CENTRAL MARIN SANITATION AGENCY

VALUATION OF RETIREE HEALTH BENEFITS

REPORT OF GASB 45 VALUATION
AS OF JANUARY 1, 2015

Prepared by: North Bay Pensions
October 20, 2015

Contents of This Report

Actuarial Certification

This report presents the determination of benefit obligations under **Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)** as of January 1, 2015 for the retiree health and welfare benefits provided by the Central Marin Sanitation Agency (CMSA). I was retained by CMSA to perform these calculations.

GASB Statement 45, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions", was issued to provide standards for governmental employers to record expense for **Other Postemployment Benefits (OPEB)**. OPEB includes postretirement health and welfare benefits hence GASB 45 is the appropriate Standard to follow when recording CMSA's OPEB obligations.

The information contained in this report was based on participant census information provided to me by CMSA. The actuarial assumptions and methods used in this valuation were selected by CMSA after consultation with me. I believe the assumptions and methods are reasonable and appropriate for purposes of actuarial computations under GASB 45.

Actuarial computations under GASB 45 are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been made on a basis consistent with my understanding of GASB 45. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results reported herein. Due to the limited scope of my assignment, I did not perform an analysis of the potential range of future measurements.

To the best of my knowledge, this report is complete and accurate. This valuation has been conducted in accordance with generally accepted actuarial principles and practices. The undersigned is a Fellow of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries, and a Member of the American Academy of Actuaries, and meets their continuing education requirements and qualification standards for public statements of actuarial opinion relating to retirement plans. In my opinion, I am qualified to perform this valuation.

10-20-15

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Summary of Results

Background

CMSA maintains a plan which pays part or all of monthly medical insurance premiums on behalf of retired former employees, provided that the employee has satisfied the minimum CalPERS requirement of attaining age 50 with at least 5 years of service. The plan's provisions are described in detail in Exhibit 5 of this report. This plan is being funded through the CalPERS CERBT (California Employers Retirement Benefit Trust). **As of June 30, 2015, the CERBT has assets of $1,765,644** toward the cost of future benefits for retired CMSA employees.

In June 2004, the Governmental Accounting Standards Board (GASB) released Statement No. 45, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions". This statement, often referred to as GASB 45, requires governmental entities to (1) record annual expense for their OPEB and (2) disclose certain information in their year-end financial statements.

CMSA has requested this actuarial valuation to determine what its OPEB obligations under the plan are, and what the fiscal impact of GASB 45 will be for the 2015-2016 and 2016-2017 fiscal years. It is my understanding that CMSA intends to make a contribution each year (including payments to retired employees) equal to the Annual Required Contribution (ARC).

This valuation has been performed as of January 1, 2015, instead of the traditional July 1. This was done to make use of the "community rating" exemption one last time. Beginning with the 2017 valuation, the community rating exemption will no longer apply, and CMSA will need to include the value of subsidized premiums in its benefit obligations. This is explained below under "Future Events".

Actuarial Present Value of Total Projected Benefits

The Actuarial Present Value of Total Projected Benefits (APVTPB) for all current and former employees as of January 1, 2015, is **$4,512,143**. This is the amount CMSA would theoretically need to set aside at this time to fully fund <u>all</u> those future benefits for all those individuals.

The APVTPB of $4,512,143 is the sum of these amounts:

	January 1, 2015	July 1, 2013
Future benefits of current employees	$ 2,372,725	$ 2,255,762
Future benefits of current retirees	2,139,418	1,932,968
Total present value of all future benefits	$ 4,512,143	$ 4,188,730

This APVTPB of $4,512,143 can be compared to the $4,188,730 amount that was calculated in the July 1, 2013 valuation. We would have expected the APVTPB to have increased to approximately $4,410,000 as employees draw closer to retirement. The difference between $4,410,000 and $4,512,143 is mainly due to the lower assumed rate of return on the CERBT investments: 7.28% this year, compared to 7.61% in 2013. The reduction in the assumption of future PEMHCA increases from 5% to 4% was an offsetting factor, reducing about half the increase due to the change in discount rate. The assumed mortality rates have also changed (see below under "Actuarial Assumptions") but this had very little effect on the APVTPB.

