Marinwood Community Services District
OPEB Plan

Actuarial Valuation as of June 30, 2017
For Purposes of Actuarial Funding
And GASB 75 ADC

July 27, 2018

NICOLAY CONSULTING

Nicolay Consulting Group

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July 27, 2018

Mr. Eric Dreikosen
District Manager
Marinwood Community Services District
775 Miller Creek Road
San Rafael, California 94903

Re: Marinwood Community Services District June 30, 2017 Actuarial Report for Funding

Dear Mr. Dreikosen,

Marinwood Community Services District ("The District") has retained Nicolay Consulting Group to complete this valuation of the District's postemployment medical program (the "Plan") as of June 30, 2017 measurement date compliant under Actuarial Standards of Practice for funding and consistent with Governmental Accounting Standards Board (GASB) Statement 75 for actuarial methods.

The purpose of this valuation is to determine the value of the expected postretirement benefits for current and future retirees and the Actuarial Accrued Liability (i.e., Total OPEB Liability under GASB 75) and Actuarially Determined Contribution for the plan year ending June 30, 2018. The amounts reported herein are not necessarily appropriate for use for a different fiscal year without adjustment.

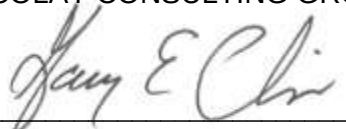
Based on the foregoing, the cost results and actuarial exhibits presented in this report were determined on a consistent and objective basis in accordance with applicable Actuarial Standards of Practice and generally accepted actuarial procedures. We believe they fully and fairly disclose the actuarial position of the Plan based on the plan provisions, employee and plan cost data submitted.

The actuarial calculations were completed under the supervision of Gary Cline, ASA, MAAA, FCA, Enrolled Actuary. A member of the American Academy of Actuaries whom meets 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 the actuarial valuation is complete and accurate. In our opinion, assumptions as approved by the plan sponsor are reasonably related to the experience of and expectations for the Plan.

We would be pleased to answer any questions on the material contained in this report or to provide explanation or further detail as may be appropriate.

Respectfully submitted,

NICOLAY CONSULTING GROUP



Gary E. Cline, ASA, MAAA, FCA, EA
Vice President & Chief Operating Officer

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Section I Management Summary

A) Highlights

Summary of Key Valuation Results

	2017
Funded Status for Plan year beginning July 1:	
Present Value of Future Benefits:	
Active	$6,407,030
Retiree	2,858,740
Total	$9,265,770
Actuarial Accrued Liability	
Active	$3,602,328
Retiree	2,858,740
Total	$6,461,068
Market Value of Assets	0
Funded Status	$6,461,068
Funded Status as a percentage of the AAL	0%
	N/A
Actuarially Determined Contribution for PY beginning July 1:	
Actuarially determined contributions (Exhibit 4)	$531,502
Estimated Trust Contribution	$60,000
Estimated Annual Retiree Premium	142,796
Active Implicit Subsidy	47,562
Total Contribution	$250,358
Demographic data for Plan year beginning July 1 [(2)]:	
Number of active members	19
Number of retired members and beneficiaries	14
Total	33
Key assumptions as of July 1:	
Discount rate	3.58%
Initial Trend Rate	
Pre-65	7.75%
Post-65	5.20%
Ultimate Rate	4.25%
Year Ultimate Rate is Reached	2033

(1) *Includes payments to trust and amounts paid directly by the plan sponsor*

(2) *Census data as of June 30, 2017 is used in the measurement of the TOL as of June 30, 2017. See Section III for additional details on the demographic data.*

B) Gap Analysis

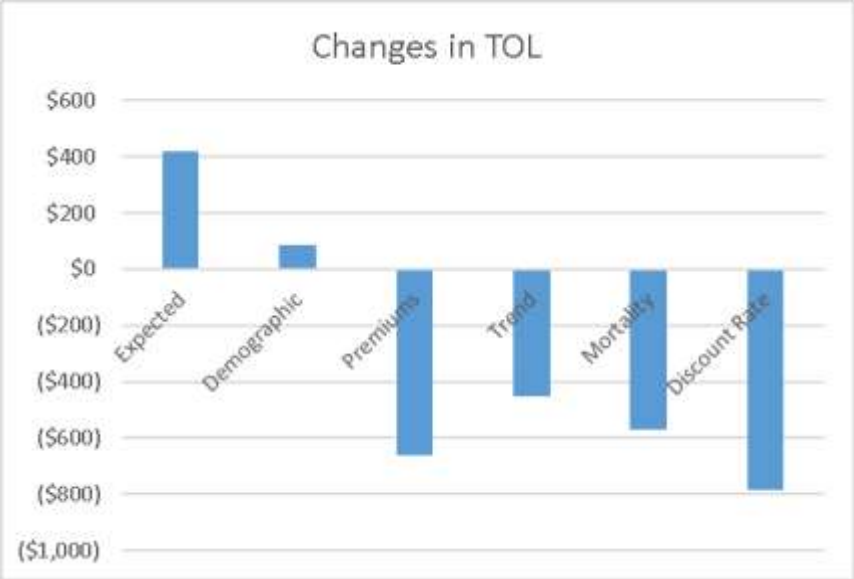
The Actuarial Accrued Liability (AAL) has decreased ($1,957,945) from $8,419,013 as of June 30, 2016 to $6,461,068 as of June 30, 2017. A breakdown of the sources of this change in liability is shown below *(thousands; amounts may not add due to rounding)*:

