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July 31, 2014

Carol Pratt
Town Accountant
Town of Medway
155 Village Street
Medway, MA 02053

RE: July 1, 2013 Actuarial Valuation of Other Postemployment Benefits

Dear Carol,

Enclosed are two copies of the report covering the July 1, 2013 valuation of postretirement benefits offered to current and future retirees of the Town of Medway, MA.

The financial results of the actuarial valuation are summarized in the report. The Executive Summary highlights the results of the valuation. Additional information summarizing census information, actuarial assumptions, and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All calculations are made in accordance with our understanding of the provisions of the Statement of Governmental Accounting Standards Board Number 45 (GASB 45).

Please call me if you have any questions.

Sincerely,

USI CONSULTING GROUP

A handwritten signature in dark ink, appearing to read "R. Webb".

Robert W. Webb, FSA, EA, MAAA
Vice President and Actuary

Enclosures



**Other Postemployment Benefits
GASB 45 Actuarial Valuation
As of July 1, 2013**

For:

Town of Medway, MA

Prepared by:
The USI Consulting Group

July 31, 2014



July 31, 2014

Town of Medway
155 Village Street
Medway, MA 02053

RE: July 1, 2013 Actuarial Valuation of Other Postemployment Benefits

We enclose the report covering the actuarial valuation of postemployment benefits other than Pension provided to the employees of the Town of Medway, MA as of July 1, 2013. The numbers presented in this report reflect the compliance by the Town of Medway, MA with the Statement of Governmental Accounting Standard No. 45 (GASB 45).

The financial results of the actuarial valuation are summarized in the report. The Executive Summary highlights the results of the valuation, including the calculation of the Annual OPEB Cost (expense) for the fiscal year beginning July 1, 2013. This valuation provides financial information that may be used to meet the requirements of GASB 45 for fiscal years ending June 30, 2014 and June 30, 2015.

Additional information summarizing census information, actuarial assumptions, and the methodology for developing them, as well as a glossary of selected terms used in this study, are also included in the report.

All calculations are made in accordance with our understanding of the provisions of the Statement of Governmental Accounting Standards Board Number 45 (GASB 45). We believe this report provides all of the information your auditor requires. We would appreciate a copy of the footnote to your financial statement related to the postretirement benefits.

Respectfully submitted,

USI Consulting Group

A handwritten signature in black ink, appearing to read "Robert W. Webb".

Robert W. Webb, FSA, EA, MAAA
Vice President and Actuary

USI Consulting Group

A handwritten signature in black ink, appearing to read "Denise Reed".

Denise Reed
Actuarial Consultant



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Section I

Executive Summary

The section presents the results of the July 1, 2013 valuation. The first part of this section provides a brief summary of key valuation results, and includes the actuarial certification.

The Executive Summary Detail provides a detailed development of the expenses and liabilities. Items I through IV show the development of the Annual Required Contribution (ARC). Items V through VIII show the calculation of the Annual OPEB Cost. Item IX shows the expected benefits payable to retirees during the fiscal year.

EXECUTIVE SUMMARY

Introduction

This report details the development of the Annual OPEB Costs for the Fiscal Year ending June 30, 2014. Estimated June 30, 2014 and June 30, 2015 disclosures are included in Section III.

The liabilities developed in this report are only valid for purposes of meeting employer accounting requirements as required by Statement of Governmental Accounting Standards Number 45 (GASB 45). Liabilities developed for other purposes could be significantly different than those shown in this report.

Summary of Results

The Actuarial Accrued Liability and Normal Cost are calculated as of the valuation date. The Annual OPEB Cost and Expected Benefit Payments are for the year beginning on the valuation date. Additional detail is developed in the exhibits included in this actuarial valuation report.

Fiscal Year Ending June 30, 2014

<i>Beginning of Year Net OPEB Obligation (NOO)</i>	\$15,097,892
<i>Actuarial Accrued Liability (AAL)</i>	\$38,407,572
<i>Actuarial Value of Assets</i>	\$50,489
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	\$38,357,083
<i>Annual Required Contribution (30 year amortization)</i>	\$4,271,291
<i>Annual OPEB Cost</i>	\$3,940,458
<i>Expected Benefit Payments</i>	\$925,505

Fiscal Year Ending June 30, 2015

<i>Beginning of Year Net OPEB Obligation (NOO)</i>	\$18,062,845
<i>Actuarial Accrued Liability (AAL)</i>	\$40,863,877
<i>Actuarial Value of Assets</i>	\$100,588
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	\$40,763,289
<i>Annual Required Contribution (30 year amortization)</i>	\$4,513,444
<i>Annual OPEB Cost</i>	\$4,096,263
<i>Expected Benefit Payments</i>	\$1,072,732

Economic Assumptions

The employer, with the approval of the auditor, is responsible for selecting the economic assumptions as of the disclosure date. The following table details the selected economic assumptions for the current fiscal year:

<u>Assumption Selection Date</u>	<u>July 1, 2013</u>
<i>Funding Interest Rate*</i>	4.00%
<i>2013 Medical Trend Rates</i>	8.00%
<i>Ultimate Medical Trend Rate</i>	5.00%
<i>Year Ultimate Trend Rates Reached</i>	2019
<i>Annual Payroll Increase</i>	2.50%

* Reflects current funding policy (assumes no funding).

EXECUTIVE SUMMARY (cont.)

