

**City of Newburyport Other  
Postemployment Benefits Plan**

**GASB 45 Actuarial Valuation**

*as of*

July 1, 2012

For the fiscal years ending

June 30, 2013

June 30, 2014

Delivered January 2014

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January 30, 2014

*Personal and Confidential*

Mr. William B. Squillace  
City Auditor  
City of Newburyport  
City Hall  
60 Pleasant Street  
Newburyport, MA 01950

Dear Mr. Squillace:

We have performed an actuarial valuation of the City of Newburyport Other Postemployment Benefits Plan for the fiscal year ending June 30, 2013. The figures presented in this report reflect the adoption, by the City of Newburyport, of Statement No. 45 of the Governmental Accounting Standards Board ("GASB 45") effective July 1, 2008.

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates 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 costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We refer you to Section I of this report for a detailed summary and commentary on the results of the valuation and a comparison with the prior valuation. Section II is a summary of the plan provisions, and Section III describes the actuarial cost method and assumptions. Details for cost calculations, supporting data, and disclosures are provided in Exhibits A through C.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,

Parker E. Elmore, A.S.A., E.A., M.A.A.A.  
President & CEO

Enclosure

## SECTION I

### PRINCIPAL RESULTS OF THE VALUATION

**City of Newburyport**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Comparison of Plan Liabilities to Prior Valuation**

	<u>July 1, 2012</u>	<u>July 1, 2010</u>
I. Present Value of Future Benefits		
A. Actives	52,392,769	55,015,270
B. Retirees/Disabled	<u>24,156,238</u>	<u>40,442,638</u>
C. Total	76,549,007	95,457,908
II. Present Value of Future Normal Cost	28,619,206	30,597,717
III. Actuarial Accrued Liability (Projected Unit Credit)		
A. Actives	23,773,563	24,417,553
B. Retirees/Disabled	<u>24,156,238</u>	<u>40,442,638</u>
C. Total	47,929,801	64,860,191
IV. Plan Assets	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	47,929,801	64,860,191
VI. Funded Ratio	0.00%	0.00%
VII. Annual Covered Payroll	N/A	N/A
VIII. UAAL as % of Covered Payroll	N/A	N/A
IX. Net OPEB Obligation @ Beginning of Fiscal Year	15,905,529	9,810,764
X. Number of Eligible Participants		
A. Actives	602	596
B. Retirees/Disabled	<u>412</u>	<u>417</u>
C. Total	1,014	1,013
<b>For the Fiscal Year Ending:</b>	<u>June 30, 2013</u>	<u>June 30, 2011</u>
XI. Normal Cost	2,195,028	2,318,335
XII. Amortization of UAAL - 30 year flat dollar	4,141,817	4,141,817
XIII. Annual Required Contribution ('ARC') [ XI. + XII.]	6,336,845	6,460,152
XIV. Interest on Net OPEB Obligation	636,222	392,430
XV. Adjustment to Annual Required Contribution	(884,440)	(848,453)
XVI. Amortization of Actuarial (Gains) / Losses	(1,163,042)	(614,906)
XVII. Annual OPEB Cost [XIII. + XIV. + XV. + XVI.]	4,925,585	5,389,223
XVIII. Expected Employer Contribution	1,696,028	2,395,597
XIX. Percentage of Annual OPEB Cost Contributed	34.4%	44.5%
XX. Net OPEB Obligation at Beginning of Year (IX.)	15,905,529	9,810,764
XXI. Increase in Net OPEB Obligations (XVII. - XVIII.)	3,229,557	2,993,626
XXII. Net OPEB Obligation at End of Year (XX. + XXI.)	19,135,086	12,804,390
XXIII. Discount Rate	4.00%	4.00%