Liability Experience	Amount	Percentage
Expected Benefits Earned, Benefit Payments and Interest	$421	5%
Actual Demographic and Other Experience	86	1%
Total Liability Experience	$507	6%

Changes in Assumptions	Amount	Percentage
Actual 2017 and 2018 Premiums	($663)	(8%)
Revised Health Care Cost Trend	(450)	(5%)
Revised Mortality Rates	(569)	(7%)
Change Discount Rate to 3.58%	(783)	(9%)
Total Changes in Assumptions	($2,465)	(29%)

Changes in Benefit Terms	Amount	Percentage
Total Changes in Benefit Terms	$0	0%

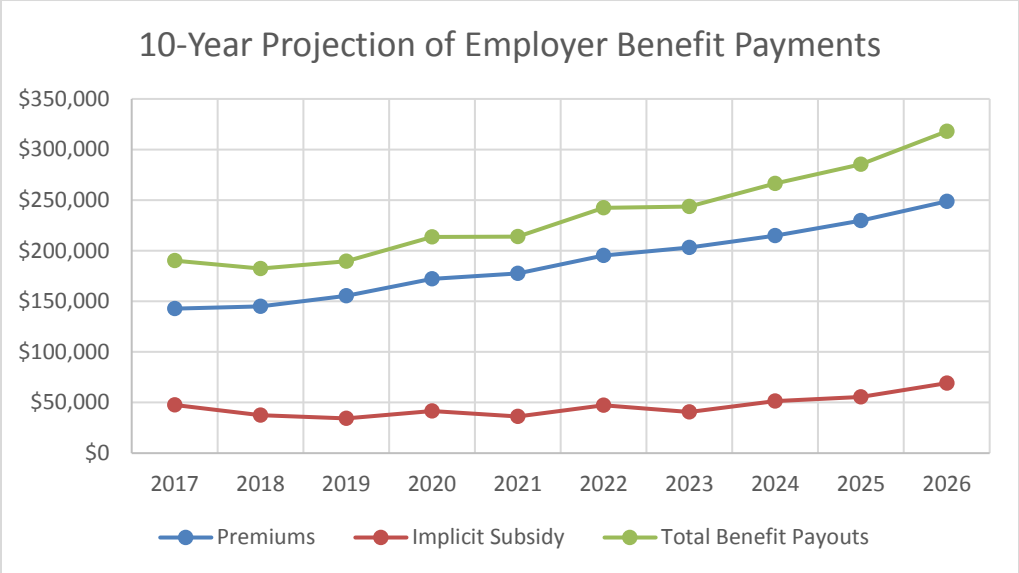
Total Change in TOL	Amount	Percentage
Liability Experience	$507	6%
Changes in Assumptions	(2,465)	(29%)
Amendments	0	0%
Total	($1,958)	(23%)



C) 10-Year Projection of Employer Benefit Payments

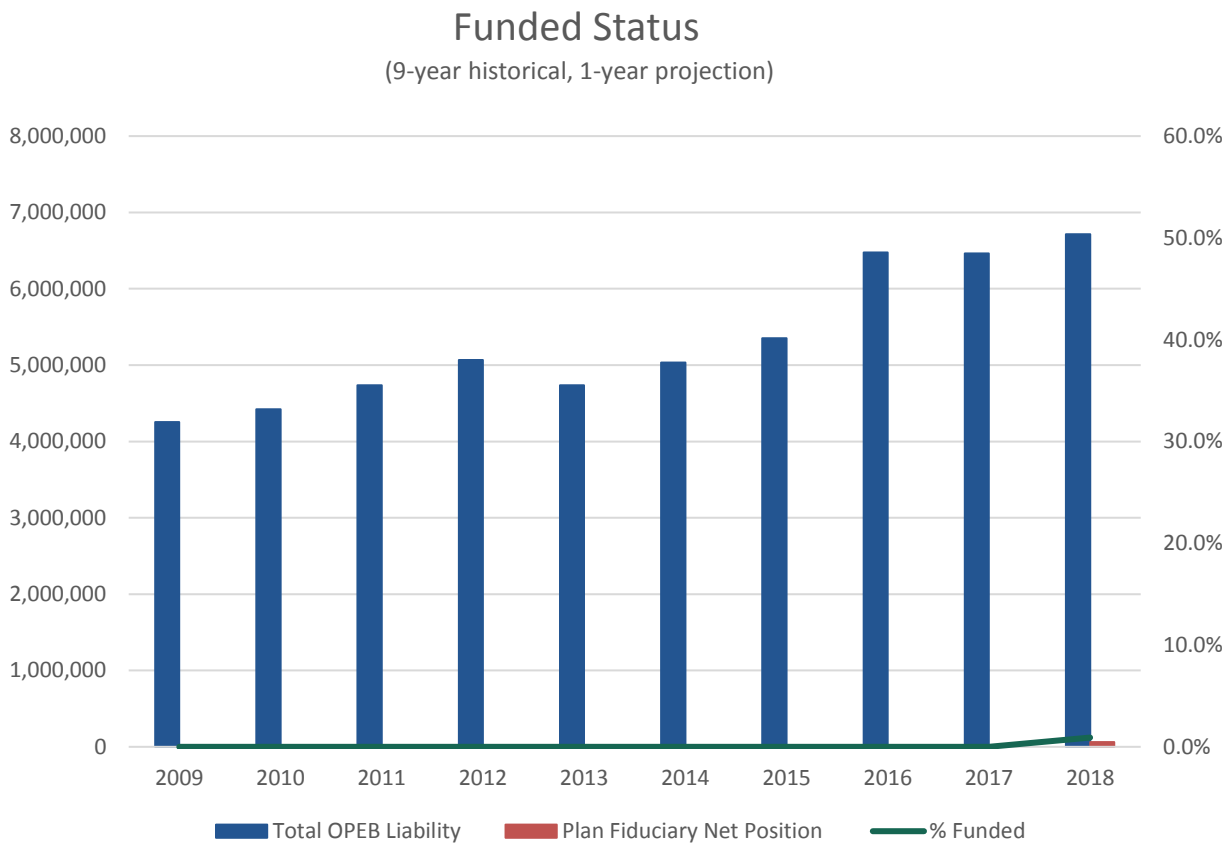
In this table we show the projected pay-as-you-go costs (employer's share of premiums), the implicit subsidy, and total expected benefit payments. The implicit subsidy reflects the shortfall of premiums versus the true cost of coverage. The shortfall exists because claims for active employees are combined with claims of retirees (who generally are older and cost more) to develop a single flat premium paid by both groups.