Experience Gains and Losses

The plan had an accumulated loss over the past two years, primarily due to demographic experience. The impact of the loss on the actuarial accrued liability is provided in Appendix II

Changes included in current valuation

The assumption for the annual trend in the increase in health costs was reset at 8.0% for 2013, grading down 0.5% per annum to an ultimate trend rate of 5.0% for years 2019 and later. The mortality table was updated to the RP-2000 Combined Male and Female Fully Generational Mortality Table with projection scale AA. The discount rate was updated to 4.0% and the annual payroll increase was updated to 2.5%. The impact on plan liabilities is shown in Appendix II in Section V.

The new Health Care Reform Law is not expected to have a significant impact on the plan costs other than the provision for a “High Cost Plan Excise Tax”, which is effective in 2018. This provision of the law is described in more detail in Section IV. The impact on plan liabilities is shown in Appendix II in Section V.

Accounting for Postretirement Benefits

Government Accounting Standard No. 45 (GAS 45) addresses the accounting and financial reporting requirements by Employers for Postemployment Benefits Other than Pensions (OPEB). Employers that are required to follow Government Accounting Standards are subject to this standard. The statement does not require that the benefits be pre-funded, however, it defines a financial framework for assessing the costs, design, and sustainability of OPEBs offered by employers.

This report presents the annual expense required to be recognized by the plan sponsor for purposes of complying with the accounting requirements of Governmental Accounting Standards Board Statement No. 45. This report also provides the information needed to prepare the footnote in your financial statements related to your postretirement benefit plans.

The Annual Required Contribution (ARC) and Annual OPEB Cost are developed in the Executive Summary Detail included in this section. Section III presents the disclosure information, including the development of the Net OPEB obligation based on expected contributions / benefits to be paid during the fiscal year.

Actuarial Certification

The financial results of the actuarial valuation are summarized in this report. The valuation has been prepared as of July 1, 2013. The detail charts included in this Executive Summary highlight the results of the valuation. Additional information summarizing the census, actuarial assumptions, plan provisions, and a glossary of selected terms used in this study are also included in this report.

The valuation is based on the July 1, 2013 plan information and census data as provided by the employer. We have reviewed both the census and financial data for reasonableness, but have not completed an independent audit of the information.

EXECUTIVE SUMMARY (cont.)

Actuarial Certification (cont.)

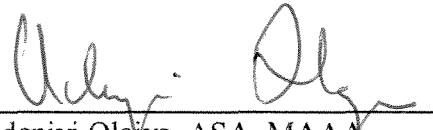
All costs, liabilities, and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. The calculations are consistent and undertaken with our understanding of Statement of Governmental Accounting Standards Number 45 (GAS 45). In our opinion, the actuarial assumptions are reasonable, taking in account the experience of the plan and reasonable expectations and, individually represent our best estimate of the anticipated experience under the plan.

I have no relationship with the employer or the plan that would objectively impair, or appear to impair, my ability to perform the work detailed in this report.

I certify that I am a member of the American Academy of Actuaries and meet its Qualification Standards to provide an actuarial opinion in accordance with GASB 45.



Robert W. Webb, FSA, EA, MAAA
Vice President and Actuary



Adeniyi Olajide, ASA, MAAA
Associate Vice President and Actuary

EXECUTIVE SUMMARY DETAIL - A
GASB 45 LIABILITIES, ANNUAL REQUIRED CONTRIBUTION AND ANNUAL OPEB COST
JULY 1, 2013 RESULTS BY GROUP

	<u>Teachers</u>	<u>Non-Teachers</u>	<u>Town</u>	<u>Solid Waste</u>	<u>Sewer</u>	<u>Water</u>	<u>EMS</u>	<u>Retiree School</u>	<u>Retiree Town</u>	<u>Total</u>
I. Present value of Future benefits										
A. Retirees/Disableds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,708,153	\$2,499,693	\$15,207,846
B. Active Employees	<u>\$22,079,323</u>	<u>\$9,462,268</u>	<u>\$8,312,025</u>	<u>\$464,954</u>	<u>\$298,569</u>	<u>\$704,511</u>	<u>\$474,741</u>	<u>\$0</u>	<u>\$0</u>	<u>\$41,796,391</u>
C. Total	\$22,079,323	\$9,462,268	\$8,312,025	\$464,954	\$298,569	\$704,511	\$474,741	\$12,708,153	\$2,499,693	\$57,004,237
II. Actuarial Accrued Liability										
A. Retirees/Disableds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,708,153	\$2,499,693	\$15,207,846
B. Active Employees	<u>\$12,227,568</u>	<u>\$5,408,705</u>	<u>\$4,587,440</u>	<u>\$276,780</u>	<u>\$163,704</u>	<u>\$328,969</u>	<u>\$206,560</u>	<u>\$0</u>	<u>\$0</u>	<u>\$23,199,726</u>
C. Total	\$12,227,568	\$5,408,705	\$4,587,440	\$276,780	\$163,704	\$328,969	\$206,560	\$12,708,153	\$2,499,693	\$38,407,572
III. Actuarial Assets	\$16,074	\$7,110	\$6,030	\$364	\$215	\$432	\$272	\$16,706	\$3,286	\$50,489
IV. Unfunded Actuarial Accrued Liability (UAAL)	\$12,211,494	\$5,401,595	\$4,581,410	\$276,416	\$163,489	\$328,537	\$206,288	\$12,691,447	\$2,496,407	\$38,357,083
V. Annual Required Contribution (ARC)										
A. Normal Cost	\$1,024,006	\$432,565	\$292,955	\$20,218	\$15,848	\$40,191	\$15,580	\$0	\$0	\$1,841,363
B. Supplemental Cost	\$726,966	\$321,564	\$272,738	\$16,455	\$9,732	\$19,558	\$12,281	\$755,538	\$148,614	\$2,283,446
C. Compound Interest to Year End	<u>\$67,896</u>	<u>\$29,464</u>	<u>\$22,477</u>	<u>\$1,448</u>	<u>\$1,023</u>	<u>\$2,389</u>	<u>\$1,114</u>	<u>\$17,823</u>	<u>\$2,848</u>	<u>\$146,482</u>
D. Annual Required Contribution [A. + B. + C.]	\$1,818,868	\$783,593	\$588,170	\$38,121	\$26,603	\$62,138	\$28,975	\$773,361	\$151,462	\$4,271,291
VI. Net OPEB Obligation	\$4,806,617	\$2,126,144	\$1,803,308	\$108,801	\$64,352	\$129,317	\$81,198	\$4,995,534	\$982,621	\$15,097,892
VII. Interest on net OPEB Obligation	\$192,265	\$85,046	\$72,132	\$4,352	\$2,574	\$5,173	\$3,248	\$199,821	\$39,305	\$603,916
VIII. Adjustment to ARC	(\$297,590)	(\$131,635)	(\$111,647)	(\$6,736)	(\$3,984)	(\$8,006)	(\$5,027)	(\$309,287)	(\$60,837)	(\$934,749)
IX. Annual OPEB Cost (Expense) [V.D. + VII. + VIII.]	\$1,713,543	\$737,004	\$548,655	\$35,737	\$25,193	\$59,305	\$27,196	\$663,895	\$129,930	\$3,940,458
X. Expected Benefit Payments										
A. Retirees/Disableds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$619,929	\$154,851	\$774,780
B. Active Employees	<u>\$107,092</u>	<u>\$35,046</u>	<u>\$7,540</u>	<u>\$966</u>	<u>\$17</u>	<u>\$60</u>	<u>\$4</u>	<u>\$0</u>	<u>\$0</u>	<u>\$150,725</u>
C. Total	\$107,092	\$35,046	\$7,540	\$966	\$17	\$60	\$4	\$619,929	\$154,851	\$925,505

