San Diego County Employees Retirement Association (SDCERA)

Governmental Accounting Standards Board (GAS) 67 Actuarial Valuation and Review as of June 30, 2018

Segal Consulting

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November 19, 2018

Gregory J. Bych
Chief Financial Officer
San Diego County Employees Retirement Association
2275 Rio Bonito Way, Suite 100
San Diego, CA 92108-1685

Dear Greg:

We are pleased to submit this Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of June 30, 2018. It contains various information that will need to be disclosed in order to comply with GAS 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at SDCERA's request to assist in administering the Plan. The census and financial information on which our calculations were based was prepared by SDCERA. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA. We are members of the American Academy of Actuaries, and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this report is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Plan.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Paul Angelo, FSA, MAAA, FCA, EA	*Andy Yeung, ASA, MAAA, FCA, EA*
Senior Vice President and Actuary	*Vice President and Actuary*

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SECTION 1

VALUATION SUMMARY

SECTION 2

GAS 67 INFORMATION

Purpose

This report has been prepared by Segal Consulting (Segal) to present certain disclosure information required by Governmental Accounting Standards (GAS) 67 as of June 30, 2018. This valuation is based on:

- The benefit provisions of SDCERA, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2017, provided by SDCERA;
- The market value of assets of the Plan as of June 30, 2018, provided by SDCERA;
- Economic assumptions regarding future salary increases and investment earnings as of June 30, 2018; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc., as of June 30, 2018.

General Observations on GAS 67 Actuarial Valuation

The following points should be considered when reviewing this GAS 67 report:

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as SDCERA uses for funding. This means that with the exceptions of the Section 415(m) benefits and a liability equal to the assets, if any, earmarked in the Supplemental Benefit Reserves (see discussion in the first two bullets in the next subsection), the Total Pension Liability (TPL) measure for financial reporting shown in this report is generally determined on the same basis as SDCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets (excluding the Health Insurance Allowance Reserve). With the exceptions of the liability associated with the Section 415(m) benefits and the Supplemental Benefit Allowance as noted in the next subsection, the NPL measure is very similar to UAAL on a market value basis.

- The NPLs measured as of June 30, 2018 and 2017 have been determined by rolling forward the TPLs as of June 30, 2017 and 2016 actuarial valuation dates, respectively. In addition, changes in actuarial assumptions, if any, that occurred between the June 30, 2017 valuation date and the June 30, 2018 measurement date have been reflected. The Plan's Fiduciary Net Position (plan assets) are valued as of the measurement dates.
- As we disclosed in our June 30, 2017 valuation report, in the June 30, 2017 funding valuation the liabilities and the contribution requirements to pay off the Unfunded Actuarial Accrued Liability (UAAL) were calculated after the Section 415(b) limit was applied to the retirees in pay status. This was done because the benefit amounts reported by SDCERA's pension administration system for use in the valuation included only benefits up to the Section 415(b) limit. Those calculations are consistent with the current practice that benefits in excess of the Section 415(b) limit are paid out of the employer's Section 415(m) replacement benefit program. However, for the purpose of GASB 67/68, it is our understanding that those liabilities should be included for financial reporting purposes. Accordingly, a liability of $15.1 million as of June 30, 2018 (rolled forward from June 30, 2017) has been included in this report.

Key Findings in Valuation Year

The following key findings were the result of this actuarial valuation:

- Several years ago, the Board set aside some assets from earnings available after crediting interest to pay a discretionary Supplemental Benefit Allowance in two Reserve accounts. There reserves were depleted as of June 30, 2018. It is our understanding that no payment can be distributed to the recipients once these reserves are depleted.
- The NPL decreased from $3.687 billion as of June 30, 2017 to $3.398 billion as of June 30, 2018 due to the 7.93% return on the market value of assets for FY 2018 that was higher than the assumed return of 7.25% (a gain of $91 million if measured gross of administrative expense) together with the gains from lower than expected active salary increases and lower than expected retiree COLA increases for FY 2017 (because liabilities are rolled forward from June 30, 2017 to June 30, 2018, these gains are not reflected until this valuation as of June 30, 2018). Changes in these values during the last two fiscal years ending June 30, 2018 and June 30, 2017 can be found in Exhibit 5.
- The discount rate used to determine the TPL and NPL as of both June 30, 2018 and 2017 was 7.25% following the same assumption used by SDCERA in the pension funding valuation as of the same dates. The detailed calculations of the discount rate of 7.25% used in calculation of the TPL and NPL as of June 30, 2018 can be found in Exhibit 7 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 6 in Section 2.