Fiscal Year Beginning 7/1	Premiums	Implicit Subsidy	Total
2017	$142,796	$47,562	$190,358
2018	$145,046	$37,348	$182,394
2019	$155,303	$34,331	$189,634
2020	$172,087	$41,671	$213,758
2021	$177,521	$36,300	$213,821
2022	$195,207	$47,164	$242,371
2023	$203,066	$40,625	$243,691
2024	$215,019	$51,549	$266,568
2025	$229,724	$55,532	$285,256
2026	$248,812	$69,158	$317,970



D) Funding Progress

Below is an illustration of the funded status of the Plan for the past 9 years, and a projection of the next year looking forward:



Section II Actuarial Funding Exhibits and GASB 75 ADC

A) Derivation of Significant Actuarial Assumptions (Exhibit 1)

Long-term Expected Rate of Return – As of June 30, 2017, the long-term expected rates of return for each major investment class in the Plan's portfolio are as follows:

Investment Class	Target Allocation	Long-Term Expected Real Rate of Return[1]
Equity	43.00%	5.43%
Fixed Income	49.00%	1.63%
REITs	8.00%	5.06%

[1]JPMorgan arithmetic Long Term Capital Market assumptions and expected inflation of 2.26%.

The above table shows the target asset allocation in the CERBT Strategy 2 investment policy.

Discount Rate – The discount rate is based on a blend of (a) the long-term expected rate of return on assets for benefits covered by plan assets and a yield or index for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or better for benefits not covered by plan assets.

Above are the arithmetic long-term expected real rates of return by asset class for the next 10 years as provided in a report by JP Morgan. For years thereafter, returns were based on historical average index real returns over the last 30 years assuming a similar equity/fixed investment mix and a 2.26% inflation rate. Investment expenses were assumed to be 10 basis points per year. These returns were matched with cash flows for benefits covered by plan assets and the Bond Buyer 20-Bond General Obligation index was matched with cash flows not covered by plan assets to measure the reasonableness of the choice in discount rate.

	June 30, 2016	June 30, 2017
Discount Rate	2.85%	3.58%
Expected Long-Term Return on Assets	n/a	6.73%
Bond Buyer 20-Bond GO Index	2.85%	3.58%

Alternative Discount Rates – The discount rate is a function of the 20-year municipal bond rate (for unfunded benefit payments) and Expected Long-Term Rate of Return on Assets (for prefunded benefit payments). To the extent that there are insufficient assets and/or future trust contributions to cover future benefit payments, then the discount rate would primarily be based on the 20-year municipal bond rate.

In this report, we model the Actuarial Determined Contribution under two funding policies.

1. **No additional ad hoc trust contributions:** 3.58% discount rate (see pages 8-9)
2. **$60,000 annual ad hoc trust contributions:** 6.73% discount rate (see pages 10-11)

The District's actual funding policy is to make ad hoc trust contributions and to continue to pay benefits outside of the trust. Under this policy, the discount rate may be based on what actual contributions were made over a trailing 5-year period.

