



July 23, 2016

Ms. Tammy Rudock  
General Manager  
Mid-Peninsula Water District  
3 Dairy Lane  
Belmont, CA 94002

Re: Mid-Peninsula Water District ("District") GASB 45 Valuation

Dear Ms. Rudock:

This report sets forth the results of our GASB 45 actuarial valuation of the District's retiree health insurance program as of July 1, 2015.

In June, 2004 the Governmental Accounting Standards Board (GASB) issued accrual accounting standards for retiree healthcare benefits, GASB 43 and GASB 45. GASB 43/45 require public employers such as the District to perform periodic actuarial valuations to measure and disclose their retiree healthcare liabilities for the financial statements of both the employer and the trust, if any, set aside to pre-fund these liabilities. The District must obtain actuarial valuations of its retiree health insurance program under GASB 43/45 not less frequently than once every three years.

To accomplish these objectives the District selected Demsey, Filliger and Associates (DF&A) to perform an actuarial valuation of the retiree health insurance program as of July 1, 2015. This report may be compared with the valuation performed by Steven Itelson as of July 1, 2012, to see how the liabilities have changed since the last valuation. We are available to answer any questions the District may have concerning the report.

### **Financial Results**

We have determined that the amount of actuarial liability for District-paid retiree benefits is \$3,627,044 as of July 1, 2015. This represents the present value of all benefits expected to be paid by the District for its current and future retirees. If the District were to place this amount in a fund earning interest at the rate of 5.5% per year, and all other actuarial assumptions were exactly met, the fund would have exactly enough to pay all expected benefits.

This includes benefits for 4 retirees as well as 18 active employees who may become eligible to retire and receive benefits in the future. It excludes employees hired after the valuation date.

When we apportion the \$3,627,044 into past service and future service components under the Projected Unit Credit Cost Method, the past service liability (or "Accrued Liability") component is \$2,452,610 as of July 1, 2015. This represents the present value of all benefits earned to date assuming that an employee earns retiree healthcare benefits ratably over his or her career. The \$2,452,610 is comprised of liabilities of \$1,637,434 for active employees and \$815,176 for retirees. The District has established a trust account with PARS (Public Agency Retirement Services) for the pre-funding of retiree healthcare benefits. Trust assets have an actuarial value of \$432,917 as of July 1, 2015, so the Unfunded Accrued Liability (called the UAL, equal to the AL less assets) is \$2,019,693.

We have determined that the District's "Annual Required Contributions", or "ARC", for the fiscal year 2015-16, is \$259,428. The \$259,428 is comprised of the present value of benefits accruing in the current year, called the "Service Cost", and a 30-year amortization of the UAL. We estimate that the District paid approximately \$60,488 for the 2015-16 fiscal year in healthcare costs for its retirees, so the difference between the accrual accounting expense (ARC) and pay-as-you-go is an increase of \$198,940.

There are two adjustments to the ARC that are required in order to determine the District's Annual OPEB Cost (AOC) for the 2015-16 fiscal year. We have calculated these adjustments based on a Net OPEB Obligation of \$4,565 as of June 30, 2015, resulting in an AOC for 2015-16 of \$259,365.

We show these numbers in the table on the next page and in Exhibit I. All amounts are net of expected future retiree contributions, if any.

**Mid-Peninsula Water District**  
**Annual Liabilities and Expense under**  
**GASB 45 Accrual Accounting Standard**  
**Projected Unit Credit Cost Method**

Item	Amounts for Fiscal 2015-16
Present Value of Future Benefits (PVFB)	
Active	\$2,811,868
Retired	<u>815,176</u>
<b>Total: PVFB</b>	<b>\$3,627,044</b>
Accrued Liability (AL)	
Actives	\$1,637,434
Retired	<u>815,176</u>
<b>Total: AL</b>	<b>\$2,452,610</b>
Assets	<u>(432,917)</u>
<b>Total: Unfunded AL</b>	<b>\$2,019,693</b>
Annual Required Contributions (ARC)	
Service Cost At Year-End	\$120,462
30-year Amortization of Unfunded AL	<u>138,966</u>
<b>Total: ARC</b>	<b>\$259,428</b>
Adjustments to ARC	
Interest on Net OPEB Obligation*	251
Adjustment to ARC*	<u>(314)</u>
<b>Total: Annual OPEB Cost (AOC) for 2015-16</b>	<b>\$259,365</b>

\*Amounts based on June 30, 2015 Net OPEB Obligation of \$4,565.

