

# MacLeod Watts

December 13, 2023

Wesley A. Maffei  
Manager  
Napa County Mosquito Abatement District  
P.O. Box 10053  
American Canyon, CA 94503

Re: June 30, 2023, Actuarial Valuation for Determination of OPEB Funding Contributions

Dear Mr. Maffei:

We are pleased to enclose our report providing the results of the June 30, 2023, actuarial funding valuation of other post-employment benefit (OPEB) liabilities for the Napa County Mosquito Abatement District. The report's text describes our analysis and assumptions in detail.

The primary purposes of this report are to:

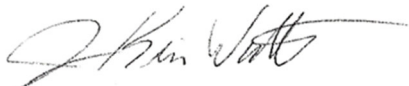
1. Value plan liabilities as of June 30, 2023, and reconcile plan liabilities to those in the District's prior 2021 valuation.
2. Develop Actuarially Determined Contributions (ADCs) for FYE June 30, 2024, June 30, 2025, and June 30, 2026.
3. Provide a report to be submitted to the California Employers' Retiree Benefit Trust (CERBT) to satisfy filing requirements for the trust.

Separate annual GASB 75 reports will be provided to assist with financial reporting requirements.

We have based our valuation on employee data and plan information provided by the District, including the most recent bargaining agreements and PEMHCA resolutions on file with CalPERS. Please review Section L to ensure that we have summarized the plan's benefit provisions correctly.

We appreciate the opportunity to work on this analysis and thank you and other District staff for their time and assistance. Please let us know if we can be of further assistance.

Sincerely,



J. Kevin Watts, FSA, FCA, MAAA  
*Principal & Consulting Actuary*



*Napa County Mosquito Abatement District*

Actuarial Valuation of Other  
Post-Employment Benefit Programs  
As of June 30, 2023

Development of OPEB Prefunding Levels

Submitted December 2023

MacLeod Watts

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## A. Executive Summary

This report presents the results of the June 30, 2023, actuarial valuation of the Napa County Mosquito Abatement District (the District) defined benefit other post-employment benefit (OPEB) program. The primary purpose of this valuation is to assess the defined benefit OPEB liabilities of the District and develop contribution levels for the funding of these benefits. OPEB information relevant to reporting in the District's financial statements will be provided in separate annual reports.

Trust assets are currently invested in the CERBT with Asset Allocation Strategy 3 and PARS Moderately Conservative HighMark PLUS portfolio. The District expects these funds to yield 4.5% per year over the long term. Therefore, this valuation was prepared using a 4.5% discount rate. Please recognize that use of this rate is an assumption and is not a guarantee of future investment performance.

This report reflects the valuation of different types of OPEB liability, which are described in the next section. Certain exhibits apply the results of this 2023 valuation to develop the Actuarially Determined Contributions (ADCs) for the District's use in the funding of this benefit program. These ADCs will also be used in the District's financial disclosures under GASB 75 for fiscal years ending June 2024 through June 2026.

The plan funded status as of June 30, 2023, is compared to the June 30, 2021, valuation below. The funded ratio has decreased slightly from 220.8% in 2021 to 213.7% in 2023. More valuation results are presented in Section F.

Valuation Date	6/30/2021	6/30/2023
Discount Rate	4.50%	4.50%
Actuarial Present Value of Projected Benefits (APVPB)	\$ 3,222,588	\$ 3,175,794
Actuarial Accrued Liability (AAL)		
Explicit Liability	\$ 1,941,408	\$ 2,039,864
Implicit Liability	341,320	259,891
Total AAL	\$ 2,282,728	\$ 2,299,755
Actuarial Value of Assets	5,040,431	4,913,609
Unfunded Actuarial Accrued Liability (surplus)	(2,757,703)	(2,613,854)
Funded % (ratio of Assets to AAL)	220.8%	213.7%
Funded % of APVPB	156.4%	154.7%

Actuarially Determined Contributions for fiscal years ending June 30, 2024, through June 30, 2026, are shown below. Detailed results are developed in Section H.

Fiscal Year End	6/30/2024	6/30/2025	6/30/2026
Actuarially Determined Contribution (ADC)	\$ -	-	-
Expected employer paid benefits for retirees	70,408	88,707	103,670
Current year's implicit subsidy credit	24,252	26,209	35,248
Expected reimbursement from OPEB trusts	(94,660)	(114,916)	(138,918)
Total Expected OPEB Contributions	\$ -	\$ -	\$ -

The next actuarial valuation is scheduled to be prepared as of June 30, 2025. If there are any significant changes in the employee data, benefits provided to retirees, or in the District's funding policy, please contact us to discuss whether an earlier valuation is appropriate.



## **Executive Summary (Concluded)**

The liabilities shown in this report reflect assumptions regarding continued future employment, rates of retirement and survival, and elections by future retirees to elect coverage for themselves and their dependents. This valuation has been prepared on a closed group basis; no provision is generally made for new employees until the valuation date following their employment.

This valuation involves a complex, long term projection, using many assumptions. Future results may be different. Future differences may arise for many reasons, including but not limited to 1) changes in the number of covered plan members; 2) unexpected changes in medical premiums or claims; 3) plan changes; 4) longer life expectancies than assumed; 5) asset returns different than assumed; and/or 6) changes in future plan benefits or eligibility.

Details of our valuation process are provided on the following pages. Key terms used in the report are described throughout the report and in the Glossary. Certain actuarial terms used for plan funding have parallel terms with different names when used for GASB 75 reporting (see table on page 5). This can be confusing when comparing results from an actuarial report providing funding information compared to one prepared for accounting purposes.

### **Important Notices**

This report is intended to be used only to present the actuarial information relating to the District's other postemployment benefits and to provide the annual contribution information with respect to the District's current OPEB funding policy. The results of this report may not be appropriate for other purposes, including financial reporting purposes under GASB 75, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable. Some issues in this report may involve analysis of applicable law or regulations. The District should consult counsel on these matters; MacLeod Watts does not practice law and does not intend anything in this report to constitute legal advice.



## B. OPEB Obligations of the District

Post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are medical, prescription drug, dental, vision, and/or life insurance coverage. Other OPEB may include outside group legal, long-term care, or disability benefits outside of a pension plan. OPEB does not generally include COBRA, vacation, sick leave (unless converted to defined benefit OPEB), or other direct retiree payments.

This valuation considers these 3 different types of OPEB liability.

- 1) *Explicit subsidies*: A direct employer payment toward the cost of OPEB benefits
  - The District contributes directly toward retiree medical and dental premiums, as described in Section L. Liabilities for these benefits are included in this valuation.
- 2) *Implicit subsidies*: An indirect employer subsidy that occurs when the claims experience of active employees and retirees are pooled when determining premiums. As is the nature of group premium rate structures, at some ages retirees may be expected to experience higher claims than the premiums they pay, where at other ages the reverse may be true. When this occurs, premiums charged for active employees typically subsidize retiree claims and are said to “implicitly subsidize” retirees.

Plan members are covered by the CalPERS medical program (PEMHCA). CalPERS has confirmed that the claims experience of active employees and pre-Medicare retirees is considered together when setting premium rates in any particular plan.

We believe no implicit liability exists with respect to retiree dental coverage.

- 3) *Other subsidies*: Pooled plans that do not blend active and retiree premiums likely generate subsidies between employers and retirees within the pool. We generally expect these subsidies to be small. An actuarial practice note indicates these subsidies should be included in plan liabilities to the extent they are paid by the employer. In the CalPERS medical program, the premium rates for Medicare-covered retirees are based only on retiree claims experience of the pool. Any pool subsidy liability is included with the implicit subsidy liabilities in this report.

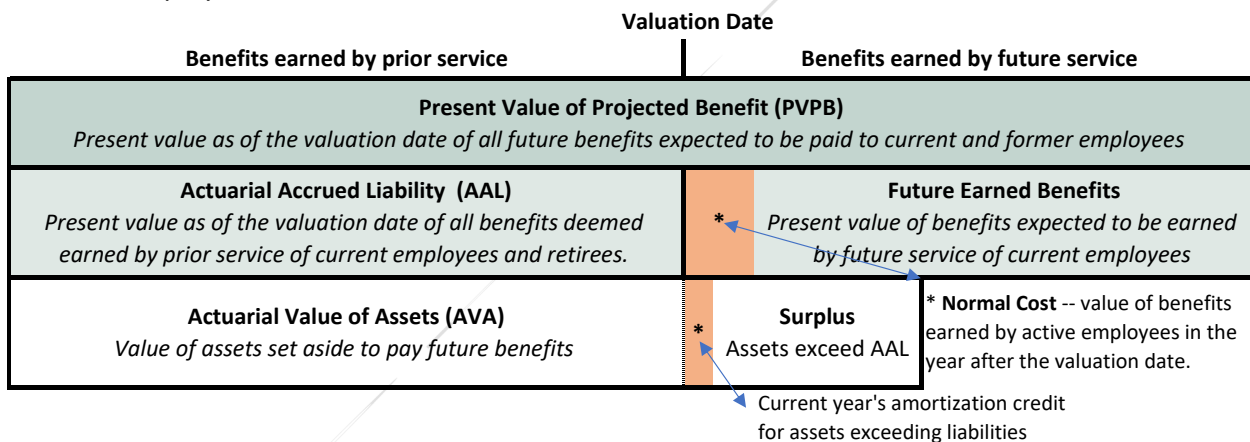
We determine explicit subsidy liabilities using the expected direct payments promised by the plan toward retiree coverage. We determine the implicit and other subsidy liabilities as the projected difference between (a) retiree medical claim costs by age and (b) premiums charged for retiree coverage. For more information on this process Addendum 1: MacLeod Watts Age Rating Methodology.