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

**City of Newburyport**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Plan Liabilities as of July 1, 2012**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Present Value of Future Benefits				
A. Actives	52,008,786	0	383,983	52,392,769
B. Retirees/Disabled	<u>23,423,994</u>	<u>0</u>	<u>732,244</u>	<u>24,156,238</u>
C. Total	75,432,780	0	1,116,227	76,549,007
II. Present Value of Future Normal Cost	28,444,113	0	175,093	28,619,206
III. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	23,564,673	0	208,890	23,773,563
B. Retirees/Disabled	<u>23,423,994</u>	<u>0</u>	<u>732,244</u>	<u>24,156,238</u>
C. Total	46,988,667	0	941,134	47,929,801
IV. Plan Assets	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	46,988,667	0	941,134	47,929,801
VI. Annual Covered Payroll	N/A	N/A	N/A	N/A
VII. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VIII. Net OPEB Obligation @ Beginning of Fiscal Year	15,593,213	0	312,316	15,905,529
IX. Number of Eligible Participants				
A. Actives	602	602	602	
B. Retirees/Disabled	<u>412</u>	<u>0</u>	<u>274</u>	
C. Total	1,014	602	876	

**For Fiscal Year Ending June 30, 2013**

X. Normal Cost	2,178,100	0	16,928	2,195,028
XI. Amortization of UAAL - 30 year flat dollar	4,060,490	0	81,327	4,141,817
XII. Annual Required Contribution ('ARC') [ X. + XI.]	6,238,590	0	98,255	6,336,845
XIII. Interest on Net OPEB Obligation	623,729	0	12,493	636,222
XIV. Adjustment to Annual Required Contribution	<b>(867,074)</b>	0	<b>(17,366)</b>	<b>(884,440)</b>
XV. Amortization of Actuarial (Gains) / Losses	<b>(1,140,205)</b>	0	<b>(22,837)</b>	<b>(1,163,042)</b>
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	4,855,040	0	70,545	4,925,585
XVII. Expected Employer Contribution	1,654,836	0	41,192	1,696,028
XVIII. Contribution to Trust Fund over 30 Years	0	0	0	0
XIX. Total Employer Contribution	1,654,836	0	41,192	1,696,028
XX. Percentage of Annual OPEB Cost Contributed	34.1%	0.0%	58.4%	34.4%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	15,593,213	0	312,316	15,905,529
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	3,200,204	0	29,353	3,229,557
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	18,793,417	0	341,669	19,135,086

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**City of Newburyport**  
**Plan Liabilities as of July 1, 2012**  
**Assuming maintain pay-as-you-go funding method**