Summary of Key Valuation Results

	2018	2017
Disclosure elements for plan year ending June 30:		
1. Service cost[1]	$325,983,838	$322,159,061
2. Total Pension Liability	15,672,207,857	15,084,061,691
3. Plan's Fiduciary Net Position[2]	12,274,478,626	11,397,064,756
4. Net Pension Liability	3,397,729,231	3,686,996,935
Schedule of contributions for plan year ending June 30:		
5. Actuarially determined contributions	$520,733,439	$417,920,697[3]
6. Actual contributions[4]	520,733,439	417,920,697[3]
7. Contribution deficiency (excess) (5) – (6)	0	0
Demographic data for plan year ending June 30:[5]		
8. Number of retired members and beneficiaries	19,028	18,247
9. Number of vested terminated members	5,928	5,659
10. Number of active members	17,869	17,994
Key assumptions as of June 30:		
11. Investment rate of return	7.25%	7.25%
12. Inflation rate	3.00%	3.00%
13. Projected salary increases[6]	General: 4.25% to 10.25% and Safety: 4.50% to 12.00%	General: 4.25% to 10.25% and Safety: 4.50% to 12.00%

(1) *The service cost is based on the previous year's valuation, meaning the 2018 and 2017 values are based on the valuations as of June 30, 2017 and June 30, 2016, respectively. Both of the service costs have been calculated using the assumptions shown in the 2017 column.*

(2) *Net of Assets in 401(h) Reserve.*

(3) *Based on updated total employer contribution amount provided by SDCERA after we finalized the June 30, 2017 GAS 67 reports.*

(4) *Excludes employer pickup of member contributions.*

(5) *Data as of June 30, 2017 is used in the measurement of the TPL as of June 30, 2018.*

(6) *Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotional increases.*

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits.** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan provisions.
- **Participant data.** An actuarial valuation for a plan is based on data provided to the actuary by SDCERA. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets.** This valuation is based on the market value of assets as of the valuation date, as provided by SDCERA.
- **Actuarial assumptions.** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the SDCERA Board of Retirement. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term

cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

- If SDCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of SDCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to SDCERA.

EXHIBIT 1

General Information – "Financial Statements", Note Disclosures and Required Supplementary Information for a Cost-Sharing Pension Plan

Plan Description

Plan administration. The San Diego County Employees Retirement Association (SDCERA) was established by the County of San Diego on July 1, 1939. SDCERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.) SDCERA is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the General and Safety members employed by the County of San Diego. SDCERA also provides retirement benefits to the employee members of the Superior Court, San Dieguito River Valley Joint Powers Authority, Local Agency Formation Commission and San Diego County Office of Education.

The management of SDCERA is vested with the San Diego County Board of Retirement. The Board consists of nine members and two alternates made up of member-elected representatives, Board of Supervisors-appointed representatives and the County Treasurer-Tax Collector who is elected by the general public and a member of the Board of Retirement by law. All members of the Board of Retirement serve terms of three years except for the County Treasurer-Tax Collector whose term runs concurrent with his term as County Treasurer.

Plan membership. At June 30, 2018, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	19,028
Vested terminated members entitled to, but not yet receiving benefits	5,928
Active members	17,869
Total	42,825

Note: Data as of June 30, 2018 is not used in the measurement of the TPL as of June 30, 2018.

Benefits provided. SDCERA provides service retirement, disability, death and survivor benefits to eligible employees. All employees appointed to a permanent position and work at least half time or 20 hours weekly for the County of San Diego or the other participating agencies become members of SDCERA effective on the first day of the first full pay period after employment in a permanent position. There are separate retirement plans for General and Safety member employees. Safety membership is extended to those involved in active law enforcement or who otherwise qualify for Safety membership. Court service officers and probation officers were added to Safety membership in 1998 and 1999, respectively. All other employees are classified as General members. The tiers and their basic provisions are listed in the following table:

Tier Name	Governing Code	Membership Effective Date	Basic Provisions	Final Average Salary Period
General Tier 1	§31676.12	Before March 8, 2002[(1)]	2.62% at 62; maximum 3% COLA	Highest 1-year
General Tier A	§31676.17	March 8, 2002 to August 27, 2009	3.0% at 60; maximum 3% COLA	Highest 1-year
General Tier B	§31676.12	August 28, 2009 to December 31, 2012	2.62% at 62; maximum 2% COLA	Highest 3-year
General Tier C[1]	§7522.20(a)	January 1, 2013	2.5% at 67; maximum 2% COLA	Highest 3-year[(2)]
Safety Tier A	§31664.1	Before August 28, 2009	3.0% at 50; maximum 3% COLA	Highest 1-year
Safety Tier B	§31664.2	August 28, 2009 to December 31, 2012	3.0% at 55; maximum 2% COLA	Highest 3-year
Safety Tier C	§7522.25(d)	January 1, 2013	2.7% at 57; maximum 2% COLA	Highest 3-year[(2)]

[(1)] *All General members with membership dates before March 8, 2002 who made a specific and irrevocable election to opt out of General Tier A. This also included those General Members in deferred status on March 8, 2002.*

[(2)] *PEPRA limits the amount of compensation that can be used to calculate retirement benefit for Tier C to 100% of the 2013 Social Security taxable wage base limit for General members and 120% for Safety members. These amounts will be adjusted with price inflation starting in 2014.*

Any new member who becomes a member on or after January 1, 2013 is placed into Tier C and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA) and California Government Code 7522 et seq.

[1] *A new General Tier D has been approved by the County and Superior Court for employees with membership date on or after July 1, 2018. However, there will be no General Tier D members reported by SDCERA until we collect membership data for the June 30, 2019 funding valuation and when we roll forward the liability in that valuation for use in the June 30, 2020 GAS 67 valuation.*

General members enrolled in Tier 1, A or B are eligible to retire once they attain the age of 70 regardless of service or at age 50 (55 for Tier B) and have acquired 10 or more years of retirement service credit. A General member in Tier 1, A or B with 30 years of service is eligible to retire regardless of age. General members enrolled in General Tier C are eligible to retire once they have attained the age of 52, and have acquired five years of retirement service credit.

Safety members enrolled in Tier A or B are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit. A Safety member in Tier A or B with 20 years of service is eligible to retire regardless of age. Safety members enrolled in Safety Tier C are eligible to retire once they have attained the age of 50, and have acquired five years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

For members enrolled in Tier 1, A or B, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members enrolled in Tier C.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date. Certain surviving spouse or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

SDCERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the San Diego County Area (with 1982-84 as the base period), is capped at 3.0% for Tier 1 and Tier A; and capped at 2.0% for Tier B and Tier C.

The County of San Diego and the other participating agencies contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from SDCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2018 for FY 2018 (based on the June 30, 2016 valuation) was 42.26% of compensation before adjustment to include any employer pick-up of member contributions.

All members are required to make contributions to SDCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2018 for FY 2018 (based on the June 30, 2016 valuation) was 11.70% of compensation before adjustment to include any employer pick-up of member contributions.

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability are as follows:	June 30, 2018	June 30, 2017
Total Pension Liability	$15,672,207,857	$15,084,061,691
Plan's Fiduciary Net Position	(12,274,478,626)	(11,397,064,756)
Net Pension Liability	$3,397,729,231	$3,686,996,935
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	78.32%	75.56%

The Net Pension Liability (NPL) was measured as of June 30, 2018 and 2017. The Plan Fiduciary Net Position (plan assets) was valued as of the measurement date while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2017 and 2016, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of June 30, 2018 and 2017 are the same as those used in the SDCERA actuarial valuation as of June 30, 2018 and 2017, respectively.

