 2.875 percent for each year into the future. **The schedules do not attempt to reflect any experience after June 30, 2017 that may deviate from the actuarial assumptions. Therefore, future amortization payments displayed in the Current Amortization Schedule may not match projected amortization payments shown in connection with Projected Employer Contributions provided elsewhere in this report.**

The Current Amortization Schedule typically contains individual bases that are both positive and negative. Positive bases result from plan changes, assumption changes or plan experience that result in increases to unfunded liability. Negative bases result from plan changes, assumption changes or plan experience that result in decreases to unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years such as:

- A positive total unfunded liability with a negative total payment,
- A negative total unfunded liability with a positive total payment, or
- Total payments that completely amortize the unfunded liability over a very short period of time

In any year where one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives

	Current Amortization Schedule		Alternate Schedules: 20 Year Amortization		Alternate Schedules: 15 Year Amortization	
Date	Balance	Payment	Balance	Payment	Balance	Payment
6/30/2019	636,022	37,537	636,022	47,536	636,022	57,834
6/30/2020	643,260	43,775	632,905	48,902	622,240	59,497
6/30/2021	644,562	50,696	628,147	50,308	605,736	61,207
6/30/2022	638,791	55,887	621,587	51,755	586,265	62,967
6/30/2023	627,226	57,422	613,054	53,243	563,560	64,777
6/30/2024	613,233	59,073	602,362	54,773	537,333	66,640
6/30/2025	596,516	60,771	589,309	56,348	507,277	68,556
6/30/2026	576,827	62,518	573,679	57,968	473,057	70,527
6/30/2027	553,902	64,316	555,238	59,635	434,315	72,554
6/30/2028	527,454	66,165	533,734	61,349	390,665	74,640
6/30/2029	497,173	68,067	508,896	63,113	341,690	76,786
6/30/2030	462,727	70,024	480,430	64,927	286,941	78,994
6/30/2031	423,757	72,037	448,021	66,794	225,937	81,265
6/30/2032	379,876	70,337	411,330	68,714	158,159	83,601
6/30/2033	334,576	68,479	369,990	70,690	83,047	86,005
6/30/2034	287,915	64,684	323,606	72,722		
6/30/2035	241,801	58,344	271,755	74,813		
6/30/2036	198,909	51,587	213,980	76,964		
6/30/2037	159,905	33,531	149,789	79,177		
6/30/2038	136,774	30,039	78,652	81,453		
6/30/2039	115,581	28,361				
6/30/2040	94,589	29,177				
6/30/2041	71,231	23,650				
6/30/2042	51,904	23,432				
6/30/2043	31,400	19,388				
6/30/2044	13,599	10,351				
6/30/2045	3,864	3,925				
6/30/2046	79	82				
6/30/2047						
6/30/2048						
Totals		1,283,654		1,261,184		1,065,849
Interest Paid		647,632		625,161		429,826
Estimated Savings				22,470		217,803

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2017. For Projected Employer Contributions, please see page 5.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made during a fiscal year.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment ($)
2016 - 17	8.377%	$14,513
2017 - 18	8.418%	$19,734
2018 - 19	8.892%	$28,337
2019 - 20	9.680%	$37,537

Funding History

The funding history below shows the plan's actuarial accrued liability, share of the pool's market value of assets, share of the pool's unfunded liability, funded ratio, and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Plan's Share of Pool's Unfunded Liability	Funded Ratio	Annual Covered Payroll
06/30/2011	$ 1,358,538	$ 1,111,686	$ 246,852	81.8%	$ 1,037,949
06/30/2012	1,538,440	1,187,320	351,120	77.2%	1,051,541
06/30/2013	1,871,651	1,521,083	350,568	81.3%	1,117,263
06/30/2014	2,258,819	1,978,343	280,476	87.6%	1,153,819
06/30/2015	2,627,184	2,247,532	379,652	85.5%	1,109,908
06/30/2016	2,856,897	2,268,843	588,054	79.4%	998,563
06/30/2017	3,209,856	2,630,726	579,130	82.0%	989,187