### C. The Valuation Process

This valuation is based on employee census data and benefits initially submitted to us by the District and clarified in various related communications. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on the District as to its accuracy. The valuation has been performed in accordance with the process described below using the actuarial methods and assumptions described herein and is consistent with our understanding of Actuarial Standards of Practice.

In projecting benefit values and liabilities, we first determine an expected premium or benefit stream over each current retiree’s or active employee’s future retirement. Benefits may include both direct employer payments (explicit subsidies) and any implicit subsidies arising when retiree premiums are expected to be partially subsidized by premiums paid for active employees. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected dates when benefits will end. Assumptions regarding the probability that each employee will remain in service to receive benefits and the likelihood that employees will elect coverage for themselves and their dependents are also applied. We then calculate a present value of these future benefit streams by discounting the value of each future expected employer payment back to the valuation date using the valuation discount rate. This present value is called the **Present Value of Projected Benefits (PVPB)** and represents the current value of all expected future plan payments to current retirees and current active employees. Note that this long-term projection does not anticipate entry of future employees.



The next step in the valuation process splits the Present Value of Projected Benefits into 1) the value of benefits already earned by prior service of current employees and retirees and 2) the value of benefits expected to be earned by future service of current employees. Actuaries employ an “attribution method” to divide the PVPB into prior service liabilities and future service liabilities. For this valuation we used the **Entry Age Normal** attribution method. This method is the most common used for government GASB funding purposes and the only attribution method allowed for financial reporting under GASB 75.

We call the value of benefits deemed earned by prior service the **Actuarial Accrued Liability (AAL)**. Benefits deemed earned by service of active employees in a single year is called the **Normal Cost** of benefits. The present value of all future normal costs (PVFNC) plus the Actuarial Accrued Liability will equal the Present Value of Projected Benefits (i.e.,  $PVPB = AAL + PVFNC$ ).



**Valuation Process  
(Concluded)**

Further discussion about these various components and a summary of the June 30, 2023, valuation results are discussed in Section F.

Some actuarial terms and GASB 75 terms may be used interchangeably; a few are in the table below.

Actuarial Terminology	GASB 75 Terminology
Present Value of Projected Benefits (PVPB)	<i>No equivalent term</i>
Actuarial Accrued Liability (AAL)	Total OPEB Liability (TOL)
Market Value of Assets (MVA)	Fiduciary Net Position
Actuarial Value of Assets (AVA)	<i>No equivalent term</i>
Unfunded Actuarial Accrued Liability (UAAL)	Net OPEB Liability
Normal Cost	Service Cost

**Incorporating Plan Assets**

Funds set aside for future benefits may be considered contributions to an OPEB plan only if the account established for holding the accumulated assets are separate from and independent of the control of the employer and legally protected from its creditors. Furthermore, the sole purpose of the account should be to provide benefits and/or pay expenses of the plan. These conditions generally require the establishment of a legal trust, such as the District’s trust account with CERBT.

Trust assets and earnings accumulate so that the trust can make benefit payments to retirees or reimburse the employer for making those payments directly. The portion of the AAL (or TOL) not covered by assets is referred to as the **unfunded actuarial accrued liability** (or UAAL in actuarial terminology), or **Net OPEB Liability** (in GASB terminology). A plan is generally considered “fully funded” when the UAAL is zero, i.e., when the accumulated prior service costs and plan assets are in equilibrium. *In this plan, trust assets exceed the plan liability, resulting in a surplus or Net OPEB Asset.*

**Variation in Future Results**

Please note that projections of future benefits over such long periods (frequently 60 or more years) which are dependent on numerous assumptions regarding future economic and demographic variables are subject to revision as future events unfold. While we believe that the assumptions and methods used in this valuation are reasonable for the purposes of this report, the costs to the District reflected in this report may change in the future, perhaps materially. Demonstrating the range of potential future plan costs was beyond the scope of our assignment except to the limited extent of providing liability information at various discount rates.





### D. Choosing the Valuation Discount Rate

CalPERS updated the projected future investment returns for CERBT Strategy 3 in March 2022 and determined returns using a building-block method and best-estimate ranges of expected future real rates of return for each major asset class (expected returns, net of OPEB plan investment expense and inflation). The target allocation and best estimates of geometric real rates of return published by CalPERS for each major class are split for years 1-5 and years 6 -20. We assumed that the returns for years 6 through 20 would continue in later years.

CERBT Strategy 3		Years 1-5			Years 6-20		
Major Asset Classification	Target Allocation	General Inflation Rate Assumption	1-5 Year Expected Real Rate of Return	Compound Return Yrs 1-5	General Inflation Rate Assumption	6-20 Year Expected Real Rate of Return	Compound Return Years 6-20
Global Equity	23%	2.40%	4.40%	6.80%	2.30%	4.50%	6.80%
Fixed Income	51%	2.40%	-1.00%	1.40%	2.30%	2.20%	4.50%
Global Real Estate(REITs)	14%	2.40%	3.00%	5.40%	2.30%	3.90%	6.20%
Treasury Inflation Protected Securities (TIPS)	9%	2.40%	-1.80%	0.60%	2.30%	1.30%	3.60%
Commodities	3%	2.40%	0.80%	3.20%	2.30%	1.20%	3.50%
Volatility	8.4%		weighted	3.5%		weighted	5.5%

To derive the expected future trust return specifically for the District, we first adjusted CalPERS' future return expectations to sync with the 2.5% general inflation assumption used in this report. Then applying the plan specific benefit payments to CalPERS' bifurcated return expectations, we determined the single equivalent long-term rate of return to be 5.10%.

In June, PARS published an expected return of 5.31% for the Moderately Conservative Portfolio, prior to offset for non-imbedded investment related fees. This expected return was determined using a building-block method and best-estimate ranges of expected future real rates of return for each major asset class (expected returns, net of OPEB plan investment expense and inflation). These ranges are combined to produce the long-term expected geometric rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of geometric real rates of return for each major class are summarized in this table.

Non-imbedded fees were estimated to reduce the expected yield above by 61 basis points (0.61%), reducing the net expected return on trust assets to 4.70% per year.

Portfolio (Investment Strategy)		Moderately Conservative	
Asset Class	Expected Return	Weight	
<b>Equity</b>		<b>30.00%</b>	
Large Cap Core	7.70%	15.50%	
Mid Cap Core	8.00%	3.00%	
Small Cap Core	8.50%	4.50%	
Real Estate	6.60%	1.00%	
International	7.50%	4.00%	
Emerging Markets	7.50%	2.00%	
<b>Fixed Income</b>		<b>65.00%</b>	
Short Term Bond	3.30%	14.00%	
Intermediate Term Bond	4.00%	49.25%	
High Yield	5.70%	1.75%	
<b>Alternatives</b>			
<b>Cash</b>	2.60%	<b>5.00%</b>	
Expected Return		5.31%	
Expected Standard Deviation		6.25%	

The District has chosen to fund based on a discount rate of 4.5%, which the District assumes will be the combined long-term return for trust assets.



**E. Asset Values as of June 30, 2023**

The District's plan assets are invested in the California Employers' Retiree Benefits Trust (CERBT) and the Public Agencies Retirement Services (PARS) Trust. Assets reported as of June 30, 2023, are as follows:

<b>CERBT Trust Assets, June 30, 2023</b>	<b>\$4,445,749</b>
<b>PARS Trust Assets, June 30, 2023</b>	<b>467,860</b>
<b>Total Market Value of Trust Assets, June 30, 2023</b>	<b>\$4,913,609</b>