The ARC of \$259,428, shown above, should be used for the 2015-16 and 2016-17 fiscal years, but the Annual OPEB Cost for 2016-17 must include an adjustment based on the Net OPEB Obligation as of the end of the preceding fiscal year, which is not known precisely in advance.

When the District begins preparation of the June 30, 2016 government-wide financial statements, DF&A will provide the District and its auditors with complimentary assistance in preparation of footnotes and required supplemental information for compliance with GASB 45 (and GASB 43, if applicable).

We determined the July 1, 2015 actuarial asset value of \$432,917 by using the market value of the PARS trust account as of June 30, 2015, as reported to us by the District, without adjustment.

## Differences from Prior Valuation

The most recent prior valuation was completed as of July 1, 2012 by Steven Itelson. The AL (Accrued Liability) as of that date was \$1,517,700, compared to \$2,452,610 as of July 1, 2015. In this section, we provide a reconciliation between the two numbers so that it is possible to trace the AL from one actuarial report to the next.

Several factors have caused the AL to change since 2012. The AL increases as employees accrue more service and get closer to receiving benefits. There are actuarial gains/losses from one valuation to the next, and changes in actuarial assumptions and methodology for the current valuation. To summarize, the most important changes were as follows:

1. There was a net gain (a decrease in the AL) of \$68,726 due to the changes in retiree health provisions scheduled to take effect on January 1, 2017.
2. We lowered the discount rate from 7.0% to 5.5% to reflect the target rate of return for the PARS Moderately Conservative investment strategy applicable to the District's trust assets. This change caused an increase in the AL of \$512,772.
3. There was a net loss (an increase in the AL) of \$244,462 from all other causes, including changes in demographic and other actuarial assumptions since the prior valuation.

The estimated changes to the AL from July 1, 2012 to July 1, 2015 may be summarized as follows:

<b>Changes to AL</b>	<b>AL</b>
AL as of 7/1/12	<b>\$1,517,700</b>
Passage of time	246,402
Plan changes effective 1/1/17	(68,726)
Change discount rate	512,772
Net loss from all other causes	<u>244,462</u>
AL as of 7/1/15	<b>\$2,452,610</b>

## Funding Schedules

There are many ways to approach the pre-funding of retiree healthcare benefits. In the *Financial Results* section, we determined the annual expense for all District-paid benefits. The expense is an orderly methodology, developed by the GASB, to account for retiree healthcare benefits. This amount will fluctuate from year to year based on the asset performance and as the population matures. However, the GASB 45 expense has no direct relation to amounts the District may set aside to pre-fund healthcare benefits.

The table on the next page provides the District with three alternative schedules for funding (as contrasted with expensing) retiree healthcare benefits. The schedules all assume that the retiree fund earns 5.5% per annum on its investments, a starting PARS trust balance of \$432,917 as of July 1, 2015, and that contributions and benefits are paid mid-year.

The schedules are:

1. A level contribution amount for the next 20 years.
2. A level percent of the Unfunded Accrued Liability.
3. A constant percentage (3%) increase for the next 20 years.

We provide these funding schedules to give the District a sense of the various alternatives available to it to pre-fund its retiree healthcare obligation. The three funding schedules are simply three different examples of how the District may choose to spread its costs.

By comparing the schedules, you can see the effect that early pre-funding has on the total amount the District will eventually have to pay. Because of investment earnings on fund assets, the earlier contributions are made, the less the District will have to pay in the long run. Of course, the advantages of pre-funding will have to be weighed against other uses of the money.

The table on the following page shows the required annual outlay under the pay-as-you-go method and each of the above schedules. **The three funding schedules include the "pay-as-you-go" costs; therefore, the amount of pre-funding is the excess over the "pay-as-you-go" amount.**

These numbers are computed on a closed group basis, assuming no new entrants, and using unadjusted premiums. We use unadjusted premiums for these funding schedules because we do not recommend that the District pre-fund for the full age-adjusted costs reflected in the GASB 45 liabilities shown in the first section of this report. If the District's premium structure changes in the future to explicitly charge under-age 65 retirees for the full actuarial cost of their benefits, this change will be offset by a lowering of the active employee rates (all else remaining equal), resulting in a direct reduction in District operating expenses on behalf of active employees from that point forward. For this reason among others, we believe that pre-funding of the full GASB liability would be redundant.