Risk Analysis

- Analysis of Future Investment Return Scenarios
- Analysis of Discount Rate Sensitivity
- Volatility Ratios
- Hypothetical Termination Liability

Analysis of Future Investment Return Scenarios

Analysis was performed to determine the effects of various future investment returns on required employer contributions. The projections below provide a range of results based on five investment return scenarios assumed to occur during the next four fiscal years (2017-18, 2018-19, 2019-20 and 2020-21). The projections also assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Each of the five investment return scenarios assumes a return of 7.25 percent for fiscal year 2017-18. For fiscal years 2018-19, 2019-20, and 2020-21 each scenario assumes an alternate fixed annual return. The fixed return assumptions for the five scenarios are 1.0 percent, 4.0 percent, 7.0 percent, 9.0 percent and 12.0 percent.

The alternate investment returns were chosen based on stochastic analysis of possible future investment returns over the four-year period ending June 30, 2021. Using the expected returns and volatility of the asset classes in which the funds are invested, we produced five thousand stochastic outcomes for this period based on the recently completed Asset Liability Management process. We then selected annual returns that approximate the 5th, 25th, 50th, 75th, and 95th percentiles for these outcomes. For example, of all the 4-year outcomes generated in the stochastic analysis, approximately 25 percent of them had an average annual return of 4.0 percent or less.

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 1.0 percent or greater than 12.0 percent over this four-year period, the possibility of a single investment return less than 1.0 percent or greater than 12.0 percent in any given year is much greater.

Assumed Annual Return From 2018-19 through 2020-21	Projected Employer Contributions			
	2020-21	2021-22	2022-23	2023-24
1.0%				
Normal Cost	10.3%	10.3%	10.3%	10.3%
UAL Contribution	$45,000	$57,000	$70,000	$82,000
4.0%				
Normal Cost	10.3%	10.3%	10.3%	10.3%
UAL Contribution	$45,000	$56,000	$66,000	$74,000
7.0%				
Normal Cost	10.3%	10.3%	10.3%	10.3%
UAL Contribution	$45,000	$54,000	$62,000	$66,000
9.0%				
Normal Cost	10.3%	10.6%	10.8%	11.0%
UAL Contribution	$45,000	$54,000	$60,000	$62,000
12.0%				
Normal Cost	10.3%	10.6%	10.8%	11.0%
UAL Contribution	$45,000	$52,000	$56,000	$53,000

Given the temporary suspension of the Risk Mitigation Policy during the period over which the discount rate assumption is being phased down to 7.0 percent, the projections above were performed without reflection of any possible impact of this Policy for Fiscal Year 2020-21. In addition, the projections above do not reflect the recent changes to the new amortization policy effective with the June 30, 2019 valuation but the impact on the results above is expected to be minimal.

Analysis of Discount Rate Sensitivity

Shown below are various valuation results as of June 30, 2017 assuming alternate discount rates. Results are shown using the current discount rate of 7.25 percent as well as alternate discount rates of 6.0 percent, 7.0 percent, and 8.0 percent. The alternate rate of 7.0 percent was selected since the Board has adopted this rate as the final discount rate at the end of the three-year phase-in of the reduction in this assumption. The rates of 6.0 percent and 8.0 percent were selected since they illustrate the impact of a 1 percent increase or decrease to the 7.0 percent assumption. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.0 percent, 7.0 percent, or 8.0 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" at the end of this section.