B) Sensitivity Analysis (Exhibit 2)

Sensitivity of the Net OPEB Liability to changes in the discount rate – The following presents The District Net OPEB Liability would be if it were calculated using a discount rate that is 1% point lower (2.58%) or 1% point higher (4.58%) than the current rate:

Sensitivity of the Net OPEB Liability to changes in the Trend rate – The following presents The District Net OPEB Liability if it were calculated using a trend table that is 1% point lower or 1% point higher than the current rate:

Actuarial Accrued Liability as of June 30, 2017 Valuation date: $6,461,068

Sensitivity Analysis:

	NOL	$ Change	%Change
Discount Rate			
+1%	$5,574,089	($886,979)	(14%)
Base	$6,461,068	-	-
-1%	$7,568,330	$1,107,262	17%
Trend Rate			
+1%	$7,482,857	$1,021,789	16%
Base	$6,461,068	-	-
-1%	$5,669,744	($791,324)	(12%)

C) Breakdown of Explicit and Implicit Liabilities (Exhibit 3)

	Explicit	Implicit	Total
Present Value of Future Benefits			
Actives	$5,124,657	$1,282,373	$6,407,030
Retirees	2,391,726	467,014	2,858,740
Total	$7,516,383	$1,749,387	$9,265,770
Actuarial Accrued Liability			
Actives	$2,900,245	$702,083	$3,602,328
Retirees	2,391,726	467,014	2,858,740
Total	$5,291,971	$1,169,097	$6,461,068
Normal Cost (boy)	$166,830	$42,672	$209,502

D) Schedule of Actuarially Determined Contributions (Exhibit 4)

This schedule assumes that the District's funding policy is to pay benefit cost as they occur, and a one-time contribution of $60,000 to the trust. Under this funding strategy the maximum discount rate is 3.58%.

Plan Year	2017 - 2018	2018 - 2019	2019 - 2020
		Projected[1]	Projected[1]
Actuarial Accrued Liability	$6,461,068	$6,715,642	$6,998,285
Actuarial Value of Assets[2]	0	61,065	63,251
Unfunded Actuarial Accrued Liability	$6,461,068	$6,654,577	$6,935,034
Amortization Period[3]	21	20	19
Normal Cost (eoy)	$217,003	$227,853	$239,246
Amortization of UAAL[4]	328,956	355,188	389,025
Actuarially Determined Contribution	$545,959	$583,041	$628,271
Discount Rate	**3.58%**	**3.58%**	**3.58%**
Expected Return on Assets	3.58%	3.58%	3.58%
Normal Cost Growth Rate	5.00%	5.00%	5.00%

[1] Projections assume that the District funds the Actuarially Determined Contribution (ADC), the Fund earns 3.58% per year, the discount rate remains 3.58% and the Normal Cost component of the ADC increases by 5.0% per year throughout the two-year period. We assumed mid-year benefit withdrawals from the Trust.

[2] Asset Smoothing: GASB 75 calculates the unfunded liability using market value of assets. However, equity risk can result in significant asset volatility, which translates to a volatile unfunded liability. To mitigate this volatility, the District can adopt an asset smoothing method, which recognizes gain/loss for any one year systematically over the smoothing period. Common smoothing periods are 3-5 years in length.

[3] Amortization Method: GASB 75 amortizes asset gain/loss over 5 years, liability experience gain/loss and assumption change gain/loss over a variable period of roughly 5-10 years, and immediately recognizes plan amendment gain/loss and your initial unfunded. Under the GASB 45 methodology, the District was amortizing all of these items over a closed 30 year period. The District should consider whether the old GASB 45 methodology is still appropriate as it may lead to a significant under or over funding when the amortization periods for the ADC calculation are not the same as the amortizations for GASB 75.

[4] Amortization of UAAL Method: Under GASB 45 methodology, excess assets are amortized in the same way that UAAL is amortized, which may result in the presence of an ADC even when the plan would be expected to be fully funded at the end of the year without a contribution.

E) Schedule of Contributions[1] (Exhibit 5)

This schedule assumes that the District's funding policy is to pay benefit cost as they occur, and a one-time contribution of $60,000 to the trust. Under this funding strategy the maximum discount rate is 3.58%.

	Plan Year 2017 - 2018
Actuarially Determined Contribution[1,2]	$531,502
Covered-employee payroll[3]	N/A
Contributions as a percentage of covered-employee payroll[3]	N/A
Contributions to the Trust	$60,000
Pay-go Payments by Employer Unreimbursed by the Trust	142,796
Active Implicit Rate Subsidy Transferred to OPEB	47,562
Total OPEB Contributions[1,2]	$250,358

[1] ADC and Contributions are for the measurement period July 1, 2017 to June 30, 2018.

[2] Employers setting a discount rate based on the assumption that assets will be sufficient to cover all future benefit payments under the plan are assumed to annually make contributions equal to the actuarially determined contribution. Annual contributions made that are substantially less than the ADC would require additional support for use of a discount rate equal to the long-term expected return on trust assets.

[3] Covered-Employee Payroll represented above is based on covered-employee payroll provided by the employer. GASB 75 defines covered-employee payroll as the total payroll of employees that are provided OPEBs through the OPEB plan. Accordingly, if OPEB covered-employee payroll shown above is different than total earnings for covered-employees, the employer should display in the disclosure footnotes the payroll based on total earnings for the covered group and recalculate the required payroll-related ratios.

F) Alternate Schedule of Actuarially Determined Contributions (Exhibit 6)

This schedule assumes that the District's funding policy is to pay benefit cost as they occur, and an annual contribution of about $60,000 to the trust. Under this funding strategy the maximum discount rate is 6.73%.