EXECUTIVE SUMMARY DETAIL - B
GASB 45 LIABILITIES, ANNUAL REQUIRED CONTRIBUTION AND ANNUAL OPEB COST
JULY 1, 2014 RESULTS BY GROUP

	<u>Teachers</u>	<u>Non-Teachers</u>	<u>Town</u>	<u>Solid Waste</u>	<u>Sewer</u>	<u>Water</u>	<u>EMS</u>	<u>Retiree School</u>	<u>Retiree Town</u>	<u>Total</u>
I. Present value of Future benefits										
A. Retirees/Disableds	\$1,431,899	\$531,555	\$199,762	\$18,911	\$747	\$1,930	\$571	\$12,584,273	\$2,441,764	\$17,211,412
B. Active Employees	<u>\$23,222,058</u>	<u>\$9,958,310</u>	<u>\$8,537,829</u>	<u>\$463,654</u>	<u>\$309,746</u>	<u>\$789,328</u>	<u>\$493,155</u>	\$0	\$0	<u>\$43,774,080</u>
C. Total	\$24,653,957	\$10,489,865	\$8,737,591	\$482,565	\$310,493	\$791,258	\$493,726	\$12,584,273	\$2,441,764	\$60,985,492
II. Actuarial Accrued Liability										
A. Retirees/Disableds	\$1,431,899	\$531,555	\$199,762	\$18,911	\$747	\$1,930	\$571	\$12,584,273	\$2,441,764	\$17,211,412
B. Active Employees	<u>\$12,207,309</u>	<u>\$5,500,423</u>	<u>\$4,858,696</u>	<u>\$288,613</u>	<u>\$185,751</u>	<u>\$381,497</u>	<u>\$230,176</u>	\$0	\$0	<u>\$23,652,465</u>
C. Total	\$13,639,208	\$6,031,978	\$5,058,458	\$307,524	\$186,498	\$383,427	\$230,747	\$12,584,273	\$2,441,764	\$40,863,877
III. Actuarial Assets	\$32,023	\$14,165	\$12,014	\$725	\$429	\$862	\$541	\$33,282	\$6,547	\$100,588
IV. Unfunded Actuarial Accrued Liability (UAAL)	\$13,607,185	\$6,017,813	\$5,046,444	\$306,799	\$186,069	\$382,565	\$230,206	\$12,550,991	\$2,435,217	\$40,763,289
V. Annual Required Contribution (ARC)										
A. Normal Cost	\$1,049,606	\$443,379	\$300,279	\$20,723	\$16,244	\$41,196	\$15,970	\$0	\$0	\$1,887,397
B. Supplemental Cost	\$813,046	\$359,593	\$302,640	\$18,354	\$11,043	\$22,547	\$13,749	\$780,046	\$152,064	\$2,473,082
C. Compound Interest to Year End	<u>\$70,560</u>	<u>\$30,625</u>	<u>\$23,716</u>	<u>\$1,538</u>	<u>\$1,081</u>	<u>\$2,536</u>	<u>\$1,189</u>	<u>\$18,926</u>	<u>\$2,794</u>	<u>\$152,965</u>
D. Annual Required Contribution [A. + B. + C.]	\$1,933,212	\$833,597	\$626,635	\$40,615	\$28,368	\$66,279	\$30,908	\$798,972	\$154,858	\$4,513,444
VI. Net OPEB Obligation	\$6,397,218	\$2,821,047	\$2,338,439	\$143,211	\$89,314	\$188,132	\$108,121	\$5,022,924	\$954,439	\$18,062,845
VII. Interest on net OPEB Obligation	\$255,888	\$112,842	\$93,538	\$5,728	\$3,573	\$7,525	\$4,325	\$200,917	\$38,178	\$722,514
VIII. Adjustment to ARC	(\$403,636)	(\$177,997)	(\$147,547)	(\$9,037)	(\$5,636)	(\$11,871)	(\$6,822)	(\$316,928)	(\$60,221)	(\$1,139,695)
IX. Annual OPEB Cost (Expense) [V.D. + VII. + VIII.]	\$1,785,464	\$768,442	\$572,626	\$37,306	\$26,305	\$61,933	\$28,411	\$682,961	\$132,815	\$4,096,263
X. Expected Benefit Payments										
A. Retirees/Disableds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$613,802	\$164,446	\$778,248
B. Active Employees	<u>\$197,297</u>	<u>\$74,694</u>	<u>\$20,053</u>	<u>\$1,239</u>	<u>\$502</u>	<u>\$689</u>	<u>\$10</u>	\$0	\$0	<u>\$294,484</u>
C. Total	\$197,297	\$74,694	\$20,053	\$1,239	\$502	\$689	\$10	\$613,802	\$164,446	\$1,072,732

