Vallejo Flood and Wastewater District

Other Post-Employment Benefits

Actuarial Valuation as of January 1, 2018

June, 2018

Submitted by

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BOOMERSHINE CONSULTING GROUP, L.L.C.
ACTUARIAL & RETIREMENT PLAN SOLUTIONS

June 25, 2018

Ms. Mary A Morris
Finance Director and Treasurer
Vallejo Flood and Wastewater District
450 Ryder Street
Vallejo, CA 94590-7299

This report presents the January 1, 2018 actuarial valuation results for Vallejo Flood and Wastewater District (the "District") Other Post-Employment Benefit Plan. The purposes of this report are to:

(1) Determine the District's January 1, 2018 OPEB obligations;
(2) Establish the basis for GASB 75 implementation; and
(3) Provide information that may be helpful in future planning for the Other Post-Employment Benefit ("OPEB") Plan.

A summary of the major results is shown in the Executive Summary, while the Principal Valuation Results section provides more detail. Financial reporting information is now provided in a separate report.

This costs and liabilities shown in this report are based upon the data and plan provisions provided by the District, as summarized in the Demographic Information and Plan Provisions Sections, respectively, and the funding method and actuarial assumptions outlined in the Methods and Assumptions Section of this report.

To the best of our knowledge, this report is complete and accurate and conforms to generally accepted actuarial principles and methodology. This Report presents our best estimate of the costs of the Post-Employment Benefit Plans in accordance with accepted actuarial principles.

This report is intended for the sole use of the addressee. It is intended only to supply sufficient information for the District to comply with the stated purposes, and may not be appropriate for other business purposes. Reliance on information contained in the report by anyone for other than the intended purposes puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the reports conclusions. The first undersigned is a member of the American Academy of Actuaries, and is qualified to render the actuarial opinions presented herein.

Respectfully submitted,

Gregory M Stump, FSA, EA, MAAA, FCA
Chief Actuary

Marshal Banks
Senior Consultant

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Executive Summary

Vallejo Flood and Wastewater District (the “District”) provides healthcare and prescription drug benefits to retirees and their dependents. The cost of the insurance is paid partially by the retiree and partially by the District depending on the medical plan chosen. Therefore the District’s liability is a combination of actual payments by the District and an implicit subsidy. All full time active employees who retire or qualify for disability retirement directly from the District, and meet the eligibility criteria, may participate.

The following table summarizes the valuation results. These figures have been calculated based on assumptions as to current claim cost, projected increases in health care costs, participation, turnover, and interest discount.

Information on plan provisions and participation was provided by the District.

This summary identifies the actuarial value of benefits at January 1, 2018 and actuarial contributions.

	January 1, 2018	**January 1, 2016**
Present Value of Projected Benefits (PVPB)	$19,961,924	$18,402,850
Actuarial Accrued Liability (AAL)	17,095,618	15,908,959
Plan Asset Value	8,353,392	5,623,674
Funding Ratio	48.9%	35.4%
Unfunded Actuarial Accrued Liability (UAAL)	8,742,226	10,285,285
Actuarially Determined Contribution (ADC)	1,035,389	1,045,958
Expected Employer Benefit Payments	$1,112,432	$957,027

Plan funding has improved since the last valuation, primarily due to the increased asset value in the OPEB Fund. The actuarial cost (ADC) has remained relatively level, as there is still a significant payment towards the unfunded liability (UAAL).

Principal Valuation Results

This section presents detailed valuation results for the District's retiree healthcare program.

- The Present Value of Projected Benefits (PVPB) is the total present value of all expected future benefits, based on certain actuarial assumptions. The PVPB is the value (on the valuation date) of the benefits promised to current and future retirees. The Plan's PVPB (at January 1, 2018) is $20.0 million. About 43% ($8.5 million) of this liability is for current active employees (future retirees), with the remainder attributable to current retirees enrolled in the District's healthcare plan.

- The Actuarial Accrued Liability (AAL) is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan's AAL (at January 1, 2018) is $17.1 million. The AAL represents approximately 86% of the PVPB.

- The Normal Cost is the value of benefits expected to be earned during the year (active employees only), again based on certain actuarial methods and assumptions. The Normal Cost for the plan is $353,665.

The AAL and Normal Cost have been developed using the Entry Age actuarial cost method.

The following table shows results by active and retired employee groups.