Sensitivity Analysis				
As of June 30, 2017	Plan's Total Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.25% (current discount rate)	16.586%	$3,209,856	$579,130	82.0%
6.0%	21.483%	$4,006,845	$1,376,119	65.7%
7.0%	17.250%	$3,329,902	$699,176	79.0%
8.0%	14.006%	$2,788,727	$158,001	94.3%

Volatility Ratios

Actuarial calculations are based on a number of assumptions about long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset-to-payroll ratio of 4. Shown below is the asset volatility ratio, a measure of the plan's current contribution volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return and changes in liability. For example, a plan with a liability-to-payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability-to-payroll ratio of 4. The liability volatility ratio is also shown in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility. The asset volatility ratio, described above, will tend to move closer to the liability volatility ratio as the plan matures. Since the liability volatility ratio is a long-term measure, it is shown below at the current discount rate (7.25 percent) as well as the discount rate the Board has adopted to determine the contribution requirement in the June 30, 2018 actuarial valuation (7.00 percent).

Rate Volatility		As of June 30, 2017
1. Market Value of Assets	$	2,630,726
2. Payroll		989,187
3. Asset Volatility Ratio (AVR) [(1) / (2)]		2.7
4. Accrued Liability	$	3,209,856
5. Liability Volatility Ratio (LVR) [(4) / (2)]		3.2
6. Accrued Liability (7.00% discount rate)		3,329,902
7. Projected Liability Volatility Ratio [(6) / (2)]		3.4

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2017. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees.

A more conservative investment policy and asset allocation strategy was adopted by the CalPERS Board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while funding risk is limited. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 2-year period centered around the valuation date.

Market Value of Assets (MVA)	Hypothetical Termination Liability[1,2] @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability[1,2] @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
$2,630,726	$7,156,909	36.8%	$4,526,183	$5,756,937	45.7%	$3,126,211

[1] The hypothetical liabilities calculated above include a 5 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions can be found in Appendix A.

[2] The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 2.61 percent on June 30, 2017, and was 2.83 percent on January 31, 2018.

In order to terminate the plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to terminate. The completed Resolution will allow the plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. CalPERS advises you to consult with the plan actuary before beginning this process.

Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

	June 30, 2016	June 30, 2017
Reported Payroll	$ 998,563	$ 989,187
Projected Payroll for Contribution Purposes	$ 1,091,157	$ 1,076,981
Number of Members		
Active	14	13
Transferred	2	2
Separated	6	7
Retired	2	2

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- None

Plan's Major Benefit Options

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in Appendix B within Section 2 of this report.

Benefit Provision	Contract package Active Misc	Receiving Misc	
Benefit Formula	2.0% @ 55		
Social Security Coverage	No		
Full/Modified	Full		
Employee Contribution Rate	7.00%		
Final Average Compensation Period	Three Year		
Sick Leave Credit	Yes		
Non-Industrial Disability	Standard		
Industrial Disability	No		
Pre-Retirement Death Benefits			
Optional Settlement 2	Yes		
1959 Survivor Benefit Level	level 4		
Special	No		
Alternate (firefighters)	No	No	
Post-Retirement Death Benefits			
Lump Sum	$500	$500	
Survivor Allowance (PRSA)	No	No	
COLA	2%	2%	

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Section 2 may be found on the CalPERS website (www.calpers.ca.gov) in the Forms and Publications section

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942709
Sacramento, CA 94229-2709
TTY: (916) 795-3240
(888) 225-7377 phone – (916) 795-2744 fax
www.calpers.ca.gov

August 2018

PEPRA Miscellaneous Plan of the Silicon Valley Animal Control Authority
(CalPERS ID: 3346262594)
Annual Valuation Report as of June 30, 2017

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2017 actuarial valuation report of the pension plan.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2017.

Section 2 can be found on the CalPERS website at (www.calpers.ca.gov). From the home page, go to "*Forms & Publications*" and select "*View All*". In the search box, enter "*Risk Pool*" and from the results list download the Miscellaneous or Safety Risk Pool Actuarial Valuation Report as appropriate.

Your June 30, 2017 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your assigned CalPERS staff actuary, whose signature appears in the Actuarial Certification section on page 1, is available to discuss the report with you after August 1, 2018.