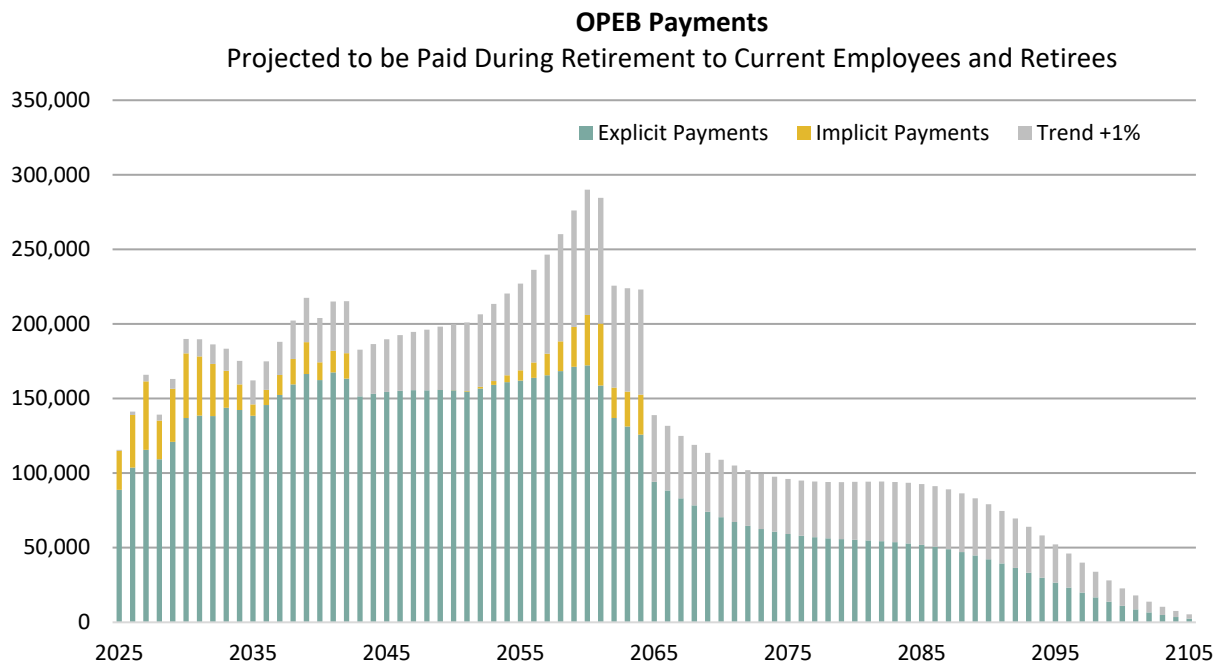
This value is also appropriate for use in GASB 75 financial reporting (i.e., Fiduciary Net Position).



## F. Valuation Results as of June 30, 2023

This section presents the basic results of our recalculation of the OPEB liability using the updated employee data, plan provisions and asset information provided to us for the June 30, 2023, valuation. We described the general process for projecting all future benefits to be paid to retirees and current employees in Section C. Expected annual benefits have been projected on the basis of the actuarial assumptions outlined in Supporting Information, Section M. subsection 3.

Lifetime healthcare benefits (described in Section L.) are paid for qualifying District retirees. The graph below illustrates the annual Other post-employment benefits projected to be paid on behalf of current retirees and current employees expected to retire from the District.



Annual (explicit) OPEB payments to current retirees and current employees assumed to retire from the District in the future are expected to steadily increase from about \$70,000 in 2025 to about \$167,000 in 2041 before gradually declining thereafter. This projection is based on the assumptions listed in Section L.

The amounts shown in green reflect the expected payment by the District toward retiree medical premiums. Those in yellow reflect the implicit subsidy benefits (i.e., the excess of estimated retiree medical and prescription drug claims over the premiums expected to be charged during the year for retirees' coverage) which are subsidized by active members. The projections in gray reflect increases in benefit levels if healthcare trend were 1% higher.

The first 15 years of benefit payments from the graph above are shown in tabular form on the following page.



**Valuation Results as of June 30, 2023**

(Continued)

Projected Annual Benefit Payments							
Fiscal Year Ending June 30	Explicit Subsidy			Implicit Subsidy			Total
	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total	
2024	\$ 53,602	\$ 16,806	\$ 70,408	\$ 16,177	\$ 8,075	\$ 24,252	\$ 94,660
2025	45,857	42,850	88,707	7,502	18,707	26,209	114,916
2026	47,300	56,370	103,670	8,699	26,549	35,248	138,918
2027	48,449	67,105	115,554	10,002	35,979	45,981	161,535
2028	39,808	69,403	109,211	-	25,990	25,990	135,201
2029	40,151	80,743	120,894	-	35,653	35,653	156,547
2030	40,372	96,581	136,953	-	43,276	43,276	180,229
2031	40,465	98,080	138,545	-	39,627	39,627	178,172
2032	40,433	97,737	138,170	-	34,993	34,993	173,163
2033	40,305	103,510	143,815	-	24,788	24,788	168,603
2034	40,094	102,202	142,296	-	17,187	17,187	159,483
2035	39,792	98,645	138,437	-	7,569	7,569	146,006
2036	39,392	106,177	145,569	-	10,268	10,268	155,837
2037	38,908	113,503	152,411	-	13,330	13,330	165,741
2038	38,341	121,095	159,436	-	17,021	17,021	176,457

The Explicit Subsidy benefits reflect the expected payment by the District toward retiree medical premiums in each of the years shown. The amounts are shown separately, and in total, for current retirees and those current employees expected to retire from the District after the valuation date. *Note the explicit subsidy benefit amount shown for FYE 2024 is currently an estimate.*

The amounts shown in the Implicit Subsidy table reflect the expected excess of pre-Medicare retiree medical and prescription drug claims over the premiums expected to be charged during the year for retirees' coverage for those currently retired and those expected to retire in the future.

The projections shown above do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years).



**Valuation Results as of June 30, 2023**  
(continued)

The following chart compares the results of the June 30, 2023, valuation of OPEB liabilities to the results of the June 30, 2021, valuation.

Valuation date	6/30/2021			6/30/2023		
Discount rate	4.50%			4.50%		
<b>Number of Covered Employees</b>						
Actives	9			9		
Retirees	6			6		
Total Participants	15			15		
Subsidy	Explicit	Implicit	Total	Explicit	Implicit	Total
<b>Actuarial Present Value of Projected Benefits</b>						
Actives	\$ 2,014,216	\$ 425,324	\$ 2,439,540	\$ 2,125,581	\$ 345,135	\$ 2,470,716
Retirees	699,702	83,346	783,048	662,626	42,452	705,078
Total APVPB	2,713,918	508,670	3,222,588	2,788,207	387,587	3,175,794
<b>Actuarially Accrued Liability (AAL)</b>						
Actives	1,241,706	257,974	1,499,680	1,377,238	217,439	1,594,677
Retirees	699,702	83,346	783,048	662,626	42,452	705,078
AAL	1,941,408	341,320	2,282,728	2,039,864	259,891	2,299,755
Market Value of Assets	5,040,431			-	-	4,913,609
<b>Unfunded Actuarially Accrued Liability (UAAL)</b>	(2,757,703)			(2,613,854)		
<b>Normal Cost</b>						
For the period following the measurement date	106,093	21,982	128,075	119,417	21,663	141,080

The funded ratio – the ratio of Assets to the Actuarial Accrued Liability – has decreased from 220.81% to 213.66% since the 2021 valuation.



**Valuation Results as of June 30, 2023**  
(Concluded)

**Changes Since the Prior Valuation**

A reconciliation of the \$143,849 increase in the Unfunded Actuarial Accrued Liability appears below. “Other plan experience” includes terminations and retirements other than expected, plan elections different than assumed, and differences between actual and expected premium rates and claims.

<b>Napa County MAD</b>	<b>Actuarial Accrued Liability</b>	<b>Market Value of Assets</b>	<b>Unfunded Actuarial Accrued Liability</b>
<b>Biennial Valuation as of June 30, 2021</b>	\$ 2,282,728	\$ 5,040,431	\$ (2,757,703)
<b>Changes During the Period 2021-2022:</b>			
Service Cost	128,075		128,075
Interest Cost	107,026		107,026
Benefit Payments	(64,882)	(64,883)	-
Investment Income		(590,218)	590,218
Employer Contributions		445,883	(445,883)
Administrative Expenses		(2,989)	2,989
<b>Net Changes 2021-2022</b>	170,219	(212,207)	382,425
<b>Interim Valuation as of June 30, 2022</b>	\$ 2,452,947	\$ 4,828,224	\$ (2,375,277)
<b>Changes During the Period 2022-2023:</b>			
Service Cost	131,917		131,917
Interest Cost	114,871		114,871
Premiums and estimated claims other than expected	(29,259)		(29,259)
Retirements and turnover other than expected	(263,134)		(263,134)
Other Plan Experience	67,148		67,148
Change in healthcare trend model	(18,983)		(18,983)
Change in demographic and economic assumptions and mortality improvement scale	(91,396)		(91,396)
Benefit Payments	(64,356)	(64,356)	-
Investment Income		87,522	(87,522)
Employer Contributions		64,356	(64,356)
Administrative Expenses		(2,137)	2,137
<b>Net Changes 2022-2023</b>	(153,192)	85,385	(238,577)
<b>Biennial Valuation as of June 30, 2023</b>	\$ 2,299,755	\$ 4,913,609	\$ (2,613,854)



## G. OPEB Funding Policy

The employer's OPEB funding policy and level of contributions to an irrevocable OPEB trust directly affects the discount rate which is used to calculate the OPEB liability to be reported in the employer's financial statements. Prefunding (setting aside funds to accumulate in an irrevocable OPEB trust) has certain advantages, one of which is the ability to (potentially) use a higher discount rate in the determination of liabilities for GASB 75 reporting purposes. Prefunding also improves the security of benefits for current and potential future recipients and contributes to intergenerational taxpayer equity by better matching the cost of the benefits to the service years in which they are "earned" and which correspond to years in which taxpayers benefit from those services.