Section II

Census Information

This section details statistics related to the participants in the postretirement benefit plan.

CENSUS INFORMATION – A.

EMPLOYEE COUNTS

	<i>As of July 1, 2013</i>		
	<u>Actives</u>	<u>Retirees*</u>	<u>Total</u>
Male	94	57	151
Female	<u>216</u>	<u>95</u>	<u>311</u>
Total	310	152	462

COUNTS BY AGE AND ELIGIBILITY STATUS

ACTIVE EMPLOYEES :

<u>Age</u>	<u>Currently Eligible to Retire</u>	<u>Not Currently Eligible to Retire</u>	<u>Total</u>
29 and under	0	34	34
30 - 34	0	33	33
35 - 39	0	17	17
40 - 44	0	31	31
45 - 49	2	39	41
50 - 54	4	44	48
55 - 59	48	9	57
60 - 64	33	7	40
65 and over	7	2	9
Total	94	216	310

CURRENT RETIREES:

<u>Age</u>	<u>Retirees*</u>	<u>Spouses</u>	<u>Total</u>
54 and under	0	1	1
55-59	3	3	6
60-64	25	7	32
65-69	51	22	73
70-74	33	14	47
75-79	19	8	27
80-84	8	7	15
85-89	8	2	10
90 and over	5	1	6
Total	152	65	217

*Retirees includes Surviving Spouses

CENSUS INFORMATION – B.

AVERAGE AGE AND SERVICE

As of July 1, 2013

ACTIVE EMPLOYEES:

A. Average Age at Hire

Males	32.7
Females	38.5
Total	36.8

B. Average Service

Males	11.0
Females	11.1
Total	11.1

C. Average Current Age

Males	43.7
Females	49.6
Total	47.8

CURRENT RETIREES

D. Average Current Age

Males	71.1
Females	71.8
Total	71.5

Section III

Financial Statement Disclosure

This section provides the required information and notes to the Financial Statement Disclosure.

FINANCIAL STATEMENT DISCLOSURE

The GASB standard on accounting for postretirement benefits other than pensions requires the following disclosures in the financial statements with regard to the retiree benefit liability:

1.) A BRIEF DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PLANS:

- a. Plan Types:* **Medical**
Fully insured with the following plan choice: HMO Basic, PPO Value, POS Harvard Pilgrim, Medicare Preferred PDP2 and Medicare Preferred HMO Rx Plus.
- b. Eligibility:* **Group 1 (including Teachers):**
Retirees with at least 10 years of creditable service are eligible at age 55;
Retirees with at least 20 years of creditable service are eligible at any age.
Group 4:
Retirees with at least 10 years of creditable service are eligible at age 45;
Retirees with at least 20 years of creditable service are eligible at any age.
- c. Benefit/Cost Sharing:* The retiree contributes 50% towards the cost of their medical premium.
- d. Spouse Benefit:* Yes.
- e. Surviving Spouse Benefit:* Yes.
- f. Annual Medical Premiums:* Effective July 1, 2012 through June 30, 2013

<u>Plan</u>	<u>Individual</u>	<u>Family</u>
HMO Basic	\$7,657.68	\$19,619.28
PPO Value	\$14,917.44	\$37,332.00
POS HP	\$8,126.52	
Medicare Preferred PDP2	\$3,864.00	
Medicare Preferred Rx Plus	\$3,282.00	

FINANCIAL STATEMENT DISCLOSURE (cont.)

2.) GASB 45 DISCLOSURE REQUIREMENTS – ESTIMATED

A. Annual OPEB Cost and Net OPEB Obligation	<u>7/1/2013 - 6/30/2014</u>	<u>7/1/2014 - 6/30/2015</u>
1. Annual Required Contribution (ARC)	\$4,271,291	\$4,513,444
2. Interest on net OPEB Obligation	\$603,916	\$722,514
3. Adjustment to ARC	<u>(\$934,749)</u>	<u>(\$1,139,695)</u>
4. Annual OPEB Cost (Expense)	\$3,940,458	\$4,096,263
5. Contribution made (assumed middle of year) *	<u>(\$975,505)</u>	<u>(\$1,072,732)</u>
6. Increase in net OPEB Obligation	\$2,964,953	\$3,023,531
7. Net OPEB Obligation - beginning of year	<u>\$15,097,892</u>	<u>\$18,062,845</u>
8. Net OPEB Obligation - end of year	\$18,062,845	\$21,086,376