	General Government Employees and Retirees	School Employees and Retirees	Sewer Employees and Retirees	Water Employees and Retirees	Total
I. Present Value of Future Benefits					
A. Actives	22,518,373	26,376,847	1,254,441	2,243,108	52,392,769
B. Retirees/Disabled	<u>10,723,211</u>	<u>12,045,491</u>	<u>388,902</u>	<u>998,634</u>	<u>24,156,238</u>
C. Total	33,241,584	38,422,338	1,643,343	3,241,742	76,549,007
II. Present Value of Future Normal Cost	11,995,822	14,918,510	622,471	1,082,403	28,619,206
III. Actuarial Accrued Liability (Projected Unit Credit)					
A. Actives	10,522,551	11,458,337	631,970	1,160,705	23,773,563
B. Retirees/Disabled	<u>10,723,211</u>	<u>12,045,491</u>	<u>388,902</u>	<u>998,634</u>	<u>24,156,238</u>
C. Total	21,245,762	23,503,828	1,020,872	2,159,339	47,929,801
IV. Plan Assets	0	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	21,245,762	23,503,828	1,020,872	2,159,339	47,929,801
VI. Annual Covered Payroll	N/A	N/A	N/A	N/A	N/A
VII. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A	N/A
VIII. Net OPEB Obligation	7,258,153	7,555,344	498,537	593,495	15,905,529
IX. Number of Eligible Participants					
A. Actives	224	341	13	24	602
B. Retirees/Disabled	<u>162</u>	<u>224</u>	<u>9</u>	<u>17</u>	<u>412</u>
C. Total	386	565	22	41	1,014
<b>For Fiscal Year Ending June 30, 2013</b>					
X. Normal Cost	857,016	1,194,148	56,738	87,126	2,195,028
XI. Amortization of UAAL - 30 year flat dollar	1,801,274	2,058,918	90,519	191,106	4,141,817
XII. Annual Required Contribution ("ARC") [ X. + XI.]	2,658,290	3,253,066	147,257	278,232	6,336,845
XIII. Interest on Net OPEB Obligation	290,326	302,214	19,942	23,740	636,222
XIV. Adjustment to Annual Required Contribution	(403,596)	(420,121)	(27,721)	(33,002)	(884,440)
XV. Amortization of Actuarial (Gains) / Losses	(515,539)	(570,333)	(24,772)	(52,398)	(1,163,042)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	2,029,481	2,564,826	114,706	216,572	4,925,585
XVII. Expected Employer Contribution	736,320	874,364	22,517	62,827	1,696,028
XVIII. Contribution to Trust Fund over 30 Years	0	0	0	0	0
XIX. Total Employer Contribution	736,320	874,364	22,517	62,827	1,696,028
XX. Percentage of Annual OPEB Cost Contributed	36.3%	34.1%	19.6%	29.0%	34.4%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	7,258,153	7,555,344	498,537	593,495	15,905,529
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	1,293,161	1,690,462	92,189	153,745	3,229,557
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	8,551,314	9,245,806	590,726	747,240	19,135,086

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

**City of Newburyport**  
**Detail of Plan Liabilities by Group and Dependency Status**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Plan Liabilities as of July 1, 2012**

	<u>Present Value of Future Benefits</u>	<u>Actuarial Accrued Liability (Projected Unit Credit)</u>	<u>Normal Cost</u>
<b>Actives</b>			
Under Age 65			
A. Participants	8,063,300	3,719,301	335,742
B. Spouses	<u>4,695,795</u>	<u>2,158,333</u>	<u>188,618</u>
C. Total	12,759,095	5,877,634	524,360
Age 65 and Over			
A. Participants	21,675,631	9,932,354	914,766
B. Spouses	<u>17,958,043</u>	<u>7,963,575</u>	<u>755,902</u>
C. Total	39,633,674	17,895,929	1,670,668
Actives Total			
A. Participants	29,738,931	13,651,655	1,250,508
B. Spouses	<u>22,653,838</u>	<u>10,121,908</u>	<u>944,520</u>
C. Total	52,392,769	23,773,563	2,195,028
<b>Retirees/Disabled</b>			
Under Age 65			
A. Participants	4,082,885	4,082,885	0
B. Spouses	<u>1,880,110</u>	<u>1,880,110</u>	<u>0</u>
C. Total	5,962,995	5,962,995	0
Age 65 and Over			
A. Participants	13,364,628	13,364,628	<u>0</u>
B. Spouses	<u>4,828,615</u>	<u>4,828,615</u>	<u>0</u>
C. Total	18,193,243	18,193,243	0
Retirees/Disabled Total			
A. Participants	17,447,513	17,447,513	0
B. Spouses	<u>6,708,725</u>	<u>6,708,725</u>	<u>0</u>
C. Total	24,156,238	24,156,238	0
<b>Total Population</b>			
A. Participants	47,186,444	31,099,168	1,250,508
B. Spouses	<u>29,362,563</u>	<u>16,830,633</u>	<u>944,520</u>
C. Total	76,549,007	47,929,801	2,195,028