If the APVTPB had been calculated using a 4.25% discount rate (assuming pay-as-you-go funding), the figure would be $7,568,797 instead.

These figures are computed by (1) estimating the OPEB benefits that will be paid to each current and former employee and their beneficiaries (if applicable), upon the employee's retirement from CMSA, (2) estimating the likelihood that each payment will be made, taking into consideration the likelihood of remaining employed until retirement age and the likelihood of survival after retirement, and (3) discounting each expected future payment back to the present date at an assumed rate of investment return.

"Annual OPEB Cost" Under GASB 45

GASB 45 requires that the cost of the program be recognized in a systematic manner over the working careers of employees. There are six different budgeting methods, called "actuarial funding methods", that GASB 45 allows to determine what the annual operating expense (called the **Annual OPEB Cost**) will be. CMSA has elected to use the Entry Age Normal actuarial funding method with a closed 30-year level dollar amortization of the unfunded actuarial accrued liability.

The actuarial funding method is used to compute the **Annual Required Contribution** (**ARC**). The ARC is generally equal to the sum of (1) the value of benefits earned by employees in the current year, plus (2) an amortization of the value of benefits earned by employees in prior years. Annual OPEB Cost is equal to the sum of (a) the ARC, and (b) interest on any unfunded OPEB operating expense from prior years, less (c) an adjustment to reflect the amortization of unfunded OPEB already included in the ARC.

Please note that the ARC is <u>not</u> the amount that CMSA should record as an operating expense each year. The annual operating expense is the Annual OPEB Cost.

For the fiscal year beginning July 1, 2015, CMSA's Annual OPEB Cost is **$301,349**. A detailed derivation of this amount is shown in Exhibit 2. For the 2016-2017 fiscal year, Annual OPEB Cost is estimated to be $304,661.

Exhibit 3 shows a 5-year projection of expected benefits, CMSA contributions and GASB 45 operating expense.

Comments on Funding

GASB 45 doesn't require CMSA to fund these benefits under any particular timetable or schedule, or to accumulate assets toward future obligations. In fact, many public agencies have chosen to only pay the amounts that are currently due to retired employees as those amounts become payable; this is called "pay-as-you-go" funding. The numbers in this report show the amounts that CMSA must accrue as annual cost on its financial statements, but how CMSA actually pays for those benefits is not mandated at all.

Over the last several years, CMSA has followed a policy of making contributions into a special trust established by CalPERS, called the CERBT. The amount that CMSA pays into the CERBT each year is the excess of (1) GASB 45's "Annual Required Contribution" over (2) the amounts paid to retirees. This fund has accumulated to about $1.7 million as of July 1 2015. It's natural to ask when CMSA could start to withdraw funds from the CERBT to pay benefits to retirees.

Actually, there is no obstacle to withdrawing funds from the CERBT to pay benefits at any time, even starting right away. CMSA is free to reduce its level of annual funding to pay-as-you-go (which means paying retirees but not sending any more money to the CERBT), or CMSA could even stop funding the benefits entirely and just make payments to retirees out of the CERBT. In the latter case, I estimate that it would take about 11 years to exhaust the funds in the CERBT, before CMSA needs to start funding again.

How long would CMSA need to continue funding at the current level before all benefits already earned by employees have been adequately funded? CMSA is currently funding the plan over the 30-year period that began July 1 2009. That means that past service benefits will be fully paid for by the year 2039. It is certainly possible that favorable investment performance or other events might make it happen sooner.

CMSA has a great deal of flexibility in deciding how much to fund each year, and can change its policy frequently if it wishes to. For example, CMSA could send a fixed dollar amount, like $250,000, to the CERBT, then be reimbursed from the CERBT for all benefits paid that year. <u>At a minimum</u>, CMSA must contribute enough so that there is enough money available to pay benefits as needed. With $1.7 million already in the CERBT, there is little reason to fear failing that in the near term.