### Paying Down the UAAL

Once an employer decides to prefund, a decision must be made about how to pay for benefits related to accumulated prior service that have not yet been funded (the Unfunded Actuarial Accrued Liability, or UAAL<sup>1</sup>). This is most often, though not always, handled through structured amortization payments. The period and method chosen for amortizing this unfunded liability can significantly affect the Actuarially Determined Contribution (ADC) or other basis selected for funding the OPEB program.

When the AAL exceeds plan assets, choosing a longer amortization period to pay off the UAAL means smaller payments, but the payments will be required for more years; plan investments will have less time to work toward helping reduce required contribution levels. *When the plan is in a surplus position, the reverse is true, and a longer amortization period is often preferable.*

There are several ways the amortization payment can be determined. The most common methods are calculating the amortization payment as a level dollar amount or as a level percentage of payroll. The employer might also choose to apply a shorter period only when the UAAL is positive, i.e., when trust assets are lower than the AAL, but opt for a longer period or to exclude amortization of a negative UAAL, when assets exceed the AAL. The entire UAAL may be amortized as one single component or may be broken into multiple components reflecting the timing and source of each change, such as those arising from assumption changes, benefit changes and/or liability or investment experience.

The amortization period(s) should not exceed the number of years which would allow current trust assets plus future contributions and earnings to be sufficient to pay all future benefits and trust expenses each year. Prefunding of OPEB is optional and contributions at any level are permitted. However, if trust sufficiency is not expected, a discount rate other than the assumed trust return will likely be required for accounting purposes.

### Funding and Prefunding of the Implicit Subsidy

An implicit subsidy liability is created when retiree medical claims are expected to exceed the premiums charged for retiree coverage. Recognition of the estimated implicit subsidy each year is handled by an accounting entry, reducing the amount paid for active employees and shifting that amount to be treated as a retiree healthcare expense/contribution. The implicit subsidy is a true benefit to the retiree but can be difficult to see when medical premiums are set as a flat rate for both actives and pre-Medicare retirees.

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<sup>1</sup> We use actuarial, rather than accounting, terminology to describe the components used to develop the ADCs.



## **OPEB Funding Policy (Concluded)**

This might lead some employers to believe the benefit is not real or is merely an accounting construct, and thus to forgo prefunding of retiree implicit benefits.

Consider what would happen if the retiree premiums were based only on expected retiree claims experience. Almost certainly, retiree premiums would increase while premiums for active employees would go down if the active premiums no longer had to help support the higher retiree claims. *Who would pay the increases in retiree premiums?* Current plan documents and bargaining agreements would have to be consulted. Depending on circumstances, the increase in retiree premiums might remain the responsibility of the employer, pass entirely to the retirees, or some blending of the two. The answer would determine whether separate retiree-only premium rates would result in a higher or lower employer OPEB liability. In the current premium structure, with blended active and pre-Medicare retiree premiums, the employer is clearly, though indirectly, paying the implicit retiree cost.

The prefunding decision is complex. OPEB materiality, budgetary concerns, desire to use the full trust rate in developing the liability for GASB 75, and other factors must be weighed by each employer. Since prefunding OPEB benefits is not required, each employer's OPEB prefunding strategy will depend on how they balance these competing perspectives.

### **Development of the Actuarially Determined Contributions**

Actuarially Determined Contributions (ADCs) are developed as the sum of the following two components, adjusted with interest to each fiscal year end:

- The normal cost for the year. The normal cost is the value of future retiree benefits earned by active employees during the year; and
- An amortization payment on the unfunded actuarial accrued liability surplus. Benefits earned in prior periods that remain unfunded are funded over time. The District's amortization payments are developed with level dollar payments.

Actuarially Determined Contributions developed as described above for the District's fiscal years ending June 30, 2024, 2025 and 2026 are shown in Section H. These ADCs include both explicit (cash benefit) and implicit subsidy benefit liabilities. Contributions credited toward meeting the ADC include:

- 1) direct payments to insurers toward retiree premiums, to the extent not reimbursed to the District by the trust; plus
- 2) each year's implicit subsidy payment; and
- 3) contributions to the OPEB trust.

### **The District's OPEB Funding Policy**

The District's goal is for the trust to accumulate assets at or above 150% of the present value of all future benefits expected to be paid to current employees and retirees. This level of funding is intended to provide a very high level of protection against asset shocks and still not require the District to make future contributions to the trust. Section I provides contribution information at a funding target of 150% of the APVPB.





## H. Development of Actuarially Determined Contributions

We develop the Actuarially Determined Contributions (ADCs) for fiscal years ending June 30, 2024, June 30, 2025, and June 30, 2026, from the results of this valuation.

Funding Policy	100% of Actuarially Determined Contribution		
Valuation date	6/30/2023		
For fiscal year ending	6/30/2024	6/30/2025	6/30/2026
Expected long-term return on assets	4.50%	4.50%	4.50%
Discount rate	4.50%	4.50%	4.50%
<b>Number of Covered Employees</b>			
Actives	9		
Retirees	6		
Total Participants	15		
<b>Actuarial Present Value of Projected Benefits</b>			
Actives	\$ 2,470,716	\$ 2,506,597	\$ 2,527,980
Retirees	705,078	715,318	721,420
Total APVPB	3,175,794	3,221,915	3,249,399
<b>Actuarial Accrued Liability (AAL)</b>			
Actives	1,594,677	1,738,565	1,877,238
Retirees	705,078	715,318	721,420
Total AAL	2,299,755	2,453,883	2,598,658
Actuarial Value of Assets	4,913,609	5,037,932	5,147,137
<b>Unfunded AAL (UAAL)</b>	(2,613,854)	(2,584,049)	(2,548,479)
UAAL Amortization method	Level \$	Level \$	Level \$
Remaining amortization period (years)	15	15	15
Amortization Factor	11.2228	11.2228	11.2228
<b>Actuarially Determined Contribution (ADC)</b>			
Normal Cost	141,080	145,312	149,672
Amortization of UAAL	(232,905)	(230,249)	(227,080)
Interest to fiscal year end	(4,132)	(3,822)	(3,483)
<b>Total ADC</b>	-	-	-
<b>Expected Contributions Toward ADC:</b>			
Implicit subsidy payment	24,252	26,209	35,248
Estimated retiree benefits paid by agency	70,408	88,707	103,670
-- reimbursement of payments by trust	94,660	114,916	138,918
Cash contribution to trust	-	-	-
Total Expected Contribution Toward ADC	\$ -	\$ -	\$ -
Contribution More Than (Less Than) ADC	-	-	-
% of AAL Funded	214%	205%	198%
% of APVBP Funded	155%	156%	158%

*\*We understand that the District has budgeted a \$60,000 trust contribution for FYEs 2024, 2025, and 2026.*

*However, given that the District has reached it's 150% of APVBP funding target, we recommend that no further contributions be made to the trust and that the District seek full reimbursement for explicit and implicit retiree benefit payments each year.*



### I. 150% APVPB Funding for Fiscal Years Ending 2024-2026

The table below develops trust contributions using the District's funding target of 150% of the Actuarial Present Value of Projected Benefits. Funding at this level would allow the trust to pay all future expected benefit payments to current employees and retirees and provide a significant margin for adverse plan and investment experience.

Funding Policy	150% of APVPB		
Valuation date	6/30/2023		
For fiscal year ending	6/30/2024	6/30/2025	6/30/2026
Expected long-term return on assets	4.50%	4.50%	4.50%
Discount rate	4.50%	4.50%	4.50%
<b>Number of Covered Employees</b>			
Actives	9		
Retirees	6		
Total Participants	15		
<b>Actuarial Present Value of Projected Benefits (APVPB)</b>			
Actives	\$ 2,470,716	\$ 2,506,597	\$ 2,527,980
Retirees	705,078	715,318	721,420
Total APVPB	3,175,794	3,221,915	3,249,399
Actuarial Value of Assets	4,913,609	5,037,932	5,147,137
<b>% of APVPB Funded</b>	154.7%	156.4%	158.4%
<b>Contribution Targeting 150% of APVPB</b>			
Funding Goal at Beginning of FY (150% of APVPB)	\$ 4,763,691	\$ 4,832,873	\$ 4,874,099
Actuarial Value of Assets at Beginning of FY	4,913,609	5,037,932	5,147,137
Target Funding Deficit (Surplus) at Beginning of FY	(149,918)	(205,059)	(273,038)
10 Year Amortization of Target Funding Deficit	(18,131)	(24,799)	(33,020)
Interest to fiscal year end	(816)	(35,314)	(12,287)
<b>Total Targeted OPEB Contributions</b> (not less than \$0)	\$ -	\$ -	\$ -
<b>Expected Employer OPEB Contributions</b>			
a. Estimated payments on behalf of retirees	\$ 70,408	\$ 88,707	\$ 103,670
b. Estimated current year's implicit subsidy	24,252	26,209	35,248
c. Trust reimbursement to District*	(94,660)	(114,916)	(138,918)
d. Cash contribution to trust	-	-	-
<b>Total Expected Employer Contribution</b> <b>(a. + b. + c. but not less than \$0)</b>	-	-	-