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**City of Newburyport**

**Assuming Funding over 30 years at 7.00% discount rate and increasing at 0.00% per year  
Plan Liabilities as of July 1, 2012**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Present Value of Future Benefits				
A. Actives	26,344,588	0	178,859	26,523,447
B. Retirees/Disabled	<u>17,641,110</u>	<u>0</u>	<u>542,366</u>	<u>18,183,476</u>
C. Total	43,985,698	0	721,225	44,706,923
II. Present Value of Future Normal Cost	12,633,713	0	71,996	12,705,709
III. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	13,710,875	0	106,863	13,817,738
B. Retirees/Disabled	<u>17,641,110</u>	<u>0</u>	<u>542,366</u>	<u>18,183,476</u>
C. Total	31,351,985	0	649,229	32,001,214
IV. Plan Assets	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	31,351,985	0	649,229	32,001,214
VI. Annual Covered Payroll	N/A	N/A	N/A	N/A
VII. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A
VIII. Net OPEB Obligation	15,593,213	0	312,316	15,905,529
IX. Number of Eligible Participants				
A. Actives	602	602	602	
B. Retirees/Disabled	<u>412</u>	<u>0</u>	<u>274</u>	
C. Total	1,014	602	876	

**For Fiscal Year Ending June 30, 2013**

X. Normal Cost	1,147,139	0	8,023	1,155,162
XI. Amortization of UAAL - 30 year flat dollar	5,330,419	0	110,381	5,440,800
XII. Annual Required Contribution ("ARC") [ X. + XI.]	6,477,558	0	118,404	6,595,962
XIII. Interest on Net OPEB Obligation	1,091,525	0	21,862	1,113,387
XIV. Adjustment to Annual Required Contribution	<b>(1,174,393)</b>	0	<b>(23,522)</b>	(1,197,915)
XV. Amortization of Actuarial (Gains) / Losses	<b>(2,785,727)</b>	0	10,813	(2,774,914)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	3,608,963	0	127,557	3,736,520
XVII. Expected Employer Contribution	1,654,836	0	41,192	1,696,028
XVIII. Contribution over 30 Years increasing at .00% per yr	1,221,801	0	86,365	1,308,166
XIX. Total Employer Contribution	2,876,637	0	127,557	3,004,194
XX. Percentage of Annual OPEB Cost Contributed	79.7%	0.0%	100.0%	80.4%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	15,593,213	0	312,316	15,905,529
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	732,326	0	0	732,326
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	16,325,539	0	312,316	16,637,855



SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**City of Newburyport**  
**Plan Liabilities as of July 1, 2012**  
**Assuming Funding over 30 years at 7.00% discount rate and increasing at 0.00% per year**