There is one aspect of the situation that must be seriously considered in any decision to change the current funding pattern. Under GASB 45 rules, we use a special interest rate, called the "discount rate", to calculate the discounted present value of future benefit payments. The discount rate is supposed to reflect the expected long-term rate of return on the assets that are used to fund the plan. As long as CMSA continues its current policy, we are allowed to use CalPERS' estimate of the CERBT's investment return; currently this is estimated to be 7.28%. If CMSA switches to a less rapid funding pattern, we will need to change the discount rate to a blend of the CERBT rate and a lower interest rate that is closer to what CMSA earns on its investments. This lower discount rate will result in significantly higher annual GASB 45 costs. Another side effect of funding the benefits less rapidly, besides shifting more of the cost to future taxpayers, is that the long-term cost of the benefits would be higher since CMSA won't benefit from investment earnings to the same extent.

Future Events

There are two significant changes in the accounting rules that will impact CMSA starting in 2017.

First, we will need to include the value of subsidized premiums in CMSA's liability for post-retirement benefits, due to a recent change in ASOP 6 (Actuarial Standard of Practice No. 6). This will have the effect of accelerating (i.e. increasing) the recognition of the cost of benefits. It is well-known that the actual cost of health care increases as people get older. When the insurance companies calculate the medical insurance premiums for your employees, they calculate a blended figure that applies to all persons without regard to age. Thus, the monthly premium is really too large for the younger workers and too small for the older workers. Another way to say the same thing is that the premiums paid for younger workers are subsidizing the higher cost of health care for the older workers.

The accounting rules require us to use the actual costs of health care, rather than the simplified blended monthly premiums that the insurance companies have provided. There is an exception to this rule in the case of a "community rated" health plan, like CalPERS, where the premium amounts are not dependent on the makeup of the employer's workforce but instead are calculated based on a much larger population. The exception expires after March 2015, so for this year we have moved the valuation date from July 1 back to January 1, to use the exemption one final time. In 2017 the exemption will no longer be available. I estimate that the impact of this will be an increase in GASB costs of between 20% and 40%.

The second change is that GASB 45 is being replaced by a new accounting standard, GASB 75. The annual accrual of costs under the new standard will likely be similar to what GASB 45 would have produced. One new impact of GASB 75 is that CMSA will need to carry a liability on its balance sheet equal to the unfunded benefit obligation. The implementation details of these new rules haven't yet been released.

Actuarial Assumptions

The calculations of the program's obligations involve various estimates of future events. These estimates are called "actuarial assumptions". The assumptions are described in detail in Exhibit 6 of this report. The calculated results are highly dependent on the assumptions selected.

Several changes have been made to the assumptions this year:

- The discount rate has been reduced from 7.61% to 7.28%, consistent with CalPERS' re-assessment of its long-term expectation of investment performance for the CERBT funds, under Investment Strategy #1.
- The assumed rates of living and dying in future years have been changed from the "miscellaneous public agency" rates of the 2010 CalPERS OPEB Assumptions Model to the analogous rates in the 2014 CalPERS OPEB Assumptions Model.
- Future increases in the CalPERS PEMHCA minimum contribution have been changed from 5% per year to 4% per year, to better match recent and anticipated increases.

As described above, the net effect of these changes was a modest increase in the benefit obligations.

Values as of January 1, 2015 have been rolled forward on a straight-line deterministic basis to July 1, 2015, for purposes of computing the annual operating expense for the 2015-16 and 2016-17 fiscal years.