* Contribution made was assumed to equal Expected Benefit Payments plus a contribution of \$50,000 to the trust in FYE 2014

The annual OPEB Cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for fiscal years ending 2014 / 2015 are as follows:

<u>Fiscal Year Ending</u>	<u>Annual OPEB Cost</u>	<u>Percentage of Annual OPEB Cost Contributed</u>	<u>Net OPEB Obligation</u>	<u>Covered Payroll</u>	<u>OPEB Cost % of Pay</u>
6/30/2014	\$3,940,458	24.8%	\$18,062,845	\$18,282,384	21.6%
6/30/2015	\$4,096,263	26.2%	\$21,086,376	\$18,739,444	21.9%

B. Funded Status and Funding Progress

<u>Actuarial Valuation Date</u>	<u>Actuarial Value of Assets (a)</u>	<u>Actuarial Accrued Liability (AAL) (b)</u>	<u>Unfunded AAL (UAAL) (b - a)</u>	<u>Funded Ratio (a/b)</u>	<u>Covered Payroll (c)</u>	<u>UAAL as a Percentage of Covered Payroll (AAL) ((b - a) / c)</u>
7/1/2009	\$ -	\$29,616,372	\$29,616,372	0.0%	N/A	N/A
7/1/2011	\$ -	\$31,351,424	\$31,351,424	0.0%	N/A	N/A
7/1/2013	\$ 50,489	\$38,407,572	\$38,357,083	0.1%	\$18,282,384	210.1%

C. Methods and Assumptions

- Interest Rate	4.00%
- 2013 Medical Trend Rates	8.00%
- Ultimate Medical Trend Rate	5.00%
- Year Ultimate Trend Rates Reached	2019
- Actuarial Cost Method	Entry Age Normal
- The remaining amortization period at 06/30/2014	18.13
- Annual Payroll Increase	2.50%

Section IV

Actuarial Assumptions And Methodology

ACTUARIAL ASSUMPTIONS AND METHODOLOGY

1. **Funding Interest Rate:** An interest rate of 4.00% was used.
2. **Mortality:** Healthy participants: Mortality rates are from the RP-2000 combined fully generational mortality table with projection scale AA.
Disabled participants: Mortality rates are from the RP-2000 combined mortality table, set forward 2 years for Non-Teachers and set forward 3 years for Teachers.

3. **Retirement Rates:**

Group 1 (Not police or firefighters)

<u>Age</u>	<u>Male</u>	<u>Female</u>
45-49	0.0%	0.0%
50-51	1.0%	1.5%
52	1.0%	2.0%
53	1.0%	2.5%
54	2.0%	2.5%
55	2.0%	5.5%
56-57	2.5%	6.5%
58	5.0%	6.5%
59	6.5%	6.5%
60	12.0%	5.0%
61	20.0%	13.0%
62	30.0%	15.0%
63	25.0%	12.5%
64	22.0%	18.0%
65	40.0%	15.0%
66-67	25.0%	20.0%
68	30.0%	25.0%
69	30.0%	20.0%
70+	100.0%	100.0%

Group 4 (Police or Firefighters)

<u>Age</u>	<u>Rate</u>
45-49	1.0%
50-52	2.0%
53	5.0%
54	7.5%
55	15.0%
56-58	10.0%
59	15.0%
60-61	20.0%
62-63	25.0%
64	30.0%
65+	100.0%

ACTUARIAL ASSUMPTIONS AND METHODOLOGY (cont.)

3. Retirement Rates (cont.):

Teachers - Males/ Females

<u>Age</u>	<u>Years of Service</u>		
	<u>0-19</u>	<u>20-29</u>	<u>30+</u>
50-54	0% / 0%	1% / 1.5%	2% / 2%
55	3% / 2%	3% / 3%	6% / 6%
56	8% / 2%	5% / 3%	20% / 15%
57	15% / 8%	8% / 7%	35% / 30%
58	15% / 10%	10% / 7%	50% / 35%
59	20% / 15%	20% / 11%	50% / 35%
60	15% / 20%	20% / 16%	50% / 35%
61	30% / 20%	25% / 20%	50% / 35%
62	20% / 25%	30% / 30%	40% / 35%
63	30% / 24%	30% / 30%	40% / 40%
64	40% / 20%	30% / 30%	50% / 30%
65	40% / 30%	40% / 30%	50% / 35%
66-67	40% / 30%	30% / 30%	50% / 35%
68-69	40% / 30%	30% / 30%	50% / 30%
70+	100% / 100%	100% / 100%	100% / 100%

4. Disability Rates:

Group 1 (Not police or firefighters)

<u>Age</u>	<u>Rate</u>
20	0.01%
25	0.02%
30	0.03%
35	0.07%
40	0.10%
45	0.15%
50	0.19%
55	0.24%
60+	0.28%

Group 4 (Police or Firefighters)

<u>Age</u>	<u>Rate</u>
20	0.01%
25	0.02%
30	0.03%
35	0.17%
40	0.30%
45	0.78%
50	1.25%
55	1.20%
60+	0.85%

ACTUARIAL ASSUMPTIONS AND METHODOLOGY (cont.)