The exhibit below displays the minimum employer contributions, before any cost sharing, for Fiscal Year 2019-20 along with estimates of the required contributions for Fiscal Year 2020-21. Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The employer contributions in this report do not reflect any cost sharing arrangements you may have with your employees.**

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability
2019-20	6.985%	$3,295
Projected Results		
2020-21	*7.5%*	*$910*

The actual investment return for Fiscal Year 2017-18 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 7.25 percent. ***If the actual investment return for Fiscal Year 2017-18 differs from 7.25 percent, the actual contribution requirements for the projected years will differ from those shown above.***

Moreover, the projected results for Fiscal Year 2020-21 assume that there are no future plan changes, no further changes in assumptions other than those recently approved, and no liability gains or losses. Such changes can have a significant impact on required contributions. Since they cannot be predicted in advance, the projected employer results shown above are estimates. The actual required employer contributions for Fiscal Year 2020-21 will be provided in next year's report.

For additional details regarding the assumptions and methods used for these projections please refer to the "Projected Employer Contributions" in the "Highlights and Executive Summary" section.

The "Risk Analysis" section of the valuation report also contains estimated employer contributions in future years under a variety of investment return scenarios.

Changes since the Prior Year's Valuation

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on Page 5 are calculated under the assumption that the discount rate will be lowered to 7.00 percent next year as adopted by the Board.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in your actuarial valuations and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent was used and a rate of 2.50 percent will be used in the following valuation.

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. This Policy has been temporarily suspended during the period over which the discount rate is being lowered. More details on the Risk Mitigation Policy can be found on our website.

Besides the above noted changes, there may also be changes specific to the plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after August 1 to contact us with actuarial related questions.

If you have other questions, please call our customer contact center at (888) CalPERS or (888-225-7377).

Sincerely,

SCOTT TERANDO
Chief Actuary

Actuarial Valuation as of June 30, 2017

for the PEPRA Miscellaneous Plan of the Silicon Valley Animal Control Authority

(CalPERS ID: 3346262594)

Required Contributions for Fiscal Year July 1, 2019 - June 30, 2020

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Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Plan Specific Information for the PEPRA Miscellaneous Plan of the Silicon Valley Animal Control Authority

(CalPERS ID: 3346262594)
(Rate Plan: 26839)

Table of Contents

Actuarial Certification

Section 1 of this report is based on the member and financial data contained in our records as of June 30, 2017 which was provided by your agency and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2017 provided by employers participating in the Miscellaneous Risk Pool to which the plan belongs and benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the risk pool containing your PEPRA Miscellaneous Plan has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool as of the date of this valuation and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the plan, it is my opinion as the plan actuary that Unfunded Accrued Liability amortization bases as of June 30, 2017 and employer contribution as of July 1, 2019, have been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary for CalPERS, a member of both the American Academy of Actuaries and Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

David Clement

DAVID CLEMENT, ASA, MAAA, EA
Senior Pension Actuary, CalPERS
Plan Actuary

Highlights and Executive Summary

- Introduction
- Purpose of Section 1
- Required Employer Contributions
- Plan's Funded Status
- Projected Employer Contributions
- Changes Since the Prior Year's Valuation
- Subsequent Events

Introduction

This report presents the results of the June 30, 2017 actuarial valuation of the PEPRA Miscellaneous Plan of the Silicon Valley Animal Control Authority of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the required employer contributions for Fiscal Year 2019-20.

Purpose of Section 1

This Section 1 report for the PEPRA Miscellaneous Plan of the Silicon Valley Animal Control Authority of the California Public Employees' Retirement System (CalPERS) was prepared by the plan actuary in order to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2017;
- Determine the minimum required employer contribution for this plan for the fiscal year July 1, 2019 through June 30, 2020; and
- Provide actuarial information as of June 30, 2017 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to GASB Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 9.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 6.0 percent, 7.0 percent and 8.0 percent.