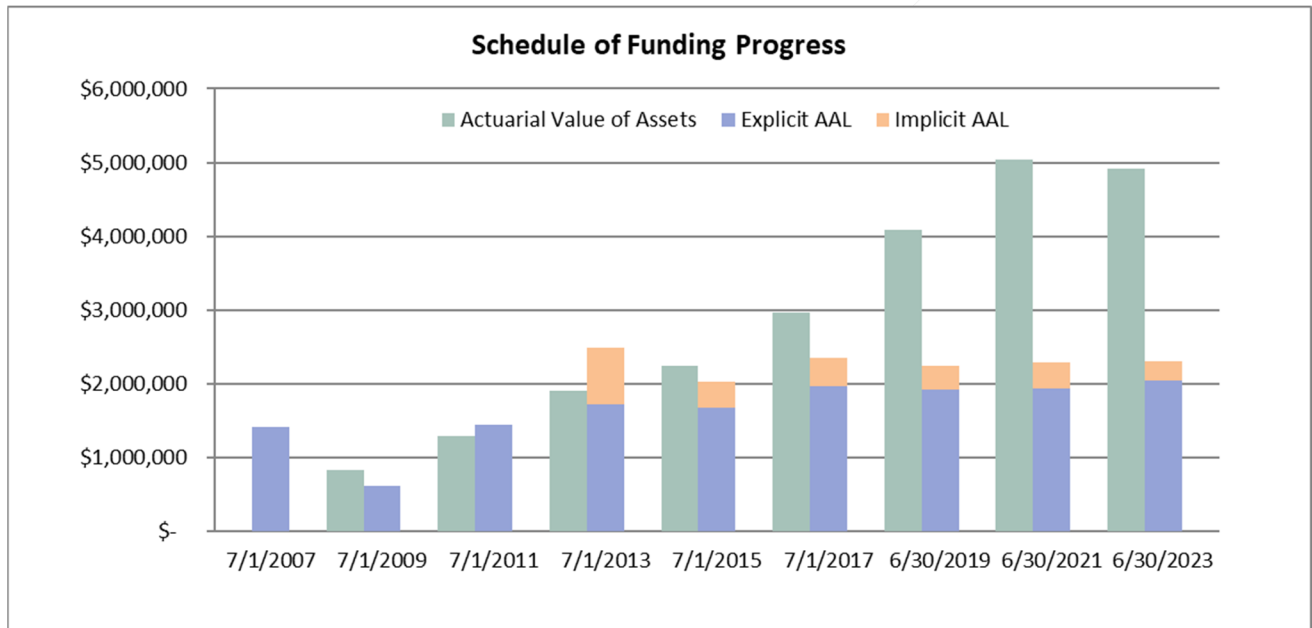
*\*We understand that the District has budgeted a \$60,000 trust contribution for FYEs 2024, 2025, and 2026. However, given that the District has reached its 150% of APVPB funding target, we recommend that no further contributions be made to the trust and that the District seek full reimbursement for explicit and implicit retiree benefit payments each year.*



## J. Historical Information

In this section, we provide a review of key components of valuation results from 2007 through 2023.

Schedule of Funding Progress							
Actuarial Valuation Date	Actuarial Accrued Liability (a)	Actuarial Value of Assets (b)	Unfunded Actuarial Accrued Liability (a-b)	Funded Ratio (b/a)	Covered Payroll (c)	UAAAL as a Percentage of Covered Payroll ((a-b)/c)	Discount Rate
7/1/2007	\$1,410,899	\$ -	\$ 1,410,899	0.0%	\$ 620,031	227.6%	4.5%
7/1/2009	\$ 622,074	\$ 825,391	\$ (203,317)	132.7%	\$ 685,534	-29.7%	7.8%
7/1/2011	\$1,449,495	\$ 1,288,250	\$ 161,245	88.9%	\$ 617,960	26.1%	6.0%
7/1/2013	\$2,492,395	\$ 1,906,731	\$ 585,664	76.5%	\$ 680,305	86.1%	6.0%
7/1/2015	\$2,023,381	\$ 2,236,164	\$ (212,783)	110.5%	\$ 693,147	-30.7%	5.5%
7/1/2017	\$2,347,523	\$ 2,962,231	\$ (614,708)	126.2%	\$ 716,477	-85.8%	5.0%
6/30/2019	\$2,240,898	\$ 4,086,958	\$ (1,846,060)	182.4%	\$ 880,131	-209.7%	4.5%
6/30/2021	\$2,282,728	\$ 5,040,431	\$ (2,757,703)	220.8%	\$ 860,872	-320.3%	4.5%
6/30/2023	\$2,299,755	\$ 4,913,609	\$ (2,613,854)	213.7%	\$ 912,113	-286.6%	4.5%



Significant changes during this period include:

- July 1, 2013: First time recognition of the implicit subsidy liability
- July 1, 2015: Decrease in discount rate from 6.0% to 5.5%
- June 30, 2019: Decrease in discount rate from 5.0% to 4.5%; District established 150% of present value of future benefits as funding goals.
- June 30, 2021: District assets exceed funding goal of 150% of present value of all future benefits for retirees and current employees.
- June 30, 2023: Updated demographic assumptions; favorable plan experience; offset by investment experience less than expected.



### K. Summary of Employee Data

**Active members:** The District reported 9 active employees in the data provided to us for the June 2023 valuation. All 9 were reported to be enrolled in the medical program.

Distribution of Benefits-Eligible Active Employees								
Current Age	Years of Service						Total	Percent
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 & Up		
Under 25							0	0%
25 to 29	2						2	22%
30 to 34							0	0%
35 to 39							0	0%
40 to 44							0	0%
45 to 49				1			1	11%
50 to 54							0	0%
55 to 59		1	2			1	4	44%
60 to 64					1	1	2	22%
65 to 69							0	0%
70 & Up							0	0%
<b>Total</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>100%</b>
<b>Percent</b>	<b>22%</b>	<b>11%</b>	<b>22%</b>	<b>11%</b>	<b>11%</b>	<b>22%</b>	<b>100%</b>	

Valuation	June 2019	June 2021
Average Attained Age for Actives	48.6	50.5
Average Years of Service	10.4	11.6

**Retired members:** There were also 6 retirees or their beneficiaries receiving benefits. The following chart summarizes the ages of current retirees in the District plan.

Retirees by Age		
Current Age	Number	Percent
Below 50	0	0%
50 to 54	0	0%
55 to 59	0	0%
60 to 64	1	17%
65 to 69	2	33%
70 to 74	0	0%
75 to 79	1	17%
80 & up	2	33%
<b>Total</b>	<b>6</b>	<b>100%</b>
<b>Average Age:</b>		
On 6/30/2023	75.00	
At retirement	59.9	



**Summary of Employee Data**  
(Concluded)

The chart below reconciles the number of actives and retirees included in the June 2021 valuation of the District plan with those included in the June 2023 valuation:

<b>Reconciliation of District Plan Members Between Valuation Dates</b>				
<b>Status</b>	Covered Actives	Covered Retirees	Covered Surviving Spouses	Total
Number reported as of June 30, 2021	9	4	2	15
New employees	2			2
Separated employees	(2)			(2)
<b>Number reported as of June 30, 2023</b>	<b>9</b>	<b>4</b>	<b>2</b>	<b>15</b>

Overall, the total population remained stable during the two-year period between actuarial valuations. Two employees left the District, and two new employees were hired.

**Summary of Plan Member Counts:** GASB 75 requires the employer to report specific plan member counts. The chart below shows these counts as of the June 30, 2023, valuation date:

<b>Summary of Plan Member Counts</b>	
Number of active plan members	9
Number of inactive plan members currently receiving benefits	6
Number of inactive plan members entitled to but not receiving benefits	0



## L. Summary of Retiree Benefit Provisions

**OPEB provided:** The District reported the following OPEB: retiree medical and dental coverage.

**Access to coverage:** Medical coverage is currently provided through CalPERS as permitted under the Public Employees' Medical and Hospital Care Act (PEMHCA). This coverage requires the employee to satisfy the requirements for retirement under CalPERS: either (a) attainment of age 50 (age 52, if a miscellaneous PEPRA employee) with 5 years of State or public agency service or (b) an approved disability retirement. The employee must begin his or her *pension* benefit within 120 days of terminating employment with the District<sup>2</sup> to be eligible to continue medical coverage through the District and be entitled to the employer subsidy described below.

If an eligible employee is not already enrolled in the medical plan, he or she may enroll within 60 days of retirement or during any future open enrollment period. Coverage may be continued at the retiree's option for his or her lifetime. A surviving spouse and other eligible dependents may also continue coverage.