Exhibit 1 - Actuarial Values as of January 1, 2015

The Actuarial Present Value of Total Projected Benefits as of January 1, 2015 of all future benefits from the program, for all current and former employees, is as follows:

	Actuarial Present Values	**Actuarial Accrued Liability**	**Number of Persons**
Current employees	$ 2,372,725	$ 2,026,217	40
Retired former employees	2,139,418	2,139,418	30
Totals	$ 4,512,143	$ 4,165,635	70

The Actuarial Present Value of Total Projected Benefits (APVTPB) is the total present value of all future benefits for all current and former employees. The Actuarial Accrued Liability (AAL) is the portion of the APVTPB that has been "earned" already by employees, based on how many years they have already worked. The difference between the APVTPB and the AAL is entirely due to future years of employment. Therefore, for persons already retired, the APVTPB and AAL are equal, since there aren't any future years of employment. As of July 1, 2015, CMSA has assets of $1,765,644 in an irrevocable trust toward this liability.

Statistical Averages as of January 1, 2015

	January 1, 2015	July 1, 2013
Active Employees		
Number	40 employees	41 employees
Average Age	46.4 years	46.2 years
Average Service	9.6 years	9.8 years
Retired Former Employees and Surviving Spouses		
Number	30 persons	27 persons
Covered Dependents	12 persons	10 persons
Average Age of Retirees	67.4 years	66.3 years

Source of Information

A census of all eligible CMSA employees and retirees as of January 1, 2015 was provided to me by CMSA.

Exhibit 2 - Annual OPEB Cost

Under the Entry Age Normal method, the cost of each employee's OPEB benefits is amortized on a straight-line basis over his/her working career. For each employee, a "normal cost" is computed, the amount which, if accumulated during each year of employment, will at retirement be sufficient to fund the expected benefits for that individual. The sum of all the individual normal costs for all employees is called the Normal Cost. The accumulated value of all normal costs attributed to prior years, including the full value of benefits for all currently retired employees, is called the Actuarial Accrued Liability. The Unfunded Actuarial Accrued Liability is amortized over the closed 30-year period beginning July 1, 2009. The ARC is the sum of the Normal Cost and the amortization of the unfunded Actuarial Accrued Liability.

The Annual OPEB Cost for the 2015-2016 year is computed in this way:

1.	Normal Cost for the 2015-16 fiscal year	$ 78,293
2.	Actuarial Accrued Liability at July 1, 2015	4,262,068
3.	Value of Plan Assets	
	CERBT Balance at June 30, 2015	1,765,644.39
	Total assets at June 30, 2015	1,765,644
4.	Unfunded Actuarial Accrued Liability: 2. minus 3.	2,496,424
5.	Level-dollar Amortization of 4. over 24 years	223,034
6.	Annual Required Contribution (ARC): 1. plus 5.	$ 301,327
7.	Net OPEB Asset at June 30, 2015	(1,322)
8.	One year's interest on 7.	(96)
9.	ARC Adjustment: amortization of 7. over 24 years	118
10.	**Annual OPEB Cost: 6. plus 8. plus 9.**	**$ 301,349**

Exhibit 3 - Five-Year Projection of Costs

Shown below are estimates of the way in which Annual OPEB Cost might be expected to increase over the next five years. In this illustration, it is assumed that the Normal Cost will increase 5% per year, that all actuarial assumptions will remain unchanged, and that CMSA will continue to fund the full ARC each year. **This exhibit does not reflect the change to ASOP 6 or the new accounting standard, GASB 75**, both effective in 2017.

Fiscal Year:	2015-16	2016-17	2017-18	2018-19	2019-20
Act. Accrued Liability	$4,262,068	$4,458,976	$4,663,769	$4,879,206	$5,101,113
Estimated CERBT Assets	1,765,644	2,010,463	2,266,409	2,536,376	2,816,561
ARC					
Normal cost	78,293	82,208	86,318	90,634	95,166
Amortization	223,034	222,430	221,793	221,105	220,368
Total ARC	$ 301,327	$ 304,638	$ 308,111	$ 311,739	$ 315,534
Plus interest	(96)	(95)	(93)	(91)	(89)
Plus ARC adjustment	118	118	118	118	118
Annual OPEB Cost	**$ 301,349**	**$ 304,661**	**$ 308,136**	**$ 311,766**	**$ 315,563**
Benefits paid to retired employees and spouses	185,047	195,054	203,139	216,202	235,830
Contributions to CERBT	116,280	109,584	104,972	95,537	79,704
Total Funding	**$ 301,327**	**$ 304,638**	**$ 308,111**	**$ 311,739**	**$ 315,534**
Increase in net OPEB Obligation	22	23	25	27	29
Net OPEB Obligation/(Asset) at beginning of year	$ (1,322)	$ (1,300)	$ (1,277)	$ (1,252)	$ (1,225)
Net OPEB Obligation/(Asset) at end of year	**$ (1,300)**	**$ (1,277)**	**$ (1,252)**	**$ (1,225)**	**$ (1,196)**