	General Government Employees and Retirees	School Employees and Retirees	Sewer Employees and Retirees	Water Employees and Retirees	Total
I. Present Value of Future Benefits					
A. Actives	11,399,758	13,353,081	635,051	1,135,557	26,523,447
B. Retirees/Disabled	<u>8,071,839</u>	<u>9,067,177</u>	<u>292,744</u>	<u>751,716</u>	<u>18,183,476</u>
C. Total	19,471,597	22,420,258	927,795	1,887,273	44,706,923
II. Present Value of Future Normal Cost	5,325,634	6,623,183	276,351	480,541	12,705,709
III. Actuarial Accrued Liability (Projected Unit Credit)					
A. Actives	6,115,948	6,659,847	367,315	674,628	13,817,738
B. Retirees/Disabled	<u>8,071,839</u>	<u>9,067,177</u>	<u>292,744</u>	<u>751,716</u>	<u>18,183,476</u>
C. Total	14,187,787	15,727,024	660,059	1,426,344	32,001,214
IV. Plan Assets	0	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	14,187,787	15,727,024	660,059	1,426,344	32,001,214
VI. Annual Covered Payroll	N/A	N/A	N/A	N/A	N/A
VII. UAAL as % of Covered Payroll	N/A	N/A	N/A	N/A	N/A
VIII. Net OPEB Obligation	7,258,153	7,555,344	498,537	593,495	15,905,529
IX. Number of Eligible Participants					
A. Actives	224	341	13	24	602
B. Retirees/Disabled	<u>162</u>	<u>224</u>	<u>9</u>	<u>17</u>	<u>412</u>
C. Total	386	565	22	41	1,014
<b>For Fiscal Year Ending June 30, 2013</b>					
X. Normal Cost	451,016	628,436	29,859	45,851	1,155,162
XI. Amortization of UAAL - 30 year flat dollar	2,366,201	2,704,649	118,908	251,042	5,440,800
XII. Annual Required Contribution ("ARC") [ X. + XI.]	2,817,217	3,333,085	148,767	296,893	6,595,962
XIII. Interest on Net OPEB Obligation	508,070	528,874	34,898	41,545	1,113,387
XIV. Adjustment to Annual Required Contribution	<u>(546,644)</u>	<u>(569,026)</u>	<u>(37,546)</u>	<u>(44,699)</u>	<u>(1,197,915)</u>
XV. Amortization of Actuarial (Gains) / Losses	<u>(1,230,030)</u>	<u>(1,360,763)</u>	<u>(59,104)</u>	<u>(125,017)</u>	<u>(2,774,914)</u>
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	1,548,613	1,932,170	87,015	168,722	3,736,520
XVII. Expected Employer Contribution	736,320	874,364	22,517	62,827	1,696,028
XVIII. Contribution over 30 Years increasing at 0.00% per yr	579,978	642,899	26,982	58,307	1,308,166
XIX. Total Employer Contribution	1,316,298	1,517,263	49,499	121,134	3,004,194
XX. Percentage of Annual OPEB Cost Contributed	85.0%	78.5%	56.9%	71.8%	80.4%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	7,258,153	7,555,344	498,537	593,495	15,905,529
XXII. Increase in Net OPEB Obligations (XVI. - XIX.)	232,315	414,907	37,516	47,588	732,326
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	7,490,468	7,970,251	536,053	641,083	16,637,855

## Overview of GASB 43 and 45

GASB 43 requires retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 43 only applies in situations where a separate trust is established to prefund these benefits. GASB 45 requires employers to perform periodic actuarial valuations to determine annual accounting costs, and to keep a running tally of the extent to which these amounts are over or under funded.

GASB 43 and 45 apply to those benefits provided after retirement except for pension benefits such as medical insurance, dental and life insurance. The philosophy behind the accounting standard is that these post-employment benefits are part of the compensation earned by employees in return for their services, and the cost of these benefits should be recognized while employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 43 and 45 extend this practice to all other post-employment benefits.

Overview of GASB 43 and 45  
(continued)

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

**Turnover and retirement rates:** How likely is it that an employee will qualify for post-employment benefits and when will they start?

**Medical inflation and claims cost assumptions:** When an employee starts receiving post-employment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

**Mortality assumption:** How long is a retiree likely to receive benefits?

**Discount rate assumption:** What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the City, the present value is divided into three pieces: the part that is attributed to past years (the "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Normal Cost have been calculated, the next step is to determine an annual contribution. This consists of two pieces:

- ✓ Normal Cost - because the benefits earned each year should be paid for each year
- ✓ Past Service Cost - a catch-up payment to fund the Accrued Liability over the next 10-30 years

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the City's financial statements as the OPEB liability. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