**Mid-Peninsula Water District**

**Sample Funding Schedules (Closed Group)**

**Starting Trust Balance of \$432,917 as of July 1, 2015**

<b>Fiscal Year</b>	<b>Pay-as-you-go</b>	<b>Level Contribution for 20 years</b>	<b>Level % of Unfunded Liability</b>	<b>Constant Percentage Increase</b>
2015	\$60,488	\$275,445	\$422,249	\$215,990
2016	67,502	275,445	368,783	222,470
2017	69,608	275,445	323,963	229,144
2018	77,062	275,445	286,154	236,018
2019	82,011	275,445	254,637	243,099
2020	88,753	275,445	228,291	250,392
2021	103,302	275,445	206,434	257,903
2022	112,254	275,445	188,824	265,641
2023	127,508	275,445	174,451	273,610
2024	141,525	275,445	163,145	281,818
2025	158,010	275,445	154,320	290,273
2026	172,969	275,445	147,676	298,981
2027	191,787	275,445	142,744	307,950
2028	209,420	275,445	139,393	317,189
2029	220,176	275,445	137,253	326,704
2030	240,532	275,445	135,755	336,506
2031	258,897	275,445	135,182	346,601
2032	278,065	275,445	135,223	356,999
2033	294,311	275,445	135,738	367,709
2034	310,279	275,445	136,456	378,740
2035	329,796	0	137,264	0
2036	339,899	0	138,204	0
2037	359,543	0	138,841	0
2038	376,209	0	139,488	0
2039	392,735	0	139,955	0
2040	404,219	0	140,185	0
2041	419,841	0	139,987	0
2042	432,674	0	139,476	0
2043	443,888	0	138,549	0
2044	453,287	0	137,159	0
2045	452,027	0	135,272	0
2046	454,140	0	132,684	0
2047	455,952	0	129,559	0
2048	454,407	0	125,945	0
2049	450,916	0	121,839	0
2050	445,462	0	117,277	0
2055	391,499	0	89,266	0
2060	307,758	0	55,880	0
2065	214,363	0	24,794	0
2070	127,557	0	11,016	0

Note to auditor: when calculating the employer OPEB contribution for the year ending on the statement date, we recommend multiplying the actual District-paid premiums on behalf of retirees by a factor of 1.2840 to adjust for the implicit subsidy.

**Actuarial Assumptions**

In order to perform the valuation, the actuary must make certain assumptions regarding such items as rates of employee turnover, retirement, and mortality, as well as economic assumptions regarding healthcare inflation and interest rates. Our assumptions are based on a standard set of assumptions we have used for similar valuations, modified as appropriate for the District. For example, turnover rates are taken from a standard actuarial table, T-5, without adjustment. This matches the District's historic turnover patterns. Retirement rates were also based on recent District retirement patterns. Both assumptions should be reviewed in the next valuation to see if they are tracking well with experience.

The discount rate of 5.5% is based on our best estimate of expected long-term plan experience. It is in accordance with our understanding of the guidelines for selection of this rate under GASB 45 for funded plans such as the District's. The healthcare trend rates are based on our analysis of recent District experience and our knowledge of the general healthcare environment.

A complete description of the actuarial assumptions used in the valuation is set forth in the "Actuarial Assumptions" section.

**Projected Annual Pay-as-you go Costs**

As part of the valuation, we prepared a projection of the expected annual cost to the District to pay benefits on behalf of its retirees on a pay-as-you-go basis. These numbers are computed on a closed group basis, assuming no new entrants, and are net of retiree contributions. Projected pay-as-you-go costs for selected years are as follows:

<b>FYB</b>	<b>Pay-as-you-go</b>
2015	\$60,488
2016	67,502
2017	69,608
2018	77,062
2019	82,011
2020	88,753
2025	158,010
2030	240,532
2035	329,796
2040	404,219
2045	452,027
2050	445,462
2055	391,499
2060	307,758
2065	214,363
2070	127,557

## Net OPEB Obligation and Annual OPEB Cost (AOC)

Exhibit I shows a development of the District's Net OPEB Obligation as of June 30, 2012 through June 30, 2015, and the Annual OPEB Cost ("AOC") for the fiscal years 2012-13 through 2015-16.

### Certification

The actuarial certification, including a caveat regarding limitations of scope, if any, is contained in the "Actuarial Certification" section at the end of the report.

We have enjoyed working with the District on this report, and are available to answer any questions you may have concerning any information contained herein.

Sincerely,  
DEMSEY, FILLIGER AND ASSOCIATES

A handwritten signature in cursive script that reads "T. Louis Filliger".