Actuarial assumptions. The TPL as of June 30, 2018 and 2017 were determined by actuarial valuations as of June 30, 2017 and 2016, respectively. The actuarial assumptions used were based on the results of an experience study for the period from July 1, 2012 through June 30, 2015. They are the same assumptions used in the June 30, 2018 funding valuation for SDCERA. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	General: 4.25% to 10.25% and Safety: 4.50% to 12.00%, vary by service, including inflation
Investment rate of return	7.25%, net of pension plan investment expense, including inflation
Other assumptions	See analysis of actuarial experience during the period July 1, 2012 through June 30, 2015

EXHIBIT 3
Target Asset Allocation

The long-term expected rate of return on pension plan investments was determined in 2016 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption as of June 30, 2018 and June 30, 2017 are summarized in the following table. This information will change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap U.S. Equity	17.685%	5.80%
Small Cap U.S. Equity	1.965%	6.47%
Developed International Equity	16.200%	6.97%
Emerging Markets Equity	9.150%	8.93%
U.S. Core Bonds	10.000%	0.84%
High Yield Bonds	5.000%	3.47%
Global Bonds	2.000%	0.49%
Bank Loan	5.000%	2.34%
Cash & Equivalents	2.000%	-0.46%
Real Estate	4.500%	4.45%
Value Added Real Estate	4.500%	7.10%
Hedge Fund (Fund to Funds)	8.000%	4.40%
Private Real Asset	6.000%	9.00%
Private Equity	8.000%	9.00%
Total	100.000%	

EXHIBIT 3 (continued)

Target Asset Allocation

Discount rate: The discount rates used to measure the TPL was 7.25% as of June 30, 2018 and 2017. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan’s Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2018 and 2017.

EXHIBIT 4

Discount Rate Sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of SDCERA as of June 30, 2018, calculated using the discount rate of 7.25%, as well as what the SDCERA's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
SDCERA's Net Pension Liability as of June 30, 2018	$5,533,304,407	$3,397,729,231	$1,641,780,201

EXHIBIT 5

Schedules of Changes in Net Pension Liability – Last Two Fiscal Years

	2018	2017
Total Pension Liability		
1. Service cost	$325,983,838	$322,159,061
2. Interest	1,082,689,401	1,041,400,716
3. Change of benefit terms	0	0
4. Differences between expected and actual experience	(130,589,113)	(188,131,254)
5. Changes of assumptions	0	0
6. Benefit payments, including refunds of member contributions	(689,937,960)	(650,625,632)
7. Net change in Total Pension Liability	$588,146,166	$524,802,891
8. Total Pension Liability – beginning	15,084,061,691	14,559,258,800
9. Total Pension Liability – ending	$15,672,207,857	$15,084,061,691
Plan's Fiduciary Net Position		
10. Contributions – employer[1]	$520,733,439	$417,920,697
11. Contributions – plan members[1]	140,401,589	112,579,051
12. Contributions – employer pickup of member contributions	3,753,129	20,906,443
13. Net investment income	915,650,418	1,248,303,325
14. Benefit payments, including refunds of member contributions	(689,937,960)	(650,625,632)
15. Administrative expense	(13,186,745)	(13,287,049)
16. Other	0	0
17. Net change in Plan's Fiduciary Net Position	$877,413,870	$1,135,796,835
18. Plan's Fiduciary Net Position – beginning	11,397,064,756	10,261,267,921
19. Plan's Fiduciary Net Position – ending	$12,274,478,626	$11,397,064,756
20. Net Pension Liability – ending (9) – (19)	$3,397,729,231	$3,686,996,935
21. Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	78.32%	75.56%
22. Covered payroll[2]	$1,232,104,786	$1,181,479,673
23. Plan's Net Pension Liability as percentage of covered payroll	275.77%	312.07%

[1] *See footnoted (2) and (4) under Exhibit 6 on page 10.*

[2] *Covered payroll represents payroll on which contributions to the pension plan are based.*

EXHIBIT 6

Schedule of Employer's Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions[2]	Contribution Deficiency (Excess)	Covered Payroll[3]	Contributions as a Percentage of Covered Payroll
2009	$219,635,000	$219,635,000	$0	$1,102,242,435	19.93%
2010	188,414,000	189,470,000	(1,056,000)	1,050,985,450	18.03%
2011	205,799,000	235,392,000	(29,593,000)	1,036,693,162	22.71%
2012	274,106,000	274,106,000	0	1,047,414,147	26.17%
2013	298,128,000	312,288,000	(14,160,000)	1,028,420,277	30.37%
2014	353,841,000	353,841,000	0	1,072,896,037	32.98%
2015	386,041,000	386,041,000	0	1,120,001,088	34.47%
2016	382,424,947[4]	382,424,947[4]	0	1,140,882,516	33.52%
2017	417,920,697[4]	417,920,697[4]	0	1,181,479,673	35.37%
2018	520,733,439	520,733,439	0	1,232,104,786	42.26%

See accompanying notes to this schedule on next page.