- Annual OPEB Cost: Each year's operating expense. Not the same as the ARC.
- Total Funding: Amount CMSA will contribute each year, equal to the amount paid for retired employees plus an additional amount paid to the CERBT.
- Net OPEB Obligation at end of year: The amount on CMSA's balance sheet at the end of each year, as an unpaid liability.

Exhibit 4 - Comparison of Amortization Schedules

For illustrative purposes only, this Exhibit shows a projection of certain amounts over the next five years, assuming that CMSA (1) continues its current policy of amortizing the past service liability over 30 years from 2009, (2) amortizes its past service liability over 10 years from 2015, and (3) amortizes its past service liability over 15 years from 2015. Based on the actuarial assumptions set forth in Exhibit 6, (a) Annual OPEB Cost, (b) the total benefits expected to be paid to participants and beneficiaries, and (c) the total amounts contributed to the CERBT trust over the next five years are estimated to be:

	Current: 30-Year Amortization	15-Year Amortization	10-Year Amortization
Fiscal 2015-16			
Annual OPEB Cost	$ 301,349	$ 357,306	$ 438,415
Projected benefits paid	185,047	185,047	185,047
Contributions to the CERBT trust	116,280	172,207	253,273
Fiscal 2016-17			
Annual OPEB Cost	$ 304,661	$ 360,472	$ 441,353
Projected benefits paid	195,054	195,054	195,054
Contributions to the CERBT trust	109,584	165,362	246,197
Fiscal 2017-18			
Annual OPEB Cost	$ 308,136	$ 363,707	$ 444,269
Projected benefits paid	203,139	203,139	203,139
Contributions to the CERBT trust	104,972	160,508	241,022
Fiscal 2018-19			
Annual OPEB Cost	$ 311,766	$ 367,095	$ 447,235
Projected benefits paid	216,202	216,202	216,202
Contributions to the CERBT trust	95,537	150,830	230,916
Fiscal 2019-20			
Annual OPEB Cost	$ 315,563	$ 370,615	$ 450,103
Projected benefits paid	235,830	235,830	235,830
Contributions to the CERBT trust	79,704	134,716	214,149
Total 5 Years' Contribution to CERBT	$ 506,077	$ 783,623	$ 1,185,557

The figures in this Exhibit do not reflect the change to ASOP 6 (subsidized premiums) or the new accounting standard, GASB 75, both effective in 2017.

Exhibit 5 - Summary of Plan Provisions

CMSA maintains a program which provides health benefits to employees who retire from CMSA, provided that the employee has satisfied the minimum CalPERS requirement of attaining age 50 with at least 5 years of service. CMSA contracts with CalPERS to provide medical coverage for both current and retired employees. CMSA does not provide post-retirement coverage for dental, vision or life insurance benefits. Retired employees are required to enroll in Medicare Part B when eligible.

Certain retirees who were first employed with the San Rafael Sanitation District and then subsequently transferred to CMSA are eligible to receive fully-paid health benefits (regardless of plan selection) for employee, spouse and surviving spouse provided that the employee had at least 30 years of combined SRSD and CMSA service.