T. Louis Filliger, FSA, EA, MAAA  
Partner & Actuary

## **Benefit Plan Provisions**

Mid-Peninsula Water District provides health benefits for employees and qualified dependents (and also for retirees and their dependents) through the Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA). All current retirees are in the Anthem Blue Cross Classic Plan (PPO), but four other Anthem options are offered (Advantage PPO, CalCare HMO, Value HMO, and Consumer Driven Health Plan) as well as Kaiser North. Employees and retirees also receive dental and vision coverage through ACWA. Retirees must enroll in Medicare Parts A and B once they become eligible to do so, and the retirees are then moved into a corresponding Medicare Supplement plan under ACWA.

In order to be eligible to retire with District-paid health benefits, an employee must have attained age 55 and completed 20 years of service with the District, and must retire from the District under CalPERS. Benefits vary by tier as follows:

Tier 1 (hired prior to June 27, 2008): 100% of medical, dental and vision premiums paid by the District for the lifetime of the retiree and the retiree's spouse, surviving spouse, domestic partner or surviving domestic partner at the time the retiree terminates employment.

Tier 2 (hired between June 27, 2008 and September 26, 2014): 100% of the medical, dental and vision premiums paid by the District for the lifetime of the retiree, with the dollar amount frozen at the time of retirement. Spousal coverage is not provided.

Tier 3 (hired on or after September 26, 2014): 50% of the medical, dental, and vision premiums for the lifetime of the retiree only, with the dollar amount frozen at the time of retirement. Spousal coverage is not provided.

Effective for retirements on or after January 1, 2017, the District's contribution will be limited to the lowest cost health plan offered, with the retiree paying the cost of a more expensive plan if selected. The eligibility provisions will also change for all 3 tiers to the later of age 50 and 15 years of service. Retirees with fewer than 20 years of service at retirement will have benefits permanently reduced by 25%, that is, the District will contribute 75% of the amounts described above. The freeze in the year of retirement will no longer affect Tier 2 retirees. These changes have been taken into account in the present valuation since they have already been contractually agreed to as of the valuation date.

The District's General Manager becomes eligible for 100% District-paid benefits for her lifetime only, after completion of 7 1/2 years of service with the District.

ACWA charges blended rates for employees and non-Medicare eligible retirees, giving rise to an implicit subsidy, which has been taken into account in the claims costs used in this valuation.

**Valuation Data**

Age distribution of retirees and surviving spouses included in the valuation

Age	Count
Under 55	0
55-59	0
60-64	2
65-69	0
70-74	0
75-79	0
80-84	0
85-89	2
90-94	0
95+	<u>0</u>
Total	4
Average Age	75.00

Age/years of service distribution of active employees included in the valuation

Years →	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<u>Age</u>									
< 25	0								0
25-29	0	0							0
30-34	0	0	0	1					1
35-39	0	0	1	1					2
40-44	0	1	0	1	1				3
45-49	0	1	1	0	0	0			2
50-54	1	0	1	1	1	0	0		4
55-59	3	0	1	0	0	1	0	0	5
60-64	0	0	0	0	0	0	0	0	1
65+	<u>0</u>								
Total	4	2	4	5	2	1	0	0	18

Average Age: 48.78  
Average Service: 12.39

## Actuarial Assumptions

Valuation Date:	July 1, 2015
Actuarial Cost Method:	Projected Unit Credit
Discount Rate:	5.5% per annum
Return on Assets:	5.5% per annum
Amortization Method:	30-year level dollar; open period
Pre-retirement Turnover:	According to the Crocker-Sarason Table T-5 less mortality, without adjustment. Sample rates are as follows:

Age	Turnover (%)
25	7.7%
30	7.2
35	6.3
40	5.2
45	4.0
50	2.6
55	0.9

Pre-retirement Mortality:	RP-2014 Employee Mortality, without projection. Sample deaths per 1,000 employees are as follows:
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Age	Males	Females
25	0.48	0.17
30	0.45	0.22
35	0.52	0.29
40	0.63	0.40
45	0.97	0.66
50	1.69	1.10
55	2.79	1.67
60	4.69	2.44

Post-retirement Mortality:	RP-2014 Healthy Annuitant Mortality, without projection. Sample deaths per 1,000 retirees are as follows:
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Age	Males	Females
55	5.74	3.62
60	7.78	5.19
65	11.01	8.05
70	16.77	12.87
75	26.83	20.94
80	44.72	34.84
85	77.50	60.50
90	135.91	107.13

<b>Actuarial Assumptions (Continued)</b>
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Claim Cost per Retiree or Spouse:

Age	Medical/Rx	Dental/Vision
50	\$9,537	\$815
55	11,056	815
60	12,817	815
64	14,426	815
65	4,507	815
70	4,855	815
75	5,229	815

Medical/Rx costs reduced by 15.8% beginning in calendar 2017 to reflect cost of lowest plan.