Required Employer Contributions

		Fiscal Year
Required Employer Contributions		**2019-20**
Employer Normal Cost Rate		**6.985%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**274.57**
Or		
2) Annual Lump Sum Prepayment Option	**$**	**3,181**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).

Only the UAL portion of the employer contribution can be prepaid ***(which must be received in full no later than July 31).*** *Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

		Fiscal Year 2018-19		Fiscal Year 2019-20
Development of Normal Cost as a Percentage of Payroll[1]				
Base Total Normal Cost for Formula		13.092%		13.735%
Surcharge for Class 1 Benefits[2]				
None		0.000%		0.000%
Phase out of Normal Cost Difference[3]		0.000%		0.000%
Plan's Total Normal Cost		13.092%		13.735%
Plan's Employee Contribution Rate		6.250%		6.750%
Employer Normal Cost Rate		6.842%		6.985%
Projected Payroll for the Contribution Fiscal Year	$	108,665	$	239,539
Estimated Employer Contributions Based on Projected Payroll				
Plan's Estimated Employer Normal Cost	$	7,435	$	16,732
Plan's Payment on Amortization Bases[4]		1,652		3,295
% of Projected Payroll (illustrative only)		1.520%		1.375%
Estimated Total Employer Contribution	$	9,087	$	20,027
% of Projected Payroll (illustrative only)		8.362%		8.361%

[1] The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

[3] The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

[4] See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	$	97,246	$	298,614
2. Entry Age Normal Accrued Liability (AL)		6,241		18,738
3. Plan's Market Value of Assets (MVA)		5,696		18,027
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		545		711
5. Funded Ratio [(3) / (2)]		91.3%		96.2%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	6.985%	7.5%	7.5%	7.5%	7.5%	7.5%
UAL Payment	$3,295	$910	$760	$640	$530	$450

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Changes since the Prior Year's Valuation

Benefits

None. This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B of Section 2 for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

At its December 2016 meeting, the CalPERS Board of Administration lowered the discount rate from 7.50 percent to 7.00 percent using a three-year phase-in beginning with the June 30, 2016 actuarial valuations. The minimum employer contributions for Fiscal Year 2019-20 determined in this valuation were calculated using a discount rate of 7.25 percent. The projected employer contributions on page 5 are calculated assuming that the discount rate will be lowered to 7.00 percent next year as adopted by the Board. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff. The specific decision adopted by the Board reflected recommendations from CalPERS staff and additional input from employer and employee stakeholder groups. Based on the investment allocation adopted by the Board and capital market assumptions, the reduced discount rate assumption provides a more realistic assumption for the long-term investment return of the fund.

On December 19, 2017, the CalPERS Board of Administration adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for Public Agencies. These new assumptions are incorporated in this actuarial valuation and will impact the required contribution for FY 2019-20. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent will be used and a rate of 2.50 percent in the following valuation.

Notwithstanding the Board's decision to phase into a 7.0 percent discount rate, subsequent analysis of the expected investment return of CalPERS assets or changes to the investment allocation may result in a change to this three-year discount rate schedule.

Subsequent Events

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gains/losses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.

For inactive employers the new amortization policy imposes a maximum amortization period of 15 years for all unfunded accrued liabilities effective June 30, 2017. Furthermore, the plan actuary has the ability to shorten the amortization period on any valuation date based on the life expectancy of plan members and projected cash flow needs to the plan. The impact of this has been reflected in the current valuation results.

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of June 30, 2017. Changes in the value of assets subsequent to that date are not reflected. Investment returns below the assumed rate of return will increase the retired contribution, while investment returns above the assumed rate of return will decrease the retired contribution.

This actuarial valuation report reflects statutory changes, regulatory changes and CalPERS Board actions through January 2018. Any subsequent changes or actions are not reflected.