4. Disability Rates (cont.): Teachers

<u>Age</u>	<u>Rate</u>
20	0.00%
25	0.01%
30	0.01%
35	0.01%
40	0.01%
45	0.03%
50	0.05%
55	0.08%
60+	0.10%

5. Termination Rates: Group 1 (Not police or firefighters)

<u>Years of Service</u>	<u>Rate</u>
0	15.0%
1	12.0%
2	10.0%
3	9.0%
4	8.0%
5	7.6%
6	7.5%
7	6.7%
8	6.3%
9	5.9%
10	5.4%
11	5.0%
12	4.6%
13	4.1%
14	3.7%
15	3.3%
16-20	2.0%
21-29	1.0%
30+	0.0%

Group 4 (Police or firefighters)

<u>Years of Service</u>	<u>Rate</u>
0-10	1.5%
11+	0.0%

Teachers - Males/ Females

<u>Age</u>	<u>Years of Service</u>		
	<u>0-4</u>	<u>5-9</u>	<u>10+</u>
20	12.0% / 10.0 %	4.5% / 9.0%	1.0% / 5.0%
30	11.4% / 12.0%	4.5% / 9.0%	1.0% / 5.0%
40	9.7% / 11.0%	5.4% / 6.5%	1.7% / 2.9%
50	10.0% / 8.2%	4.8% / 4.2%	2.2% / 2.1%

ACTUARIAL ASSUMPTIONS AND METHODOLOGY (cont.)

6. **Health Care Trend Rates:** It was assumed that health care costs would increase in accordance with the trend rates in the following table:

<u>Year</u>	<u>Medical Rates</u>
2013	8.0%
2014	7.5%
2015	7.0%
2016	6.5%
2017	6.0%
2018	5.5%
2019+	5.0%

7. **Participation Rate:** It was assumed that 100% of current active employees would enroll in retiree medical insurance coverage.
8. **Percent Married:** It was assumed that 65% of the employees who elect retiree health care coverage for themselves would also elect coverage for their spouse upon retirement. It was assumed that male spouses are three years older than their wives and female spouses are three years younger than the retiree. For current retirees, actual census information was used.
9. **Per Capita Claims Cost:** Per Capita Claim Costs were developed by applying morbidity aging factors to the average premium rates reflecting the demographic characteristics of the insured group. Below are sample annual per capita claim costs used:

<u>Age</u>	<u>Male</u>	<u>Female</u>
40	\$5,651	\$7,912
45	\$6,706	\$8,419
50	\$8,051	\$9,287
55	\$9,776	\$10,144
60	\$11,790	\$11,302
65	\$3,524	\$2,995
70	\$4,084	\$3,227
75	\$4,401	\$3,474
80	\$4,739	\$3,745
85	\$5,093	\$4,029
90	\$5,473	\$4,335

10. **Administrative expenses:** Included in premiums used.
11. **Participant Salary Increases:** 3.0% annually

ACTUARIAL ASSUMPTIONS AND METHODOLOGY (cont.)

12. **Payroll Growth Rate:** 2.5% annually
13. **High Cost Plan Excise Tax:** Effective in 2018. The law apply a 40% tax to the cost of plan benefits in excess of statutory thresholds, which are \$10,200 for single coverage and \$27,500 for family coverage for Medicare eligible retirees, and \$11,850 for single coverage and \$30,950 for family coverage for retirees who are between ages 55 and 65. We assume the thresholds will start to increase in 2018 at the rate of 3.4%. The plan costs for pre 65 and post 65 benefits are based on the plans' premium costs adjusted for aging and trended at the health care trend rates shown above.

ACTUARIAL COST METHOD

An Actuarial Cost Method develops an orderly allocation of the actuarial present value of benefits payments over the working lifetime of the participants in the plan. The actuarial present value of benefits allocated to a particular fiscal year is called the Normal Cost. The actuarial present value of benefits allocated to all periods prior to a valuation date is called the Actuarial Accrued Liability. The Unfunded Actuarial Accrued Liability is amortized over future years in accordance with the employer's established accounting policy.

The Entry Age Actuarial Cost Method is used in this valuation. Under this method, the Actuarial Present Value of Projected Benefits of each individual included in the Actuarial Valuation is allocated on a level basis over future earnings of the individual between entry age and assumed exit age(s). The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

The amortization of the unfunded actuarial accrued liability may be determined in level dollar amounts or as a level percentage of projected payroll of active plan members. The total unfunded actuarial accrued liability may be amortized as one amount, or components of the total may be separately amortized. The equivalent single amortization period for all components combined may not exceed the maximum acceptable period of 30 years.

ADDITIONAL COMMENTS

The values in this GASB 45 valuation represent a closed group and do not reflect new entrants after the census collection date.

Medical premiums were adjusted to an annual basis and trended forward to the valuation date.

Section V

Appendices

APPENDIX - I.

ACTIVE EMPLOYEE BY AGE AND SERVICE

AS OF JULY 1, 2013

Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	2	0	0	0	0	0	0	0	0	2
25 - 29	29	3	0	0	0	0	0	0	0	32
30 - 34	12	13	8	0	0	0	0	0	0	33
35 - 39	7	4	4	2	0	0	0	0	0	17
40 - 44	13	3	6	9	0	0	0	0	0	31
45 - 49	10	15	7	7	0	2	0	0	0	41
50 - 54	8	12	19	5	2	1	1	0	0	48
55 - 59	1	8	23	17	5	1	0	2	0	57
60 - 64	1	6	12	11	4	1	0	1	4	40
65 - 69	1	1	1	2	0	0	0	1	1	7
70 - 74	0	0	2	0	0	0	0	0	0	2
75 - 79	0	0	0	0	0	0	0	0	0	0
80 - 84	0	0	0	0	0	0	0	0	0	0
85 and Over	0	0	0	0	0	0	0	0	0	0
Total	84	65	82	53	11	5	1	4	5	310