Plan Year	2017 - 2018	2018 - 2019	2019 - 2020
		Projected[1]	Projected[1]
Actuarial Accrued Liability	$4,188,875	$4,377,157	$4,591,221
Actuarial Value of Assets[2]	0	61,986	128,144
Unfunded Actuarial Accrued Liability	$4,188,875	$4,315,171	$4,463,077
Amortization Period[3]	21	20	19
Normal Cost (eoy)	$100,106	$105,111	$110,367
Amortization of UAAL[4]	290,680	309,824	332,354
Actuarially Determined Contribution	$390,786	$414,936	$442,721
Discount Rate	**6.73%**	**6.73%**	**6.73%**
Expected Return on Assets	6.73%	6.73%	6.73%
Normal Cost Growth Rate	5.00%	5.00%	5.00%

[1] Projections assume that the District funds the Actuarially Determined Contribution (ADC), the Fund earns 3.58% per year, the discount rate remains 3.58% and the Normal Cost component of the ADC increases by 5.0% per year throughout the two-year period. We assumed mid-year benefit withdrawals from the Trust.

[2] Asset Smoothing: GASB 75 calculates the unfunded liability using market value of assets. However, equity risk can result in significant asset volatility, which translates to a volatile unfunded liability. To mitigate this volatility, the District can adopt an asset smoothing method, which recognizes gain/loss for any one year systematically over the smoothing period. Common smoothing periods are 3-5 years in length.

[3] Amortization Method: GASB 75 amortizes asset gain/loss over 5 years, liability experience gain/loss and assumption change gain/loss over a variable period of roughly 5-10 years, and immediately recognizes plan amendment gain/loss and your initial unfunded. Under the GASB 45 methodology, the District was amortizing all of these items over a closed 30 year period. The District should consider whether the old GASB 45 methodology is still appropriate as it may lead to a significant under or over funding when the amortization periods for the ADC calculation are not the same as the amortizations for GASB 75.

[4] Amortization of UAAL Method: Under GASB 45 methodology, excess assets are amortized in the same way that UAAL is amortized, which may result in the presence of an ADC even when the plan would be expected to be fully funded at the end of the year without a contribution.

G) Alternate Schedule of Contributions[1] (Exhibit 7)

This schedule assumes that the District's funding policy is to pay benefit cost as they occur, and an annual contribution of about $60,000 to the trust. Under this funding strategy the maximum discount rate is 6.73%.

	Plan Year 2017 - 2018
Actuarially Determined Contribution[1,2]	$390,786
Covered-employee payroll[3]	N/A
Contributions as a percentage of covered-employee payroll[3]	N/A
Contributions to the Trust	$60,000
Pay-go Payments by Employer Unreimbursed by the Trust	140,673
Active Implicit Rate Subsidy Transferred to OPEB	46,855
Total OPEB Contributions[1,2]	$247,528

[1] ADC and Contributions are for the measurement period July 1, 2017 to June 30, 2018.

[2] Employers setting a discount rate based on the assumption that assets will be sufficient to cover all future benefit payments under the plan are assumed to annually make contributions equal to the actuarially determined contribution. Annual contributions made that are substantially less than the ADC would require additional support for use of a discount rate equal to the long-term expected return on trust assets.

[3] Covered-Employee Payroll represented above is based on covered-employee payroll provided by the employer. GASB 75 defines covered-employee payroll as the total payroll of employees that are provided OPEBs through the OPEB plan. Accordingly, if OPEB covered-employee payroll shown above is different than total earnings for covered-employees, the employer should display in the disclosure footnotes the payroll based on total earnings for the covered group and recalculate the required payroll-related ratios.

Section III Data

A) Summary of Demographic Information

The participant data used in the valuation was provided by The District as of June 30, 2017. It is assumed that this data is representative of the population as of June 30, 2017. While the participant data was checked for reasonableness, the data was not audited, and the valuation results presented in this report are dependent upon the accuracy of the participant data provided. The table below presents a summary of the basic participant information for the active and retired participants covered under the terms of the Plan.

	Total
Actives	
Total Counts	19
Average Age	41
Average Service	15
Retirees	
Counts	
Under age 65	7
Age 65 and over	7
Total Counts	14
Average Age	69
Total Participants	33
Covered Dependents of Retirees	
Counts	
Spouses / Domestic Partners	8
Children	0
Total	8
Grand Total	41

B) Distribution of Participants by Age and Service

Distribution of Service Groups by Age Groups

Age Group	Retired* Participants	Active Participant – Years of Service						
		0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	Total
< 25	0	0	0	0	0	0	0	0
25 - 29	0	2	0	0	0	0	0	2
30 - 34	0	2	1	0	0	0	0	3
35 - 39	0	0	1	4	1	0	0	6
40 - 44	0	1	0	2	0	0	0	3
45 - 49	1	0	0	0	0	2	0	2
50 - 54	1	0	0	0	0	0	1	1
55 - 59	1	0	0	0	0	1	0	1
60 - 64	4	0	0	0	0	0	1	1
65 - 69	2	0	0	0	0	0	0	0
> 70	5	0	0	0	0	0	0	0
Total	14	5	2	6	1	3	2	19

* Retired participants include retirees, disabled participants, and surviving family members. Does not include covered dependents.