	January 1, 2018	January 1, 2016
Present Value of Projected Benefits		
Actives	$ 8,527,846	$ 9,083,873
Retirees	11,434,078	9,318,977
Total	$ 19,961,924	$ 18,402,850
Actuarial Accrued Liability (AAL)		
Actives	$ 5,661,540	$ 6,589,982
Retirees	11,434,078	9,318,977
Total	$ 17,095,618	$ 15,908,959
Plan Assets	$ 8,353,392	$ 5,623,674
Unfunded AAL	8,742,226	10,285,285
Normal Cost	$ 353,665	$ 312,354

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Actuarially Determined Contribution (ADC)

The method for determining the District's retiree Post-Retirement Benefits actuarial cost includes both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Actuarial Accrued Liability (AAL). Accordingly, the following table shows the District's ADC based on a closed-period 30 year amortization (19 years remaining) of the unfunded AAL, as a level percentage of pay.

	January 1, 2018	**January 1, 2016**
Normal Cost	$ 353,665	$312,354
Unfunded AAL Amortization	646,116	712,292
Interest to End of Fiscal Year	35,608	36,494
Actuarially Determined Contribution (ADC)	$1,035,389	$1,061,140

History of Funding Progress

Valuation Date	**Actuarial Value of Assets (a)**	**Actuarial Accrued Liability (AAL) (b)**	**Unfunded AAL (UAAL) (b-a)**	**Funded Ration (a / b)**
1/1/2007	$972,186	$10,418,127	$9,445,941	9.3%
1/1/2010	$1,102,420	$11,297,650	$10,195,230	9.8%
1/1/2013	$3,048,294	$14,833,842	$11,785,548	20.5%
1/1/2016	$5,623,674	$15,908,959	$10,285,285	35.4%
1/1/2018	$8,353,392	$17,095,618	$8,742,226	48.9%

Payout Projection

Annual Payments expected, based on the assumptions detailed in the Methods and Assumptions section. These amounts include total estimated claims and plan expenses, less retiree contributions towards cost sharing.

Year Ending	Payout
12/31/2018	$1,112,432
12/31/2019	1,167,537
12/31/2020	1,173,439
12/31/2021	1,128,150
12/31/2022	1,142,753
12/31/2023	1,142,184
12/31/2024	1,137,508
12/31/2025	1,225,569
12/31/2026	1,291,997
12/31/2027	1,332,039

Demographic Information

The following Table summarizes active and retiree demographic information.

	Number of Participants Valued	
	January 1, 2018	**January 1, 2016**
Actives	80	81
Retiree	80	69
Spouses	49	37
Total Participants and Spouses or retirees	209	187

	January 1, 2018	**January 1, 2016**
Average Age (Medical/Drug) (with insurance coverage)		
• Active	47.0	48.2
• Retired	68.3	68.9
Average Service (for actives)	8.9	10.8

Plan Provisions

Medical/Drug	Choice of Anthem HMO Traditional, BSC Access+, Kaiser Permanente, PERS Choice, PERSCare, UnitedHealthcCare, Western Health Advantage
Eligibility	Attained age 50, completed 5 years of District service and retire concurrently from both Vallejo and CalPERS after leaving Vallejo employment.
Retiree Payment	The District will pay the retired employee's entire monthly medical premium with may include his/her spouse and/or dependents, up to the highest cost local HMO. Kaiser Permanente – Bay Area premiums represent the highest cost local HMO.

2018 Premiums for represented employees/retirees (Monthly, as of 1/2018)

	Retiree	***Retiree and Spouse***
<u>Under Medicare Age</u>		
Anthem HMO Traditional (Bay)	$925.47	$1,850.94
BSC Access+ (Bay)	$889.02	$1,778.04
Kaiser Permanente (Bay)	$779.86	$1,559.72
Kaiser Permanente (Sacramento)	$703.96	$1,407.92
Kaiser Permanente (Washington)	$957.05	$1,914.10
PERS Choice (Bay)	$800.27	$1,600.54
PERS Choice (Sacramento)	$735.38	$1,470.76
PERS Choice)Out of State)	$661.45	$1,322.90
PERSCare (Bay)	$882.45	$1,764.90
PERSCare (Out of Region)	$718.98	$1,437.96
PERSCare (Sacramento)	$797.61	$1,595.22
United Healthcare (Bay)	$1,371.84	$2,743.68
Western Health Advantage (Bay)	$792.56	$1,585.12
<u>Medicare Age</u>		
Anthem Traditional	$370.34	$740.68
Kaiser Permanente	$316.34	$632.68
PERSChoice Med. Supp.	$345.97	$691.94
PERSCare	$382.30	$764.60
United Healthcare	$330.76	$661.52

There have been no changes in cost sharing or eligibility provisions since the prior valuation.

Actuarial Methods and Assumptions

Measurement Date All actuarial liabilities have been determined as of January 1, 2018

Demographic Assumptions The demographic assumptions for this study are the same as those used for the most recent California Public Employees' Retirement System (CalPERS), Public Agency Miscellaneous Employees actuarial valuation.