**Medical benefits provided:** As a PEMHCA employer, the District is obligated to contribute toward the cost of retiree medical coverage for the retiree's lifetime or until coverage is discontinued. A surviving spouse and other eligible dependents may also continue coverage and receive the District contribution. The District currently maintains two different types of resolutions with CalPERS that apply to those eligible for coverage (as described above), based on the employee's hire date:

- *Participants hired before January 1, 2020*, are covered by an equal contribution resolution. This resolution provides for the District to pay 100% of the medical premium for active and retired employees and their dependents, not to exceed an amount that varies by coverage level. The maximum benefit provided in 2021 is the pre-Medicare premium level for single, two-party or family coverage, as applicable, for the highest CalPERS plan in Region 1 offered to District employees.
- *Participants hired on or after January 1, 2020*, are covered by a PEMHCA 'vesting' resolution. Under this resolution, the District's contribution toward retiree medical benefits is determined as *the lesser of (a) and (b)*:

(a) 100% of the medical plan premiums for the retiree and his or her eligible dependents

(b) The maximum monthly benefits (caps) under the vesting formula multiplied by the vesting percent. Caps vary by coverage level. In 2024, the caps are equal to: \$983 (single), \$1890 (two-party) and \$2366 (family). The District intends to update its PEMHCA vesting resolution annually to

Years of Qualifying Service	Vested Percent	Years of Qualifying Service	Vested Percent
Less than 10	0%	15	75%
10	50%	16	80%
11	55%	17	85%
12	60%	18	90%
13	65%	19	95%
14	70%	20 or more	100%

reflect the cap for the highest cost plan available to District retirees in Region 1. The vesting percent in the table is based on Years of Qualifying CalPERS membership service, but the participant must also have at least 5 years with the District service.

<sup>2</sup> Employees covered by the PEMHCA Vesting Resolution who work at least 20 years for the District are not subject to the requirement to begin their pension benefit within 120 days of leaving District employment.



**Summary of Retiree Benefit Provisions**  
(Continued)

*Retirees hired on or after January 1, 2020 - continued*

Employees covered by the PEMHCA vesting resolution who qualify for and take an approved disability retirement are automatically 100% vested, regardless of their years of service.

Unlike retirees hired prior to January 2020, those covered by the vesting resolution who complete at least 20 years of service with the District are entitled to these subsidized medical benefits even if they terminate employment prior to reaching the earliest retirement age permitted under their retirement program.

Employees hired prior to January 1, 2020, can choose to be subject to the new PEMHCA vesting resolution pursuant to Section 22893(a)(6).

**Dental benefits provided:** The District also pays 100% of the dental premiums for retired management employees and their eligible dependents. The monthly dental premiums as of June 2024 are: \$52.50 (single coverage rate), \$88.41 (two party rate) and \$134.40 (family coverage rate).

**Current premium rates:** The 2024 CalPERS monthly medical plan rates in Region 1 selected by District employees are shown in the table below.

<b>Region 1 2024 Health Plan Rates</b>						
	Actives and Pre-Med Retirees			Medicare Eligible Retirees		
Plan	Ee Only	Ee & 1	Ee & 2+	Ee Only	Ee & 1	Ee & 2+
Blue Shield Trio	\$ 946.84	\$1,893.68	\$2,461.78	\$ 392.68	\$ 785.36	\$ 1,178.04
Kaiser HMO*	1,021.41	2,042.82	2,655.67	386.55	773.10	1,159.65
PERS Platinum PPO	1,314.27	2,628.54	3,417.10	448.15	896.30	1,344.45

Note that the additional CalPERS administration fee is not included in this valuation.



## M. Summary of Actuarial Methods and Assumptions

The ultimate real cost of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These payments depend only on the terms of the plan and the administrative arrangements adopted. The actuarial assumptions are used to estimate the cost of these benefits; the funding method spreads the expected costs on a level basis over the life of the plan.

### Important Dates

Valuation Date June 30, 2023

### Valuation Methods

Funding Method Entry Age Normal Cost, level percent of pay

Asset Valuation Method Market Value

Participants Valued Only current active employees and retired participants and covered dependents are valued. No future entrants are considered in this valuation.

Development of Age-related  
Medical Premiums

Actual premium rates for retirees and their spouses were adjusted to an age-related basis by applying medical claim cost factors developed from the data presented in the report, "Health Care Costs – From Birth to Death", sponsored by the Society of Actuaries. A description of the use of claims cost curves is provided in MacLeod Watts's Age Rating Methodology in Addendum 1 to this report.

Pre-Medicare retiree premiums are blended with premiums for active members. Medicare-eligible retirees are covered by plans which are rated solely on the experience of Medicare retirees with no subsidy by active employee premiums.

Monthly baseline premium costs were set equal to the active single premiums shown in the chart in Section L. Representative claims costs derived from the dataset provided by CalPERS are shown in the chart on the following page. Age-based claims were applied (a) for all retirees not yet eligible for Medicare and (b) for Medicare retirees covered by Medicare Supplement plans.





**Summary of Actuarial Methods and Assumptions**  
(Continued)

Development of Age-related Medical Premiums

Expected Monthly Claims by Medical Plan for Selected Ages													
Region	Medical Plan	Non-Medicare Male Retirees					Medicare Male Retirees						
		50	53	56	59	62	65	70	75	80	85	90	95
Region 1	Blue Shield Trio	\$ 797	\$ 940	\$ 1,091	\$ 1,251	\$ 1,422	<i>Claims not developed for Medicare Advantage plans</i>						
	Kaiser HMO	934	1,102	1,280	1,467	1,667	<i>Claims not developed for Medicare Advantage plans</i>						
	PERS Platinum PPO	1,299	1,531	1,779	2,039	2,318	381	427	464	486	480	458	454
Region	Medical Plan	Non-Medicare Female Retirees					Medicare Female Retirees						
		50	53	56	59	62	65	70	75	80	85	90	95
Region 1	Blue Shield Trio	\$ 988	\$ 1,085	\$ 1,167	\$ 1,261	\$ 1,390	<i>Claims not developed for Medicare Advantage plans</i>						
	Kaiser HMO	1,158	1,272	1,368	1,479	1,630	<i>Claims not developed for Medicare Advantage plans</i>						
	PERS Platinum PPO	1,609	1,768	1,902	2,055	2,266	365	413	447	467	471	462	454



**Summary of Actuarial Methods and Assumptions**  
(Continued)

**Economic Assumptions**

Discount Rate	4.50% as of prior funding valuation (June 30, 2021) 4.50% for current valuation
General Inflation Rate	2.5% per year
Salary Increase	3.0% per year; since benefits do not depend on salary, this is used to allocate the cost of benefits between service years.
Healthcare Trend	Medical plan premiums and claims costs by age are assumed to increase once each year. Increases over the prior year's levels are assumed to be effective on the dates shown below.

Effective January 1	Premium Increase	Effective January 1	Premium Increase
2024	Actual	2040-2043	4.8%
2025	6.5%	2044-2049	4.7%
2026	6.0%	2050-2059	4.6%
2027	5.5%	2060-2065	4.5%
2028	5.4%	2066-2067	4.4%
2029	5.3%	2068-2069	4.3%
2030	5.2%	2070	4.2%
2031	5.1%	2071-2072	4.1%
2032-2037	5.0%	2073-2074	4.0%
2038-2039	4.9%	2075 & later	3.9%

The healthcare trend shown above was developed using the Getzen Model 2023 published by the Society of Actuaries using the following settings: CPI 2.5%; Real GDP Growth 1.4%; Excess Medical Growth 1.0%; Expected Health Share of GDP in 2032 20%; Resistance Point 21%; Year after which medical growth is limited to growth in GDP 2075.

Dental rates are expected to increase by 3% annually.



**Summary of Actuarial Methods and Assumptions**  
(Continued)

**Participant Election Assumptions**

Participation Rate	<p><i>Active employees:</i> 100% are assumed to continue their current plan election in retirement.</p> <p><i>Retired participants:</i> Existing medical plan elections are assumed to continue until the retiree's death.</p>
Spouse Coverage	<p><i>Active employees:</i> 85% of future retirees are assumed to be married and elect coverage for their spouse in retirement. Surviving spouses are assumed to continue coverage until their death. Husbands are assumed to be 3 years older than their wives.</p> <p><i>Retired participants:</i> Existing elections for spouse coverage are assumed to continue until the spouse's death. Actual spouse ages are used, where known; if not, husbands are assumed to be 3 years older than their wives.</p>
Dependent Coverage	<p><i>Active employees:</i> 60% of future retirees are assumed to cover at least one dependent other than a spouse. This dependent coverage is assumed to end at age 64.</p> <p><i>Retired participants:</i> Coverage for dependent children of current retirees is assumed to end when the youngest currently covered dependent reaches age 26.</p>
Medicare Eligibility	<p>Absent contrary data, all individuals are assumed to be eligible for Medicare Parts A and B at age 65.</p>



**Summary of Actuarial Methods and Assumptions**  
(Continued)

**Demographic Assumptions**

*Demographic actuarial assumptions used in this valuation are based on the 2021 experience study of the California Public Employees Retirement System using data from 1997 to 2019, except for a different basis used to project future mortality improvements. Rates for selected age and service are shown below and on the following pages.*

Mortality Before Retirement  
(before improvement applied)

CalPERS Public Agency Miscellaneous Non- Industrial Deaths		
Age	Male	Female
15	0.00018	0.00010
20	0.00039	0.00014
30	0.00044	0.00019
40	0.00075	0.00039
50	0.00134	0.00081
60	0.00287	0.00179
70	0.00594	0.00404
80	0.01515	0.01149