Section IV Plan Provision Summary

A) Plan Description

Eligibility Requirements and Plan Description

District employees who retire at age 50 or older with 5 or more years of service are eligible for lifetime medical benefits. Benefits are also provided to spouses and surviving spouses of eligible retirees and dependent children of participating retirees. Retirees may enroll in any available CalPERS medical plan. There are no dental, vision or other similar benefits for retirees. Benefits are provided to employees who retire due to disability. Benefits are not provided to employees who terminate prior to eligibility for retirement. Retirees that waive coverage will not be eligible to re-enroll into the plan at any time in the future. A surviving spouse of an employee who has met the minimum age and service eligibility requirements may participate in the plan if they have not remarried. Dependent children must be enrolled at the date of retirement to be eligible for plan benefits.

The District contributes up to 90% of the CalPERS Bay Area "pre-age 65" Kaiser premium rates for the applicable family status, and 80% for fire employees. Retirees pay any premiums exceeding that limit.

The District participates in the CalPERS medical program. We valued each active employee and retiree assuming they will not change their enrollment in future years. The table below contains the 2017 and 2018 calendar year CalPERS premium rates used to develop the 2017/18 medical baseline cost. All rates are Bay Area rates unless stated otherwise.

2017 Plan

Pre-Medicare Premiums	EE	EE+SP	EE+Fam
Kaiser	733.39	1,466.78	1,906.81
PERS Choice	830.30	1,660.60	2,158.78
PERS Care	932.39	1,864.78	2,424.21

Medicare Premiums	EE	EE+SP
Kaiser	300.48	600.96
PERS Choice	353.63	707.26
PERS Care	389.76	779.52

2018 Plan

Pre-Medicare Premiums	EE	EE+SP	EE+Fam
Kaiser	779.86	1,559.72	2,027.64
PERS Choice	800.27	1,600.54	2,080.70
PERS Care	882.45	1,764.90	2,294.37

Medicare Premiums	EE	EE+SP
Kaiser	316.34	632.68
PERS Choice	345.97	691.94
PERS Care	382.30	764.60

Plan Provision Changes

There have been no plan amendments since the last measurement date.

Section V Actuarial Assumption, Methods, & Considerations

A) Actuarial Assumptions

Discount Rate	3.58% based on the 20 year Bond Index Rate Alternate: 6.73% based on CERBT Stratagey 2
Net Investment Return	3.58% based on the 20 year Bond Index Rate Alternate: 6.73% based on CERBT Stratagey 2
Inflation	We assumed 2.0% annual inflation.
Payroll increases	3.25% annual increases.

Health Care Trend

Year Beginning	Increase in Premium Rates Pre-65	Post-65
2019	7.75%	5.20%
2020	7.50%	4.95%
2021	7.25%	4.70%
2022	7.00%	4.45%
2023	6.75%	4.25%
2024	6.50%	4.25%
2025	6.25%	4.25%
2026	6.00%	4.25%
2027	5.75%	4.25%
2028	5.50%	4.25%
2029	5.25%	4.25%
2030	5.00%	4.25%
2031	4.75%	4.25%
2032	4.50%	4.25%
2033 and later	4.25%	4.25%

A) Actuarial Assumptions (continued)

Plan Distribution for Calculating Baseline Cost

Plan	Distribution
Kaiser	85%
PERS Care	6%
PERS Choice	9%
Total	100%

Baseline Cost

Pre-Medicare: $9,240 per year

Post-Medicare: $3,815 per year

Administrative Expenses

We assumed that there are no administrative fees other than those included in the premium rates.

Health Plan Participation

We assumed that 100% of eligible participants will participate.

Medicare Coverage

We assumed that all future retirees will be eligible for Medicare when they reach age 65.

Morbidity Factors

CalPERS 2013 study

Population for Curving

CalPERS 2013 study

Age-Weighted Claims Costs

Age	Premium
50	$9,348
55	$11,518
60	$13,424
65	$4,094
70	$3,469
75	$3,976
80	$4,369
85	$4,465

A) Actuarial Assumptions (continued)

Mortality* The mortality rates used in this valuation are those used in the most recent CalPERS valuations.

Pre-Retirement: CalPERS 2014 Mortality pre-retirement

Post-Retirement: CalPERS 2014 Mortality post-retirement

Sample Mortality Rates						
	Non-Safety Active Employees		Safety Active Employees		Retired Employees	
Age	Male	Female	Male	Female	Male	Female
55	0.23%	0.14%	0.24%	0.15%	0.60%	0.42%
60	0.31%	0.18%	0.33%	0.20%	0.71%	0.44%
65	0.40%	0.26%	0.42%	0.28%	0.83%	0.59%
70	0.52%	0.37%	0.54%	0.39%	1.31%	0.99%
75	0.71%	0.53%	0.73%	0.55%	2.21%	1.72%
80	0.99%	0.81%	1.01%	0.84%	3.90%	2.90%
85	0.00%	0.00%	0.00%	0.00%	6.97%	5.24%
90	0.00%	0.00%	0.00%	0.00%	12.97%	9.89%

Percent Married We assumed that all participants will cover current spouses, if any.