Assets and Liabilities

- Breakdown of Entry Age Normal Accrued Liability
- Allocation of Plan's Share of Pool's Experience/Assumption Change
- Development of Plan's Share of Pool's MVA
- Schedule of Plan's Amortization Bases
- Amortization Schedule and Alternatives
- Employer Contribution History
- Funding History

Breakdown of Entry Age Normal Accrued Liability

Active Members	$	12,535
Transferred Members		2,913
Terminated Members		3,290
Members and Beneficiaries Receiving Payments		0
Total	$	18,738

Allocation of Plan's Share of Pool's Experience/Assumption Change

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The Pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$	18,738
2.	Projected UAL balance at 6/30/17		1,045
3.	Pool's Accrued Liability[1]	$	15,780,998,593
4.	Sum of Pool's Individual Plan UAL Balances at 6/30/17[1]		3,912,002,885
5.	Pool's 2016/17 Investment & Asset (Gain)/Loss		(413,206,167)
6.	Pool's 2016/17 Other (Gain)/Loss		(21,126,605)
7.	Plan's Share of Pool's Asset (Gain)/Loss [(1) - (2)] / [(3) - (4)] * (5)		(616)
8.	Plan's Share of Pool's Other (Gain)/Loss [(1)] / [(3)] * (6)		(25)
9.	Plan's New (Gain)/Loss as of 6/30/2017 [(7) + (8)]	$	(641)
10.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]		258,379,047
11.	Plan's Share of Pool's Change in Assumptions [(1)] / [(3)] * (10)	$	307

[1] Does not include plans that transferred to Pool on the valuation date.

Development of the Plan's Share of Pool's Market Value of Assets

12.	Plan's UAL [(2) + (9) + (11)]	$	711
13.	Plan's Share of Pool's MVA [(1) - (12)]	$	**18,027**

Schedule of Plan's Amortization Bases

There is a two-year lag between the valuation date and the start of the contribution fiscal year.

- The assets, liabilities, and funded status of the plan are measured as of the valuation date: June 30, 2017.
- The employer contribution determined by the valuation is for the fiscal year beginning two years after the valuation date: Fiscal Year 2019-20.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the payment on the UAL for the fiscal year and adjusting for interest. Additional discretionary payments are reflected in the Expected Payments column in the fiscal year they were made by the agency.

								Amounts for Fiscal 2019-20	
Reason for Base	Date Established	Ramp Up/Down 2019-20	Amortization Period	Balance 6/30/17	Payment 2017-18	Balance 6/30/18	Payment 2018-19	Balance 6/30/19	Scheduled Payment for 2019-20
FRESH START	06/30/17	No Ramp	1	$711	$(2,096)	$2,933	$(35)	$3,181	$3,295
TOTAL				$711	$(2,096)	$2,933	$(35)	$3,181	$3,295

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed on the previous page. These (gain)/loss bases will be amortized according to Board policy over 30 years with a 5-year ramp-up.

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is $0, because the minimum required contribution under PEPRA must be at least equal to the normal cost.

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. As a result, we have provided alternate amortization schedules to help analyze the current amortization schedule and illustrate the advantages of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on: 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternate "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. Note that the payments under each alternate scenario increase by 2.875 percent for each year into the future. **The schedules do not attempt to reflect any experience after June 30, 2017 that may deviate from the actuarial assumptions. Therefore, future amortization payments displayed in the Current Amortization Schedule may not match projected amortization payments shown in connection with Projected Employer Contributions provided elsewhere in this report.**

The Current Amortization Schedule typically contains individual bases that are both positive and negative. Positive bases result from plan changes, assumption changes or plan experience that result in increases to unfunded liability. Negative bases result from plan changes, assumption changes or plan experience that result in decreases to unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years such as:

- A positive total unfunded liability with a negative total payment,
- A negative total unfunded liability with a positive total payment, or
- Total payments that completely amortize the unfunded liability over a very short period of time

In any year where one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives

	Current Amortization Schedule		Alternate Schedules			
			0 Year Amortization		0 Year Amortization	
Date	Balance	Payment	Balance	Payment	Balance	Payment
6/30/2019	3,182	3,295	N/A	N/A	N/A	N/A
6/30/2020						
6/30/2021						
6/30/2022						
6/30/2023						
6/30/2024						
6/30/2025						
6/30/2026						
6/30/2027						
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6/30/2042						
6/30/2043						
6/30/2044						
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
Totals		3,295		N/A		N/A
Interest Paid		113		N/A		N/A
Estimated Savings				N/A		N/A

* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2017. For Projected Employer Contributions, please see page 5.