## Commentary on Plan Experience and Contribution Amounts

### 1. **Transition to GASB 45:**

The Plan adopted and implemented GASB 45 (“Accounting and Financial Reporting by Employers for Postemployment Benefits other than Pensions”) effective for the fiscal year ending June 30, 2009. As part of this implementation, the Employer must recognize the Actuarial Accrued Liability for past service. Under GASB 45, this amount may be amortized over a period not to exceed thirty (30) years. The Unfunded Actuarial Accrued Liability at transition was amortized over a 30 year period and a flat dollar amortization of the Unfunded Actuarial Accrued Liability at transition. This approach yields an amortization charge of \$4,141,817. Additionally the Employer must recognize a “normal cost” which represents the annual accrual of benefits for current active employees toward their ultimate postemployment benefits. The normal cost for the 2013 fiscal year is \$2,195,028. The combined amortization charge and normal cost represent the Annual Required Contribution (“ARC”) for the plan for the 2013 fiscal year. As the Employer has chosen to continue their “pay-as-you-go” funding policy, this valuation must utilize a discount rate which represents earnings on short term investments. For this discount rate, we have used 4.00% per annum. The incremental cost of GASB 45 for the 2013 fiscal year beyond the “pay-as-you-go” costs is \$3,229,557 reduced by contributions to an OPEB Trust of \$0 for a net change in the OPEB liability of \$3,229,557 .

### 2. **Plan Experience:**

Plan experience was far more favorable than expected. This was mainly due to a lower than expected increase in premiums for non-Medicare integrated plans and a 25% decrease in premiums for Medicare integrated plans versus an expected 13% increase. This was somewhat offset by the introduction of a more conservative mortality table. The actuarial experience gain is amortized into the annual OPEB costs over a 30-year period. The net impact of plan experience is a decrease in the annual OPEB cost.

SECTION II  
SUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	July 1, 2008; GASB 45 is adopted.
<u>Plan Year</u>	July 1 through June 30.
<u>Eligibility</u>	An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.
<u>Credited Service</u>	Elapsed time from date of hire to termination of service date.
<u>Participant Contributions</u>	Retirees shall pay 25% of premiums for Medical Insurance, 10% for Life Insurance and 100% for Dental Insurance.
<u>Benefits Offered</u>	Various Medical offerings via Blue Cross Blue Shield of Massachusetts as well as Dental and Group Term Life Insurance.
<u>Normal Retirement Date</u>	The normal retirement date is the first day of the month following a participant's 65th birthday.
<u>Early Retirement</u>	Early retirement is available for any participant who has attained benefit eligibility.

### SECTION III

#### ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

##### A. ACTUARIAL COST METHOD

The actuarial cost method used to calculate the costs and liabilities of the plan is the Projected Unit Credit Actuarial Cost Method. Under this method, the normal cost and actuarial accrued liability are both based on an accrual of projected benefits over the period for which benefits are accrued. The normal cost is the actuarial present value of one year's benefit accrual on this basis. The actuarial accrued liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Actuarial gains and losses are calculated each year and amortized over a 30 year period.

All employees who are plan participants on a valuation date are included in the actuarial valuation.

##### B. ASSET VALUATION METHOD

The actuarial value of assets is equal to the Market Value of the Plan's assets.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS

We used the following assumptions in this year's actuarial valuation:

Pre- and Post-Retirement Mortality

It is assumed that both pre-retirement and post-retirement mortality are represented by the RP-2000 Mortality Table projected to 2017 for males and females.

Discount Rate

4.00% per annum (previously 4.00%)

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

<u>Service</u>	<u>Non Public Safety Male</u>	<u>Non Public</u>	
		<u>Safety Female</u>	<u>Public Safety</u>
0	15.00%	15.00%	1.50%
5	7.60%	7.60%	1.50%
10	5.40%	5.40%	1.50%
15	3.30%	3.30%	0.00%
20	2.00%	2.00%	0.00%
25	1.00%	1.00%	0.00%
30	0.00%	0.00%	0.00%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for non-teachers