Mortality After Retirement  
(before improvement applied)

CalPERS Public Agency Miscellaneous, Police & Fire Post Retirement Mortality		
Age	Male	Female
40	0.00075	0.00039
50	0.00271	0.00199
60	0.00575	0.00455
70	0.01340	0.00996
80	0.04380	0.03403
90	0.14539	0.11086
100	0.36198	0.31582
110	1.00000	1.00000

Mortality Improvement

MacLeod Watts Scale 2022 applied generationally from 2010.  
(see Appendix 2)



**Summary of Actuarial Methods and Assumptions**  
(Continued)

Termination Rates

<b>Male Miscellaneous Employees: Sum of Vested Terminated &amp; Refund Rates From CalPERS Experience Study Report Issued November 2021</b>						
Attained Age	Years of Service					
Age	0	3	5	10	15	20
15	0.1851	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1851	0.0927	0.0843	0.0000	0.0000	0.0000
25	0.1769	0.0927	0.0843	0.0377	0.0000	0.0000
30	0.1631	0.0802	0.0804	0.0377	0.0180	0.0000
35	0.1493	0.0677	0.0715	0.0366	0.0180	0.0141
40	0.1490	0.0583	0.0627	0.0337	0.0180	0.0141
45	0.1487	0.0538	0.0562	0.0309	0.0166	0.0141

<b>Female Miscellaneous Employees: Sum of Vested Terminated &amp; Refund Rates From CalPERS Experience Study Report Issued November 2021</b>						
Attained Age	Years of Service					
Age	0	3	5	10	15	20
15	0.1944	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1944	0.1085	0.1074	0.0000	0.0000	0.0000
25	0.1899	0.1085	0.1074	0.0502	0.0000	0.0000
30	0.1824	0.0977	0.1041	0.0502	0.0252	0.0000
35	0.1749	0.0869	0.0925	0.0491	0.0252	0.0175
40	0.1731	0.0777	0.0809	0.0446	0.0252	0.0175
45	0.1713	0.0710	0.0730	0.0401	0.0213	0.0175

Service Retirement Rates

The following miscellaneous retirement formulas apply:

If hired prior to 1/1/2013, Classic: 2.7% @ 55  
If hired on or after 1/1/2013, PEPR: 2% @ 62

The rates in this valuation have been modified from the rates published by CalPERS to reflect a 100% probability of retirement by age 65.

Sample rates of assumed future retirements applicable to each of these retirement benefit formulas are shown in tables below.

Sample rates of assumed future retirements for each of these retirement benefit formulas are shown in these tables. Rates shown reflect the probability that an employee at that age and service will retire from the District in the next 12 months.

<b>Miscellaneous Employees: 2.7% at 55 formula</b>						
From CalPERS Experience Study Report Issued November 2021						
Current Age	Years of Service					
Age	5	10	15	20	25	30
50	0.0110	0.0160	0.0220	0.0330	0.0340	0.0380
55	0.0450	0.0580	0.0820	0.1380	0.2080	0.2780
60	0.0870	0.0840	0.0960	0.1420	0.1650	0.1980
65 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



**Summary of Actuarial Methods and Assumptions**  
(Continued)

Service Retirement Rates  
(continued)

<b>Miscellaneous "PEPRA" Employees: 2% at 62 formula</b> From CalPERS Experience Study Report Issued November 2021						
Current	Years of Service					
Age	5	10	15	20	25	30
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
55	0.0100	0.0190	0.0280	0.0360	0.0610	0.0960
60	0.0310	0.0510	0.0710	0.0910	0.1110	0.1380
65 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Disability Retirement Rates                      No disability retirements assumed.

**Software and Models Used in the Valuation**

**ProVal** - MacLeod Watts utilizes ProVal, a licensed actuarial valuation software product from Winklevoss Technologies (WinTech) to project future retiree benefit payments and develop the OPEB liabilities presented in this report. ProVal is widely used by the actuarial community. We review results at the plan level and for individual sample lives and find them to be reasonable and consistent with the results we expect. We are not aware of any material inconsistencies or limitations in the software that would affect this actuarial valuation.

**Age-based premiums model** – developed internally and reviewed by an external consultant at the time it was developed. See discussion on Development of Age-Related Medical Premiums in Appendices.

**Getzen model** – published by the Society of Actuaries; used to derive medical trend assumptions described earlier in this section.

**Changes in assumptions or methods as of the Measurement Date**

Demographic Assumptions	Updated demographic assumptions from those in the 2017 CalPERS experience study to those recommended in the CalPERS 2021 Experience Study report issued November 2021  The mortality improvement scale was updated from MacLeod Watts Scale 2020 to MacLeod Watts Scale 2022 (see Addendum 2), reflecting continued updates in available information.
Healthcare trend	Updated from the Getzen 2021_b to the Getzen 2023 model



## N. Certification

The purpose of this report is to provide actuarial information and potential contribution levels in conformity with the Napa County Mosquito Abatement District (the District) funding policy for the District's defined benefit other post-employment benefits. The District is not required to contribute the contributions developed in this report and we make no representation that the District will in fact fund the OPEB trust at any particular level.

In preparing this report we relied without audit on information provided by the District. This information includes, but is not limited to, plan provisions, census data, and financial information. We summarized the benefits in this report and our calculations were based on our understanding of the benefits as described herein. A limited review of this data was performed, and we found the information to be reasonably consistent. The accuracy of this report is dependent on this information and if any of the information we relied on is incomplete or inaccurate, then the results reported herein will be different from any report relying on more accurate information.

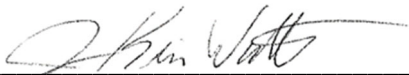
We consider the actuarial assumptions and methods used herein to be individually reasonable based on reasonable expectations of plan experience and the funding methodology adopted by the District. Expected returns used to develop the valuation discount rate were selected by the District based on information provided by CERBT. The results, and the assumptions on which they depend, provide an estimate of the plan's financial condition at one point in time. Future actuarial results may be significantly different for many reasons including, but not limited to, demographic and economic assumptions differing from future plan experience, changes in plan provisions, changes in applicable law, or changes in the value of plan benefits relative to other alternatives available to plan members.

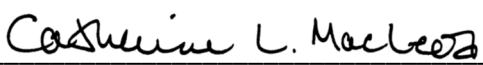
Alternative assumptions may also be reasonable; however, demonstrating the range of potential plan funding patterns based on alternative assumptions was beyond the scope of our assignment. Results based on other assumptions or funding strategies may be materially different and present materially different funding patterns.

This report is prepared solely for the use and benefit of the District and may not be provided to third parties without prior written consent of MacLeod Watts. Exceptions: The District may provide copies of this report to their professional accounting and legal advisors who are subject to a duty of confidentiality, to CERBT, and to any party if required by law or court order. No part of this report should be used as the basis for any representations or warranties in any contract or agreement without the written consent of MacLeod Watts.

The undersigned actuaries are unaware of any relationship that might impair the objectivity of this work. Nothing within this report is intended to be a substitute for qualified legal or accounting counsel. Both actuaries are members of the American Academy of Actuaries and meet the qualification standards for rendering this opinion.

Signed: December 13, 2023

  
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J. Kevin Watts, FSA, FCA, MAAA

  
\_\_\_\_\_  
Catherine L. MacLeod, FSA, FCA, EA, MAAA



## Appendix 1: MacLeod Watts Age Rating Methodology

Both accounting standards (e.g., GASB 75) and actuarial standards (e.g., ASOP 6) require that expected retiree claims, not just premiums paid, be reflected in most situations where an actuary is calculating retiree healthcare liabilities. Unfortunately, the actuary is often required to perform these calculations without any underlying claims information. In most situations, the information is not available, but even when available, the information may not be credible due to the size of the group being considered.

Actuaries have developed methodologies to approximate healthcare claims from the premiums being paid by the plan sponsor. Any methodology requires adopting certain assumptions and using general studies of healthcare costs as substitutes when there is a lack of credible claims information for the specific plan being reviewed.

Premiums paid by sponsors are often uniform for all employee and retiree ages and genders, with a drop in premiums for those participants who are Medicare-eligible. While the total premiums are expected to pay for the total claims for the insured group, on average, the premiums charged would not be sufficient to pay for the claims of older insureds and would be expected to exceed the expected claims of younger insureds. An age-rating methodology takes the typically uniform premiums paid by plan sponsors and spreads the total premium dollars to each age and gender intended to better approximate what the insurer might be expecting in actual claims costs at each age and gender.

The process of translating premiums into expected claims by age and gender generally follows the steps below.