(1) *All "Actuarially Determined Contributions" through June 30, 2015 were determined as the "Annual Required Contribution" under GAS 25 and 27.*

(2) *Excludes employer pickup of member contributions and proceeds from Pension Obligation Bonds.*

(3) *Covered payroll represents payroll on which contributions to the pension plan are based.*

(4) *Based on updated total employer contribution amount provided by SDCERA after we finalized the June 30, 2017 and June 30, 2016 GAS 67 reports.*

Notes to Exhibit 6

Methods and assumptions used to establish "actuarially determined contribution" rates:	
Valuation date	Actuarially determined contribution rates are calculated as of June 30, one year prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll for total unfunded actuarial accrued liability
Remaining amortization period	Prior to July 1, 2013, the Association's UAAL was amortized over 20-year fixed (i.e. decreasing) layered amortization periods. As of July 1, 2013, any new UAAL resulting from plan amendments is amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing periods of up to 5 years; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are amortized over separate decreasing 20-year periods.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on market value and is recognized over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations. Deferred gains and losses as of June 30, 2012 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.
Actuarial assumptions:	
June 30, 2016 valuation (for year ended 2018 ADC)	
Investment rate of return	7.25%, net of pension plan investment expense, including inflation
Inflation rate	3.00%
Real across-the-board salary increases	0.50%
Projected salary increases	General: 4.25% to 10.25% and Safety: 4.50% to 12.00%, varying by service, including inflation
Cost of living adjustments	3.00% of retirement income for Tier 1 and Tier A 2.00% of retirement income for Tier B and Tier C
Other assumptions	Same as those used in the June 30, 2016 funding actuarial valuation

EXHIBIT 7

Calculation of Discount Rate as of June 30, 2018
Projection of Pension Plan's Fiduciary Net Position ($ in millions)

Year Beginning July 1	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2017	$11,397	$665	$690	$13	$916	$12,274
2018	12,274	658	760	14	886	13,044
2019	13,044	669	807	15	940	13,830
2020	13,830	675	855	16	996	14,629
2021	14,629	671	905	17	1,052	15,430
2022	15,430	670	955	18	1,108	16,235
2023	16,235	674	1,007	19	1,164	17,047
2024	17,047	495	1,060	20	1,215	17,677
2025	17,677	469	1,114	21	1,258	18,269
2026	18,269	491	1,168	21	1,300	18,870
2042	22,671	111	1,903	27	1,579	22,431
2043	22,431	105	1,927	26	1,560	22,143
2044	22,143	99	1,946	26	1,539	21,809
2045	21,809	94	1,960	26	1,514	21,430
2046	21,430	89	1,970	25	1,486	21,009
2091	174	5	41	0 *	11	150
2092	150	5	31	0 *	10	133
2093	133	4	23	0 *	9	123
2094	123	4	17	0 *	8	118
2095	118	3	12	0 *	8	117
2131	1,194	1	0 *	1	87	1,281
2132	1,281					
2132 Discounted Value:	0 **					

* Less than $1 million, when rounded.

** $1,281 million when discounted with interest at the rate of 7.25% per annum has a value of less than $1 million as of June 30, 2017.

EXHIBIT 7 (continued)

Calculation of Discount Rate as of June 30, 2018

Projection of Pension Plan's Fiduciary Net Position ($ in millions)

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown in the year beginning July 1, 2017 row are actual amounts, based on the unaudited financial statements provided by SDCERA.

(3) Years 2027-2041, 2047-2090, and 2096-2130 have been omitted from this table.

(4) Column (a): Except for the "discounted value" shown for 2132, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(5) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2017), plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.

(6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2017. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2017 valuation report.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.12% of the projected beginning Plan Fiduciary Net Position amount. The 0.12% portion was based on the actual fiscal year 2017/2018 administrative expenses as a percentage of the actual beginning Plan Fiduciary Net Position as of July 1, 2017. Administrative expenses are assumed to occur halfway through the year, on average.

(8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.

(9) As illustrated in this Exhibit, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2018 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.