Dependents We assumed that all participants will cover current children, if any, to the age of 26, and that each participant's youngest child is 40 years younger than the participant.

* *Source: NCG has not performed an experience study to select these assumptions. NCG has not observed materially consistent gains or consistent losses associated with these assumptions*

A) Actuarial Assumptions (continued)

Demographic Assumptions used for Non-Safety Personnel:

Retirement*

We used the retirement rates that were used in the most recent CalPERS Public Agency Miscellaneous 2% @ 60 for actives hired before January 1, 2013, and 2% @ 62 for actives hired on or after January 1, 2013.

2% @ 60

	Years of Service				
Age	5	10	15	20	25
50	1.0%	1.3%	1.5%	1.8%	1.9%
55	2.2%	2.9%	3.5%	4.0%	4.5%
60	5.6%	7.7%	9.2%	10.5%	11.7%
65	15.0%	20.9%	25.5%	28.7%	32.1%
70	11.7%	16.2%	19.7%	22.2%	24.8%
75	100.0%	100.0%	100.0%	100.0%	100.0%

2% @ 62

	Years of Service				
Age	5	10	15	20	25
50	0.0%	0.0%	0.0%	0.0%	0.0%
55	4.4%	5.6%	6.8%	8.0%	9.2%
60	6.2%	7.8%	9.5%	11.2%	12.9%
65	12.9%	16.4%	19.9%	23.4%	26.9%
70	12.5%	16.0%	19.4%	22.8%	26.2%
75	100.0%	100.0%	100.0%	100.0%	100.0%

Withdrawal *

We selected withdrawal rates that were used in the most recent CalPERS Public Agency Miscellaneous valuations.

	Years of Service				
Age	0	5	10	15	20
25	16.7%	8.7%	7.5%	0.0%	0.0%
30	16.1%	7.9%	6.7%	5.8%	0.0%
35	15.4%	7.1%	5.9%	5.0%	4.5%
40	14.7%	6.3%	5.1%	4.2%	3.7%
45	14.0%	5.5%	4.3%	3.5%	2.9%
50	13.3%	1.2%	0.7%	0.3%	0.2%

* *Source: NCG has not performed an experience study to select these assumptions. NCG has not observed materially consistent gains or consistent losses associated with these assumptions*

A) Actuarial Assumptions (continued)

Demographic Assumptions used for Safety Personnel:

Retirement*

We used the Public Agency Fire retirement rates that were produced from the 2014 experience study performed by CalPERS 3% @ 50 for actives hired before January 1, 2013, and 2.7% @ 57 for actives hired on or after January 1, 2013.

3% @ 50 (for actives hired before January 1, 2013)

	Years of Service				
Age	5	10	15	20	25
50	2.0%	2.0%	2.0%	4.0%	13.0%
55	4.3%	4.3%	4.3%	7.0%	17.4%
60	6.5%	6.5%	6.5%	10.2%	21.9%
65	100.0%	100.0%	100.0%	100.0%	100.0%

2.7% @ 57 (for actives hired on or after January 1, 2013)

	Years of Service				
Age	5	10	15	20	25
50	0.65%	0.65%	0.65%	0.65%	1.01%
55	8.25%	8.25%	8.25%	8.25%	12.69%
60	11.35%	11.35%	11.35%	11.35%	17.47%
65	100.0%	100.0%	100.0%	100.0%	100.0%

Disability*

We used the Public Agency Fire disability rates that were produced from the 2014 Cal PERS experience study.

Age	Rate
25	0.04%
35	0.17%
45	0.55%
55	4.19%
65	8.24%
75	14.70%

Withdrawal*

We selected withdrawal rates that were used in the most recent CalPERS Public Agency Fire valuations.

	Years of Service				
Age	0	5	10	15	20
Under 50	7.1%	1.9%	0.7%	0.6%	0.6%
Over 50	7.1%	0.3%	0.1%	0.1%	0.1%

* *Source: NCG has not performed an experience study to select these assumptions. NCG has not observed materially consistent gains or consistent losses associated with these assumptions*

Assumption Changes

The average per capita claims cost was updated to reflect actual 2017 premiums, the health care cost trend rate was updated to reflect 2018 industry survey data, the mortality table was updated to reflect the most recent CalPERS studies, and a change in the discount rate.

There have been no other assumption changes since the last measurement date.

Section V Actuarial Assumption, Methods, & Considerations

C) Actuarial Methods

Actuarial Cost Method	Entry Age Normal An actuarial cost method under which the Actuarial Present Value of the Projected Benefits of each individual included in the valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost.
Amortization Methodology	We used straight-line amortization. For assumption changes and experience gains/losses, we assumed Average Future Working Lifetime, averages over all actives and retirees (retirees are assumed to have no future working years). For asset gains and losses, we assumed 5 years.
Financial and Census Data	The District provided the participant data, financial information and plan descriptions used in this valuation. The actuary has checked the data for reasonableness, but has not independently audited the data. The actuary has no reason to believe the data is not complete and accurate, and knows of no further information that is essential to the preparation of the actuarial valuation.
Plan Fiduciary Net Position	Market value of assets as of the measurement date
Measurement Date	June 30, 2017
Valuation Date	June 30, 2017
Funding Policy	The District intends to cover the pay-go amount.
Alternate Funding Policy	The District intends to cover the pay-go amount plus a $60,000 contribution to the CERBT each year.