APPENDIX - II

RECONCILIATION OF ACTUARIAL ACCRUED LIABILITY

a. 7/1/2011 Actuarial Accrued Liability	\$31,351,424
b. 2011 Normal Cost	\$1,342,197
c. Interest Rate	4.50%
d. Interest on (a. + b.)	\$1,471,213
e. 2011 Expected Benefit Payments	(\$773,270)
f. Interest on e.	<u>(\$17,398)</u>
g. 7/1/2012 Expected Actuarial Accrued Liability (a. + b. + d. + e. + f.)	\$33,374,166
h. 2012 Normal Cost	\$1,409,307
i. Interest Rate	4.50%
j. Interest on (g. + h.)	\$1,565,256
k. 2012 Expected Benefit Payments	(\$899,177)
l. Interest on k.	<u>(\$20,231)</u>
m. 7/1/2013 Expected Actuarial Accrued Liability (g. + h. + j. + k. + l.)	\$35,429,321
n. Change in Actuarial Accrued Liability due to	
i. Demographic and plan cost changes	\$4,320
ii. Change in Actuarial Assumptions	\$2,748,945
iii. High Cost Plan Excise Tax	<u>\$224,986</u>
iv. Total	\$2,978,251
o. 7/1/2013 Actuarial Accrued Liability (m. + n. iv.)	\$38,407,572

APPENDIX - III

DEVELOPMENT OF AMORTIZATION PAYMENT

A. Prior Bases

1. Amortization Base Balance as of 7/1/2011	\$31,351,424
2. 2011 Amortization Payment	(\$1,841,829)
3. Interest	4.50%
4. Interest on (1) + (2)	<u>\$1,327,932</u>
5. Amortization Base Balance as of 7/1/2012 (1) + (2) + (4)	\$30,837,527
6. 2012 Amortization Payment	(\$1,959,207)
7. Interest	4.50%
8. Interest on (5) + (6)	<u>\$1,299,524</u>
9. Amortization Base Balance as of 7/1/2013 (5) + (6) + (8)	\$30,177,844
10. Remaining Amortization Period	17.39
11. Valuation Interest rate	4.00%
12. Assumed payroll growth	2.50%
13. 2013 Adjusted Amortization Amount	\$1,949,520

B. New Amortization Base

1. Experience (Gain)/Loss	\$4,320
2. Assumption Changes	\$2,748,945
4. High Cost Plan Excise Tax	\$224,986
5. Loss due to Funding timing	<u>\$5,200,988</u>
6. Total (1) + (2) + (3) + (4) + (5)	\$8,179,239
7. Remaining Amortization Period	30
8. Valuation Interest rate	4.00%
9. Assumed payroll growth	2.50%
10. Amortization Amount	\$333,926

C. Combined Bases

1. Amortization Base Balance as of 7/1/2013 (A.9. + B.6.)	\$38,357,083
2. 2013 Preliminary Total Amortization Amount (A.13. + B.10.)	\$2,283,446
3. 2013 Minimum Total Amortization Amount (30 year)	\$1,565,970
4. 2013 Total Amortization Amount (greater of 2. and 3.)	\$2,283,446

APPENDIX – IV

RECONCILIATION OF ACTUARIAL ASSETS

a. 7/1/2012 Actuarial Assets	\$24,958
b. Contributions	\$924,708
c. Expected Investment Return	\$1,123
d. Expected Benefit Payments	(\$899,177)
e. Expenses	<u>\$0</u>
f. 7/1/2013 Actuarial Assets	\$51,612
(a. + b. + c. + d. + e.)	
g. Contributions	\$975,505
h. Expected Investment Return	\$2,323
i. Expected Benefit Payments	(\$925,505)
j. Expenses	<u>\$0</u>
k. 7/1/2014 Actuarial Assets	\$103,935
(f. + g. + h. + j. + k.)	
l. 7/1/2014 Actual Assets	\$100,588
m. Asset Gain/(Loss) (l. - k.)	(\$3,347)