Retirement Rates:

Age	Pct. Retiring*
50	2.0%
51	3.0
52	4.0
53	5.0
54	6.0
55	8.0
56	10.0
57	12.0
58	14.0
59	16.0
60	18.0
61	20.0
62	21.0
63	22.0
64	24.0
65	100.0

\*Of those having met the eligibility for District-paid benefits. The percentage refers to the probability that an active employee reaching the stated age will retire within the following year. Rates below age 55 do not apply until January 1, 2017.

Trend Rate:

Healthcare costs were assumed to increase according to the following schedule:

FYB	Medical/Rx	Dental/Vision
2015	8.0%	4.0%
2016	7.0	4.0
2017	6.0	4.0
2018+	5.0	4.0

Percent Married:

Future Tier 1 retirees: 70% at retirement, with male spouses assumed 3 years older than female spouses. For current retirees, actual dependent data was used. 100% of eligible tier 1 surviving spouses assumed to elect survivor coverage.

## Actuarial Certification

The results set forth in this report are based on our actuarial valuation of the health and welfare benefit plans of the Mid-Peninsula Water District ("District") as of July 1, 2015.

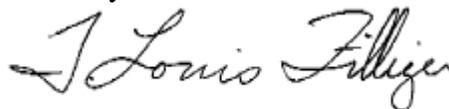
The valuation was performed in accordance with generally accepted actuarial principles and practices. We relied on census data for active employees and retirees provided to us by the District in March, 2016. We also made use of claims, premium, expense, and enrollment data, and copies of relevant sections of healthcare documents provided to us by the District, as well as trust account values as reported to the District by PARS.

The assumptions used in performing the valuation, as summarized in this report, and the results based thereupon, represent our best estimate of the actuarial costs of the program under GASB 43 and GASB 45, and the existing and proposed Actuarial Standards of Practice for measuring post-retirement healthcare benefits. We have assumed no post-valuation mortality improvements, consistent with our belief that there will be no further significant, sustained increases in life expectancy in the United States over the projection period covered by the valuation.

Throughout the report, we have used unrounded numbers, because rounding and the reconciliation of the rounded results would add an additional, and in our opinion unnecessary, layer of complexity to the valuation process. By our publishing of unrounded results, no implication is made as to the degree of precision inherent in those results. Clients and their auditors should use their own judgment as to the desirability of rounding when transferring the results of this valuation report to the clients' financial statements.

The undersigned actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Certified by:



T. Louis Filliger, FSA, EA, MAAA Date: 7/23/16  
Partner & Actuary

**Mid-Peninsula Water District  
Development of Annual OPEB Costs**

**Exhibit I**

	<b>Amount</b>
<b>Net OPEB (Asset) 6/30/2012</b>	<b>(68,234)</b>
ARC for 2012-13	124,400
Interest on Net OPEB (Asset)	(4,776)
Amortization adjustment to ARC	<u>4,124</u>
<b>Annual OPEB Cost 2012-13</b>	<b>123,748</b>
Employer contribution	<u>(78,546)</u>
Change in Net OPEB (Asset) 2012-13	45,202
Net OPEB (Asset) 6/30/2012	<u>(68,234)</u>
<b>Net OPEB (Asset) 6/30/2013</b>	<b>(23,032)</b>
ARC for 2013-14	151,000
Interest on Net OPEB (Asset)	(1,359)
Amortization adjustment to ARC	<u>1,392</u>
<b>Annual OPEB Cost 2013-14</b>	<b>151,033</b>
Employer contribution	<u>(147,344)</u>
Change in Net OPEB (Asset) 2013-14	3,689
Net OPEB (Asset) 6/30/2013	<u>(23,032)</u>
<b>Net OPEB (Asset) 6/30/2014</b>	<b>(19,343)</b>
ARC for 2014-15	155,500
Interest on Net OPEB (Asset)	(1,141)
Amortization adjustment to ARC	<u>1,169</u>
<b>Annual OPEB Cost 2014-15</b>	<b>155,528</b>
Employer contribution	<u>(131,620)</u>
Change in Net OPEB Obligation 2014-15	23,908
Net OPEB (Asset) 6/30/2014	<u>(19,343)</u>
<b>Net OPEB Obligation 6/30/2015</b>	<b>4,565</b>
ARC for 2015-16	259,428
Interest on Net OPEB Obligation	251
Amortization adjustment to ARC	<u>(314)</u>
<b>Annual OPEB Cost 2015-16</b>	<b>259,365</b>