C) Actuarial Considerations

Health Care Reform

Health care delivery is going through an evolution due to enactment of Health Care Reform. The Patient Protection and Affordable Care Act (PPACA), was signed March 23, 2010, with further changes enacted by the Health Care and Education Affordability Reconciliation Act (HCEARA), signed March 30, 2010. This valuation uses various assumptions that may have been modified based on considerations under PPACA. This section discusses particular legislative changes that were reflected in our assumptions. We have not identified any other specific provision of PPACA that would be expected to have a significant impact on the measured obligation. As additional guidance on the Act continues to be issued, we'll continue to monitor impacts.

Individual Mandate

Under PPACA, individuals (whether actively employed or otherwise) must be covered by health insurance or else pay a penalty tax to the government. While it is not anticipated that the Act will result in universal coverage, it is expected to increase the overall portion of the population with coverage. We believe this will result in an increased demand on health care providers, resulting in higher trend for medical services for non-Medicare eligible retirees. (Medicare costs are constrained by Medicare payment mechanisms already in place, plus additional reforms added by PPACA and HCEARA.) While we believe that the mandate may result in somewhat higher participation overall, this issue would have a marginal impact since we assume 100% participation upon retirement.

Employer Mandate

Health Care Reform includes various provisions mandating employer coverage for active employees, with penalties for non-compliance. Those provisions do not directly apply to the postemployment coverage included in this valuation.

C) Actuarial Considerations (continued)

Medicare Advantage Plans	Effective January 1, 2011, the Law provides for reductions to the amounts that would be provided to Medicare Advantage plans starting in 2011. We considered the effect of these reductions in federal payments to Medicare Advantage plans when setting our trend assumption.
Expansion of Child Coverage to Age 26	Health Care Reform mandates that coverage be offered to any child, dependent or not, through age 26, consistent with coverage for any other dependent. We assume that this change has been reflected in current premium rates. While this plan covers dependents, we do not currently assume non-spouse dependent coverage other than for firefighters. We believe the impact this assumption has on the valuation is immaterial due to the lack of retirees that have had or are expected to have non-spouse dependents for any significant amount of time during retirement.
Elimination of Annual or Lifetime Maximums	Health Care Reform provides that annual or lifetime maximums have to be eliminated for all "essential services." We assume that current premium rates already reflect the elimination of any historic maximums.

Cadillac Tax (High Cost Plan Excise Tax)	The PPACA legislation added a new High-Cost Plan Excise Tax (also known as the "Cadillac Tax") starting in calendar year 2022. For valuation purposes, we assumed that the value of the tax will be passed back to the plan in higher premium rates.
	• The tax is 40% of the excess of (a) the cost of coverage over (b) the limit. We modeled the cost of the tax by calculating (a) using the working rates projected with trend. We calculated (b) starting with the statutory limits ($10,200 single and $27,500 family), adjusted for the following:
	  ○ Limits will increase from 2018 to 2019 by 4.25% (CPI plus 1%);
	  ○ Limits will increase after 2019 by 3.25% (CPI); and
	  ○ For retirees over age 55 and not on Medicare, the limit is increased by an additional dollar amount of $1,650 for single coverage and $3,450 for family coverage.
	• Based on the above assumptions, we estimate that the tax will apply as early as 2028 for some of the District's pre-Medicare plans. In addition, we estimate that the tax will not apply for the District's post-Medicare plans.

Section VI Glossary

A) Key Terms

Actuarially Determined Contribution	The amount recognized by an employer in each Plan Year for contributions to a defined benefit OPEB plan. The amount is calculated using actuarial methods and assumptions as defined by the plan sponsor.
Amortization of Unfunded Liabilities	The actuarial accrued liability existing at the valuation date the plan sponsor begins prefunding and new liabilities arising on future valuation dates are amortized over a period of time as defined by the plan sponsor. New liabilities may arise due to plan amendments, assumption changes, or experience other than assumed.
Covered Payroll	Annual compensation paid (or expected to be paid) to active employees covered by an OPEB plan, in aggregate.
Funded Status	The liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is administered through a trust.
Normal Cost	The portion of the Total Present Value of Future Benefits attributed to employee service during the current fiscal year by the actuarial cost method. These terms are used interchangeably.
Other Postemployment Benefits (OPEB)	Retiree health care benefits and post-employment benefits provided separately from a pension plan (excluding termination offers and benefits).
Actuarial Assets	Set equal to the market value of assets as of the valuation date, unless smoothing is performed.
Present Value of Future Benefits (PVFB)	The value, as of the valuation date, of the projected benefits payable to all members for their accrued service and their expected future service, discounted to reflect the time value (present value) of money and adjusted for the probabilities of retirement, withdrawal, death and disability.
Actuarial Accrued Liability	The portion of the actuarial present value of projected benefit payments that is attributed to past period of member service in conformity with the GASB Statements. The Actuarial Accrued Lliability is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is not administered through a trust.