APPENDIX – V
PROJECTED BENEFIT PAYMENTS

<u>Year</u>	<u>Amount</u>	<u>Accumulated</u>	<u>Year</u>	<u>Amount</u>	<u>Accumulated</u>	<u>Year</u>	<u>Amount</u>	<u>Accumulated</u>
2013	\$ 925,505	\$ 925,505	2047	\$ 3,798,725	\$ 96,139,159	2081	\$ 672,101	\$ 168,577,455
2014	\$ 1,072,732	\$ 1,998,237	2048	\$ 3,587,297	\$ 99,726,456	2082	\$ 572,784	\$ 169,150,239
2015	\$ 1,196,908	\$ 3,195,145	2049	\$ 3,430,936	\$ 103,157,392	2083	\$ 482,859	\$ 169,633,098
2016	\$ 1,346,218	\$ 4,541,363	2050	\$ 3,256,186	\$ 106,413,578	2084	\$ 401,791	\$ 170,034,889
2017	\$ 1,488,337	\$ 6,029,700	2051	\$ 2,978,830	\$ 109,392,408	2085	\$ 330,712	\$ 170,365,601
2018	\$ 1,579,327	\$ 7,609,027	2052	\$ 2,883,742	\$ 112,276,150	2086	\$ 269,254	\$ 170,634,855
2019	\$ 1,660,070	\$ 9,269,097	2053	\$ 2,765,692	\$ 115,041,842	2087	\$ 216,909	\$ 170,851,764
2020	\$ 1,770,428	\$ 11,039,525	2054	\$ 2,677,324	\$ 117,719,166	2088	\$ 172,341	\$ 171,024,105
2021	\$ 1,899,084	\$ 12,938,609	2055	\$ 2,629,530	\$ 120,348,696	2089	\$ 135,610	\$ 171,159,715
2022	\$ 1,973,441	\$ 14,912,050	2056	\$ 2,588,810	\$ 122,937,506	2090	\$ 105,373	\$ 171,265,088
2023	\$ 2,153,967	\$ 17,066,017	2057	\$ 2,546,538	\$ 125,484,044	2091	\$ 80,880	\$ 171,345,968
2024	\$ 2,283,931	\$ 19,349,948	2058	\$ 2,518,923	\$ 128,002,967	2092	\$ 61,337	\$ 171,407,305
2025	\$ 2,414,519	\$ 21,764,467	2059	\$ 2,489,639	\$ 130,492,606	2093	\$ 45,896	\$ 171,453,201
2026	\$ 2,604,861	\$ 24,369,328	2060	\$ 2,457,099	\$ 132,949,705	2094	\$ 33,829	\$ 171,487,030
2027	\$ 2,720,537	\$ 27,089,865	2061	\$ 2,420,584	\$ 135,370,289	2095	\$ 24,577	\$ 171,511,607
2028	\$ 2,793,844	\$ 29,883,709	2062	\$ 2,381,545	\$ 137,751,834	2096	\$ 17,579	\$ 171,529,186
2029	\$ 2,934,679	\$ 32,818,388	2063	\$ 2,338,896	\$ 140,090,730	2097	\$ 12,374	\$ 171,541,560
2030	\$ 2,955,098	\$ 35,773,486	2064	\$ 2,291,413	\$ 142,382,143	2098	\$ 8,552	\$ 171,550,112
2031	\$ 3,060,155	\$ 38,833,641	2065	\$ 2,239,750	\$ 144,621,893	2099	\$ 5,810	\$ 171,555,922
2032	\$ 3,154,912	\$ 41,988,553	2066	\$ 2,182,869	\$ 146,804,762	2100	\$ 3,888	\$ 171,559,810
2033	\$ 3,166,104	\$ 45,154,657	2067	\$ 2,120,681	\$ 148,925,443	2101	\$ 2,565	\$ 171,562,375
2034	\$ 3,255,705	\$ 48,410,362	2068	\$ 2,052,427	\$ 150,977,870	2102	\$ 1,660	\$ 171,564,035
2035	\$ 3,331,091	\$ 51,741,453	2069	\$ 1,977,538	\$ 152,955,408	2103	\$ 1,063	\$ 171,565,098
2036	\$ 3,360,712	\$ 55,102,165	2070	\$ 1,896,335	\$ 154,851,743	2104	\$ 666	\$ 171,565,764
2037	\$ 3,446,194	\$ 58,548,359	2071	\$ 1,807,106	\$ 156,658,849	2105	\$ 404	\$ 171,566,168
2038	\$ 3,504,651	\$ 62,053,010	2072	\$ 1,709,352	\$ 158,368,201	2106	\$ 242	\$ 171,566,410
2039	\$ 3,577,621	\$ 65,630,631	2073	\$ 1,605,061	\$ 159,973,262	2107	\$ 126	\$ 171,566,536
2040	\$ 3,621,161	\$ 69,251,792	2074	\$ 1,491,489	\$ 161,464,751	2108	\$ 75	\$ 171,566,611
2041	\$ 3,686,974	\$ 72,938,766	2075	\$ 1,374,572	\$ 162,839,323	2109	\$ 39	\$ 171,566,650
2042	\$ 3,857,321	\$ 76,796,087	2076	\$ 1,253,137	\$ 164,092,460	2110	\$ 19	\$ 171,566,669
2043	\$ 3,834,987	\$ 80,631,074	2077	\$ 1,131,271	\$ 165,223,731	2111	\$ 9	\$ 171,566,678
2044	\$ 3,905,727	\$ 84,536,801	2078	\$ 1,010,508	\$ 166,234,239	2112	\$ 3	\$ 171,566,681
2045	\$ 3,950,986	\$ 88,487,787	2079	\$ 892,505	\$ 167,126,744	2113	\$ -	\$ 171,566,681
2046	\$ 3,852,647	\$ 92,340,434	2080	\$ 778,610	\$ 167,905,354	2114	\$ -	\$ 171,566,681

APPENDIX – VI

GLOSSARY

Actuarial Accrued Liability. The portion, as determined by a particular Actuarial Cost Method, of the present value of benefits which is not provided for by future Normal Costs.

Actuarial Cost Method. A procedure for determining the Actuarial Present Value of Total Projected Benefits and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

Actuarially Equivalent. Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Actuarial Present Value of Total Projected Benefits. The present value, as of the valuation date, of the cost of future benefits to be paid to employees, retirees, and covered dependents, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. It is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.

Annual OPEB Cost. The accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB Plan.

Annual Required Contributions of the Employer (ARC). The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters defined in GAS 45.

Investment Return Assumption (Discount Rate). The rate used to adjust a series of future benefit payments to reflect the time value of money.

Healthcare Cost Trend Rate. The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services and technological developments.

Net OPEB Obligation. The cumulative difference since the effective date of GAS 45 between the annual OPEB cost and the employer's contributions to the plan.

Normal Cost. The portion of the Actuarial Present Value of plan benefits which is allocated to a valuation year by the Actuarial Cost Method.

OPEB. Postemployment benefits other than pension benefits.

Pay-As-You-Go. The amount of the benefits paid out to plan participants during the year.

Per Capita Claims Cost. The current average annual cost of providing postretirement health care benefits per individual.

Supplemental Cost. The amount of the Annual Required Contribution attributable to the amortization of the unfunded Actuarial Accrued Liability.