Employer Contribution History

The table below provides a recent history of the required employer contributions for the plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made during a fiscal year.

Fiscal Year	Employer Normal Cost	Unfunded Liability Payment ($)
2017 - 18	6.533%	$1
2018 - 19	6.842%	$1,652
2019 - 20	6.985%	$3,295

Funding History

The funding history below shows the plan's actuarial accrued liability, share of the pool's market value of assets, share of the pool's unfunded liability, funded ratio, and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Plan's Share of Pool's Unfunded Liability	Funded Ratio	Annual Covered Payroll
06/30/2015	$ 1,676	$ 1,595	$ 81	95.2%	$ 0
06/30/2016	6,241	5,696	545	91.3%	99,444
06/30/2017	18,738	18,027	711	96.2%	220,012

Risk Analysis

- Analysis of Future Investment Return Scenarios
- Analysis of Discount Rate Sensitivity
- Volatility Ratios
- Hypothetical Termination Liability

Analysis of Future Investment Return Scenarios

Analysis was performed to determine the effects of various future investment returns on required employer contributions. The projections below provide a range of results based on five investment return scenarios assumed to occur during the next four fiscal years (2017-18, 2018-19, 2019-20 and 2020-21). The projections also assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Each of the five investment return scenarios assumes a return of 7.25 percent for fiscal year 2017-18. For fiscal years 2018-19, 2019-20, and 2020-21 each scenario assumes an alternate fixed annual return. The fixed return assumptions for the five scenarios are 1.0 percent, 4.0 percent, 7.0 percent, 9.0 percent and 12.0 percent.

The alternate investment returns were chosen based on stochastic analysis of possible future investment returns over the four-year period ending June 30, 2021. Using the expected returns and volatility of the asset classes in which the funds are invested, we produced five thousand stochastic outcomes for this period based on the recently completed Asset Liability Management process. We then selected annual returns that approximate the 5th, 25th, 50th, 75th, and 95th percentiles for these outcomes. For example, of all the 4-year outcomes generated in the stochastic analysis, approximately 25 percent of them had an average annual return of 4.0 percent or less.

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 1.0 percent or greater than 12.0 percent over this four-year period, the possibility of a single investment return less than 1.0 percent or greater than 12.0 percent in any given year is much greater.

Assumed Annual Return From 2018-19 through 2020-21	Projected Employer Contributions			
	2020-21	2021-22	2022-23	2023-24
1.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	$910	$1,100	$1,200	$1,300
4.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	$910	$910	$910	$930
7.0%				
Normal Cost	7.5%	7.5%	7.5%	7.5%
UAL Contribution	$910	$760	$640	$530
9.0%				
Normal Cost	7.5%	7.7%	7.9%	7.3%
UAL Contribution	$910	$710	$530	$360
12.0%				
Normal Cost	7.5%	7.7%	7.9%	7.3%
UAL Contribution	$910	$560	$230	$0

Given the temporary suspension of the Risk Mitigation Policy during the period over which the discount rate assumption is being phased down to 7.0 percent, the projections above were performed without reflection of any possible impact of this Policy for Fiscal Year 2020-21. In addition, the projections above do not reflect the recent changes to the new amortization policy effective with the June 30, 2019 valuation but the impact on the results above is expected to be minimal.