Amortization Period 30 Years – closed (19 years remaining as of 1/1/2018)

Amortization Method Level Percentage of Pay (3.00% payroll increase assumed)

Actuarial Method Entry Age

Discount rate/ Investment Return 7.25%

Healthcare Trend

Year	Assumed Increase
2018	6.50%
2019	6.25%
2020	6.00%
2021	5.75%
2022	5.50%
2023	5.00%
2024 and later	4.50%

Expected Annual Per Capita Claims
(Representative Costs)

Age	Annual Amount (2018)
45	$7,166
50	9,225
55	11,234
60	13,597
65	2,861
70	3,301
75	3,716
80	4,083
85 +	4,377

Aging rates were used to determine claims costs for each age.

Mortality – Representative Rates

	Pre-Retirement		Post-Retirement		Post-Disablement	
Age	Male	Female	Male	Female	Male	Female
30	0.00049	0.00025				
35	0.00057	0.00035				
40	0.00075	0.00050				
45	0.00106	0.00071				
50	0.00155	0.00100	0.00501	0.00466	0.01680	0.01158
55	0.00225	0.00138	0.00599	0.00416	0.01973	0.01149
60	0.00308	0.00182	0.00710	0.00436	0.02289	0.01235
65	0.00400	0.00257	0.00829	0.00588	0.02451	0.01607
70	0.00524	0.00357	0.01305	0.00993	0.02875	0.02211
75	0.00713	0.00526	0.02205	0.01722	0.03990	0.03037
80	0.00990	0.00814	0.03899	0.02902	0.06083	0.04725

Disability – Representative Rates

Age	Male	Female
30	0.00019	0.00024
35	0.00049	0.00081
40	0.00122	0.00155
45	0.00191	0.00218
50	0.00213	0.00229
55	0.00221	0.00179
60	0.00222	0.00135
65	0.00210	0.00118
70	0.00180	0.00114
75	0.00142	0.00118
80	0.00142	0.00118

Age Difference/ Family Assumptions	For future retirees (current employees), 100% are assumed to elect coverage, and 90% of electing retirees are assumed to choose spousal coverage.

Withdrawal – Representative Rates

Age/Service	0	5	10	15	30	50
25	0.16740	0.08680	0.07490	0.00000	0.00000	0.00010
30	0.16060	0.07900	0.06680	0.05810	0.00000	0.00010
35	0.15370	0.07110	0.05870	0.05030	0.00000	0.00000
40	0.14680	0.06320	0.05070	0.04240	0.00000	0.00000
45	0.14000	0.05540	0.04270	0.03470	0.01610	0.00000
50	0.13320	0.01160	0.00710	0.00320	0.00050	0.00000
55	0.12620	0.00970	0.00550	0.00230	0.00010	0.00000

Retirement – Representative Rates

Service/Age	50	55	60	65	70	75
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0040	0.0660	0.0660	0.1220	0.1270	1.0000
10	0.0090	0.0880	0.0880	0.1600	0.1650	1.0000
15	0.0190	0.1150	0.1150	0.2020	0.2090	1.0000
20	0.0290	0.1420	0.1420	0.2450	0.2530	1.0000
25	0.0490	0.1790	0.1790	0.2970	0.3060	1.0000
30	0.1000	0.2410	0.2410	0.3740	0.3850	1.0000
35	0.0000	0.2630	0.2630	0.4120	0.4240	1.0000
40	0.0000	0.2630	0.2630	0.4120	0.4240	1.0000
45	0.0000	0.0000	0.0000	0.4120	0.4240	1.0000
50	0.0000	0.0000	0.0000	0.4120	0.4240	1.0000

Assumption Changes

The expected claims were updated based on changes in premiums.

GLOSSARY OF ACTUARIAL TERMS

Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

- Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits, and

- Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

The Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

Annual OPEB Cost (AOC)

The annual accrual amount required by GASB 45, which includes the Annual Required Contribution as well as adjustments if a Net OPEB Obligation/(Asset) exists.

Annual Required Contribution (ARC)

The annual cost of the plan, on an accounting basis. The ARC is the sum of the Normal Cost and the amortization of unfunded actuarial accrued liability.

Implicit Subsidy

A retiree only population would require a much higher premium to account for higher expected claims at older ages. By offering retirees coverage at the same (lower) premium rate as active employees, employers are providing an additional benefit. This is known as an implicit rate subsidy under GASB 45.

Normal Cost

The Normal Cost is calculated as the annual amount necessary to fund each member's benefits from that member's Plan entry date to the end of his or her projected working life.

Net OPEB Obligation/(Asset)

The accumulated shortfall/(surplus) in actual contributions towards the ARC versus the Annual OPEB Cost.

Other Postemployment Benefits (OPEB)

Postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other healthcare benefits.

Unfunded Actuarial Accrued Liability

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule.

When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.