1. *Obtain or Develop Relative Medical Claims Costs by Age, Gender, or other categories that are deemed significant.* For example, a claims cost curve might show that, if a 50 year old male has \$1 in claims, then on average a 50 year old female has claims of \$1.25, a 30 year male has claims of \$0.40, and an 8 year old female has claims of \$0.20. The claims cost curve provides such relative costs for each age, gender, or any other significant factor the curve might have been developed to reflect. Section M provides the source of information used to develop such a curve and shows sample relative claims costs developed for the plan under consideration.
2. *Obtain a census of participants, their chosen medical coverage, and the premium charged for their coverage.* An attempt is made to find the group of participants that the insurer considered in setting the premiums they charge for coverage. That group includes the participant and any covered spouses and children. When information about dependents is unavailable, assumptions must be made about spouse age and the number and age of children represented in the population. These assumptions are provided in Section M.
3. *Spread the total premium paid by the group to each covered participant or dependent based on expected claims.* The medical claims cost curve is used to spread the total premium dollars paid by the group to each participant reflecting their age, gender, or other relevant category. After this step, the actuary has a schedule of expected claims costs for each age and gender for the current premium year. It is these claims costs that are projected into the future by medical cost inflation assumptions when valuing expected future retiree claims.

The methodology described above is dependent on the data and methodologies used in whatever study might be used to develop claims cost curves for any given plan sponsor. These methodologies and assumptions can be found in the referenced paper cited as a source in the valuation report.





## Appendix 2: MacLeod Watts Mortality Projection Methodology

Actuarial standards of practice (e.g., ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, and ASOP 6, Measuring Retiree Group Benefits Obligations) indicate that the actuary should reflect the effect of mortality improvement (i.e., longer life expectancies in the future), both before and after the measurement date. The development of credible mortality improvement rates requires the analysis of large quantities of data over long periods of time. Because it would be extremely difficult for an individual actuary or firm to acquire and process such extensive amounts of data, actuaries typically rely on large studies published periodically by organizations such as the Society of Actuaries or Social Security Administration.

As noted in a recent actuarial study on mortality improvement, key principles in developing a credible mortality improvement model would include the following:

- (1) Short-term mortality improvement rates should be based on recent experience.
- (2) Long-term mortality improvement rates should be based on expert opinion.
- (3) Short-term mortality improvement rates should blend smoothly into the assumed long-term rates over an appropriate transition period.

The **MacLeod Watts Scale 2022** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2021 Report, published in October 2021 and (2) the demographic assumptions used in the 2021 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published August 2021.

MacLeod Watts Scale 2022 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2021 which has two segments – (1) historical improvement rates for the period 1951-2017 and (2) an estimate of future mortality improvement for years 2018-2020 using the Scale MP-2021 methodology but utilizing the assumptions used in generating Scale MP-2015. The MacLeod Watts scale then transitions from the 2020 improvement rate to the Social Security Administration (SSA) Intermediate Scale linearly over the 10-year period 2021-2030. After this transition period, the MacLeod Watts Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2030-2044. The SSA's Intermediate Scale has a final step in 2045 which is reflected in the MacLeod Watts scale for years 2045 and thereafter. Over the ages 95 to 117, the age 95 improvement rate is graded to zero.

Scale MP-2021 can be found at the SOA website and the projection scales used in the 2021 Social Security Administrations Trustees Report at the Social Security Administration website.



## Glossary

Actuarial Accrued Liability (AAL) – Total dollars required to fund all plan benefits attributable to service rendered as of the valuation date for current plan members and vested prior plan members; see “Actuarial Present Value”.

Actuarial Funding Method – A procedure which calculates the actuarial present value of plan benefits and expenses, and allocates these expenses to time periods, typically as a normal cost and an actuarial accrued liability.

Actuarial Present Value Projected Benefits (APVPB) – The amount presently required to fund all projected plan benefits in the future, it is determined by discounting the future payments by an appropriate interest rate and the probability of nonpayment.

Actuarial Value of Assets – The actuarial value of assets is the value used by the actuary to offset the AAL for valuation purposes. The actuarial value of assets may be the market value of assets or may be based on a methodology designed to smooth out short-term fluctuations in market values.

Actuarially Determined Contribution (ADC) – A contribution level determined by an actuary that is sufficient, assuming all assumptions are realized, to (1) fully fund new employee’s expected benefits by their expected retirement date(s), (2) pay off over a sufficiently short period any unfunded liabilities current as of the date funding commences, and (3) adequately fund the trust so that the trust can meet benefit payment obligations.

CalPERS – Many state governments maintain a public employee retirement system; CalPERS is the California program, covering all eligible state government employees as well as other employees of other governments within California who have elected to join the system.

Defined Benefit (DB) – A pension or OPEB plan which defines the monthly income or other benefit which the plan member receives at or after separation from employment.

Defined Contribution (DC) – A pension or OPEB plan which establishes an individual account for each member and specifies how contributions to each active member’s account are determined and the terms of distribution of the account after separation from employment.

Discount Rate – The rate of return that could be earned on an investment in the financial markets; typically, the discount rate is based on the expected long-term yield of investments used to finance the benefits. The discount rate is used to adjust the dollar value of future projected benefits into a present value equivalent as of the valuation date.

Entry Age Normal Cost (EANC) – An actuarial funding method where, for each individual, the actuarial present value of benefits is levelly spread over the individual’s projected earnings or service from entry age to the last age at which benefits can be paid.

Excise Tax – The Affordable Care Act created a 40% excise tax on the value of “employer sponsored coverage” that exceeds certain thresholds. The tax was repealed in December 2019.

Explicit Subsidy – The projected dollar value of future retiree healthcare costs expected to be paid directly by the Employer, e.g., the Employer’s payment of all or a portion of the monthly retiree premium billed by the insurer for the retiree’s coverage.



**Glossary**  
**(Continued)**

Fiduciary Net Position – Assets as defined by GASB 75 held in trust for providing benefits to retirees under the term of the plan.

Funding Policy Contribution (FPC)– The contributions determined in accordance with the entity’s adopted funding policy. The FPC may range from “pay-go” (i.e., only paying benefits as they come due), to prefunding all projected liabilities expected for current and former employees. An entity’s FPC may be: (1) less than the Actuarially Determined Contribution (ADC) indicating that the entity has chosen not to prefund part of the liabilities reflected in the ADC; (2) more than the ADC indicating that the entity wants to prefund benefits faster than a typical ADC; or (3) based on contributions equal to 100% of an ADC, indicating that the entity desires to prefund over the period indicated by the ADC.

Government Accounting Standards Board (GASB) – A private, not-for-profit organization which develops generally accepted accounting principles (GAAP) for U.S. state and local governments; like FASB, it is part of the Financial Accounting Foundation (FAF), which funds each organization and selects the members of each board

Health Care Trend – The assumed rate(s) of increase in future dollar values of premiums or healthcare claims, attributable to increases in the cost of healthcare; contributing factors include medical inflation, frequency or extent of utilization of services and technological developments.

Implicit Subsidy – The projected difference between future retiree claims and the premiums to be charged for retiree coverage; this difference results when the claims experience of active and retired employees are pooled together and a ‘blended’ group premium rate is charged for both actives and retirees; a portion of the active employee premiums subsidizes the retiree premiums.

Net OPEB Liability - The liability of employer to employees for benefits provided through a defined benefit OPEB plan that is administered through a trust as defined by GASB 75. The Net OPEB Liability is the Total OPEB Liability less the Fiduciary Net Position.

Non-Industrial Disability (NID) – Unless specifically contracted by the individual Agency, PAM employees are assumed to be subject to only non-industrial disabilities.

Normal Cost – Total dollar value of benefits expected to be earned by plan members in the current year, as assigned by the chosen funding method; also called current service cost.

Other Post-Employment Benefits (OPEB) – Post-employment benefits other than pension benefits, most commonly healthcare benefits but also including life insurance if provided separately from a pension plan.

Pay-As-You-Go (PAYGO) – Contributions to the plan are made at about the same time and in about the same amount as benefit payments and expenses coming due.

PEMHCA – The Public Employees’ Medical and Hospital Care Act, established by the California legislature in 1961, provides community-rated medical benefits to participating public employers. Among its extensive regulations are the requirements that a contracting Agency contribute toward medical insurance premiums for retired annuitants and that a contracting Agency file a resolution, adopted by its governing body, with the CalPERS Board establishing any new contribution.



**Glossary**  
**(Concluded)**

Plan Assets – The value of cash and investments considered as ‘belonging’ to the plan and permitted to be used to offset the AAL for valuation purposes. To be considered a plan asset, (a) the assets should be segregated and restricted in a trust or similar arrangement, (b) employer contributions to the trust should be irrevocable, (c) the assets should be dedicated to providing benefits to retirees and their beneficiaries, and (d) that the assets should be legally protected from creditors of the employer and/or plan administrator. See also “Actuarial Value of Assets”.

Public Agency Miscellaneous (PAM) – Non-safety public employees.

Select and Ultimate – Actuarial assumptions which contemplate rates which differ by year initially (the select period) and then stabilize at a constant long-term rate (the ultimate rate).

Service Cost – The portion of the actuarial present value of projected benefit payments that is attributed to a single valuation year. Generally equivalent to Normal Cost.

Total OPEB Liability - The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service. The term is defined in GASB 75.

Unfunded Actuarial Accrued Liability (UAAL) – The excess of the actuarial accrued liability over the actuarial value of plan assets.

Vesting – As defined by the plan, requirements which when met make a plan benefit nonforfeitable on separation of service before retirement eligibility.