Analysis of Discount Rate Sensitivity

Shown below are various valuation results as of June 30, 2017 assuming alternate discount rates. Results are shown using the current discount rate of 7.25 percent as well as alternate discount rates of 6.0 percent, 7.0 percent, and 8.0 percent. The alternate rate of 7.0 percent was selected since the Board has adopted this rate as the final discount rate at the end of the three-year phase-in of the reduction in this assumption. The rates of 6.0 percent and 8.0 percent were selected since they illustrate the impact of a 1 percent increase or decrease to the 7.0 percent assumption. This analysis shows the potential plan impacts if the PERF were to realize investment returns of 6.0 percent, 7.0 percent, or 8.0 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to required contributions. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" at the end of this section.

Sensitivity Analysis				
As of June 30, 2017	Plan's Total Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.25% (current discount rate)	13.735%	$18,738	$711	96.2%
6.0%	17.669%	$24,570	$6,543	73.4%
7.0%	14.273%	$19,471	$1,444	92.6%
8.0%	11.666%	$15,865	$(2,162)	113.6%

Volatility Ratios

Actuarial calculations are based on a number of assumptions about long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset-to-payroll ratio of 4. Shown below is the asset volatility ratio, a measure of the plan's current contribution volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return and changes in liability. For example, a plan with a liability-to-payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability-to-payroll ratio of 4. The liability volatility ratio is also shown in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility. The asset volatility ratio, described above, will tend to move closer to the liability volatility ratio as the plan matures. Since the liability volatility ratio is a long-term measure, it is shown below at the current discount rate (7.25 percent) as well as the discount rate the Board has adopted to determine the contribution requirement in the June 30, 2018 actuarial valuation (7.00 percent).

Rate Volatility		As of June 30, 2017
1. Market Value of Assets	$	18,027
2. Payroll		220,012
3. Asset Volatility Ratio (AVR) [(1) / (2)]		0.1
4. Accrued Liability	$	18,738
5. Liability Volatility Ratio (LVR) [(4) / (2)]		0.1
6. Accrued Liability (7.00% discount rate)		19,471
7. Projected Liability Volatility Ratio [(6) / (2)]		0.1

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2017. The plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For the hypothetical termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees.

A more conservative investment policy and asset allocation strategy was adopted by the CalPERS Board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while funding risk is limited. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 2-year period centered around the valuation date.

Market Value of Assets (MVA)	Hypothetical Termination Liability[1,2] @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability[1,2] @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
$18,027	$90,763	19.9%	$72,736	$66,960	26.9%	$48,932

[1] The hypothetical liabilities calculated above include a 5 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions can be found in Appendix A.

[2] The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 2.61 percent on June 30, 2017, and was 2.83 percent on January 31, 2018.

In order to terminate the plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to terminate. The completed Resolution will allow the plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. CalPERS advises you to consult with the plan actuary before beginning this process.

Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

		June 30, 2016		June 30, 2017
Reported Payroll	$	99,444	$	220,012
Projected Payroll for Contribution Purposes	$	108,665	$	239,539
Number of Members				
Active		2		4
Transferred		0		1
Separated		1		2
Retired		0		0

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- None

Plan's Major Benefit Options

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in Appendix B within Section 2 of this report.

	Contract package
Benefit Provision	Active Misc
Benefit Formula	2.0% @ 62
Social Security Coverage	No
Full/Modified	Full
Employee Contribution Rate	6.25%
Final Average Compensation Period	Three Year
Sick Leave Credit	Yes
Non-Industrial Disability	Standard
Industrial Disability	No
Pre-Retirement Death Benefits	
Optional Settlement 2	Yes
1959 Survivor Benefit Level	level 4
Special	No
Alternate (firefighters)	No
Post-Retirement Death Benefits	
Lump Sum	$500
Survivor Allowance (PRSA)	No
COLA	2%

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Section 2 may be found on the CalPERS website (www.calpers.ca.gov) in the Forms and Publications section