For unrepresented employees hired before January 1, 2010 and represented employees hired before June 1, 2010 who retire under CalPERS on or after age 50 with at least 5 years of service, CMSA's contribution to retiree health benefits is based on the monthly CalPERS premiums for single party enrollment in the Kaiser Bay Area Region Health Plan. After age 65, the amount paid will be the lesser of the Kaiser Bay Area Region Health Plan or the enrolled CalPERS Medicare supplement plan premium. A retiree is eligible to include his/her spouse on a CalPERS health plan however CMSA does not contribute toward the premium for spousal coverage. Surviving spouses are paid the CalPERS minimum monthly benefit ($122 per month in 2015, increases each year).

For unrepresented employees hired after January 1, 2010 and represented employees hired after June 1, 2010 who retire under CalPERS on or after age 50 with at least 5 years of service, CMSA's contribution to retiree health benefits is based on the CalPERS minimum monthly benefit (as described above) for as long as the retiree or surviving spouse is living.

Exhibit 6 - Summary of Actuarial Assumptions

Actuarial Assumptions: The following assumptions as of January 1, 2015 were selected by CMSA in accordance with the requirements of GASB 45. In my opinion, these assumptions are reasonable and appropriate for purposes of determining OPEB costs under GASB 45. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Discount rate: 7.28% per year, assuming that CMSA follows CalPERS Asset Allocation Strategy #1. This represents what the CERBT expects to earn on its investments over the long term (20 to 60 years). In the 2013 valuation, the assumed discount rate was 7.61%, which was CERBT's best estimate of future experience at that time.

Mortality: Mortality rates are taken from the 2014 CalPERS OPEB Assumptions Model, for public miscellaneous employees. The rates include a projection to future years to approximate the effect of future improvements in life expectancy. In the 2013 valuation, mortality rates were taken from the 2010 CalPERS OPEB Assumptions Model, projected to future years on a generational basis with Scale BB. The new assumption is expected to be a better estimate of future experience.

Coverage Elections: 100% of eligible employees are assumed to elect coverage upon retirement, and to remain covered under CMSA plans for life.

Retirement: Retirement rates are taken from the 2014 CalPERS OPEB Assumptions Model for public miscellaneous employees with a 2.7% at 55 retirement plan. These are the same rates as used in 2013. Sample rates are:

	10 Years Service	20 Years Service	30 Years Service
Age 55	11.55 %	16.50 %	21.45 %
Age 58	9.45 %	13.50 %	17.55 %
Age 61	10.85 %	15.50 %	20.15 %
Age 64	13.65 %	19.50 %	25.35 %

Turnover (withdrawal): Likelihood of termination within the next year is taken from the 2014 CalPERS OPEB Assumptions Model. These are the same rates as used in 2013. Sample rates are:

	5 Years Service	10 Years Service	15 Years Service
Age 20	9.46 %		
Age 30	7.90 %	6.68 %	5.81 %
Age 40	6.32 %	5.07 %	4.24 %
Age 50	1.16 %	0.71 %	0.32 %

Medical Cost Increases (Trend): CalPERS medical premiums are assumed to increase after 2015 as follows:

2016	6.40 %
2017	6.10 %
2018	5.80 %
2019 and later	5.50 %

The CalPERS minimum monthly contribution (PEMHCA minimum) is assumed to increase 4% per year after 2015. In the 2013 valuation, the assumed rate was 5%. The new assumption is expected to be a better estimate of future experience.

Baseline Medical Costs: CalPERS is widely-considered to be a community-rated plan, so no age-grading of the base premium rates is necessary. This will be the last valuation that CMSA will be able to make use of the community-rated exemption.

Actuarial Funding Method: The ARC is computed using the Entry Age Normal cost method with normal costs computed as level dollar amounts. The Unfunded Actuarial Accrued Liability in each year is amortized on a straight line level-dollar basis over the closed 30-year period beginning July 1, 2009. It is assumed that CMSA will annually contribute to the CERBT the excess of (1) the ARC over (2) the total amount of benefits paid to retirees.

Actuarial Value of Assets: The fair value of assets, including any receivable employer contributions.

Inflation: Inflation in future years is assumed to be 3% per year.

Rehires: Former employees are assumed to not be rehired.