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Non Public Safety Male</u>	<u>Non Public Safety Female</u>	<u>Public Safety</u>
45	0.00%	0.00%	1.00%
46	0.00%	0.00%	1.00%
47	0.00%	0.00%	1.00%
48	0.00%	0.00%	1.00%
49	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%
51	1.00%	1.50%	2.00%
52	1.00%	2.50%	2.00%
53	1.00%	2.50%	5.00%
54	2.00%	2.50%	7.50%
55	2.00%	5.50%	15.00%
56	2.50%	6.50%	10.00%
57	2.50%	6.50%	10.00%
58	5.00%	6.50%	10.00%
59	6.50%	6.50%	15.00%
60	12.00%	5.00%	20.00%
61	20.00%	13.00%	20.00%
62	30.00%	15.00%	25.00%
63	25.00%	12.50%	25.00%
64	22.00%	18.00%	30.00%
65	40.00%	15.00%	100.00%
66	25.00%	20.00%	100.00%
67	25.00%	20.00%	100.00%
68	30.00%	25.00%	100.00%
69	30.00%	20.00%	100.00%
70	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%



SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Healthcare Trend

It was assumed that healthcare costs would increase in accordance with the trend rates in the following table:

<u>Year</u>	<u>Medical</u>
FY 2008	11.0%
FY 2009	10.0%
FY 2010	9.0%
FY 2011	8.0%
FY 2012	7.0%
FY 2013	6.0%
FY 2014	5.0%
FY 2015	5.0%

Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical and dental plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

Percent Married

It was assumed that 80% of participants who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. It was further assumed that husbands are three years older than their wives. For current retirees, the actual census information was used.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Compensation Increases

3.00% per year.

Additional Comments

The values in this report reflect a closed group and do not reflect any new entrants after the valuation date.

For purposes of this valuation, retiree contributions were assumed to increase with the same trend rate as health care claims.

### SECTION III

#### ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

#### D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

As part of the Other Post-Employment Benefits Program, there are situations where the cost is borne partly or entirely on the retirees. In most cases, the premium that is used to split the cost is lower than the true cost of providing the medical benefits, for two reasons:

- ✓ The cost sharing program is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:
- ✓ The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit subsidy". GASB 43 and 45 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. To do this, our valuation consists of several steps:

First, we calculate the liability for the true cost of medical benefits expected to be received by retirees and their dependents. This liability is based factors developed by actuaries that reflect how the cost of medical benefits varies by age and gender, as well as the other assumptions discussed on the prior page.

Next, we calculate the liability for the future premiums expected to be paid by the retiree for their own and their dependents' coverage. This liability is based on the current premium rates without adjustment for age or gender. It also is based on the terms of the retiree medical program - different retirees pay different percentages based on their union, date of retirement, age at retirement, and other factors.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

**I. CLAIMS COSTS DEVELOPMENT - Based on Active & Retiree Incurred Claims & Premiums**

	Number of Participants			
	Single	Two-Person	Family	Total
BCBSHMO	154		283	437
BCBS PPO	44		80	124
BCBS Medex II	342			342
<b>Total</b>	540	0	363	903

	Per Contract Premiums (monthly) - FY 2014		
	Single	Two-Person	Family
BCBSHMO	605.19	0.00	1,585.68
BCBS PPO	678.16	0.00	1,776.96
BCBS Medex II	270.67	541.34	

Gross Expected FY 2014 Incurred Premiums	9,678,140
Adjustment to reflect children's claims	(1,678,333)
<b>Total Expected FY 2014 Incurred Premiums (adults only)</b>	<b>7,999,807</b>

**II. PRE-65 AND POST-65 PER CAPITA RETIREE ANNUAL CLAIM COSTS**

	<u>Employer Primary</u>	<u>Medicare Primary</u>
Age 65	10,479	3,248
Average Age	9,742	3,248

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

**III. BREAKDOWN OF CLAIM COSTS**

7,999,807 Active and Retired Claims (No Children) - Including Administrative fees & trend

4,900 Average Per-Capita Claim (including Retention & Pooling)

**ALL ACTIVE EMPLOYEES AND SPOUSES (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
24 & Under	0	2	1.312	0.549	6,429	2,690	5,380
25 to 29	38	14	1.312	0.591	6,429	2,896	284,846
30 to 34	37	21	1.312	0.712	6,429	3,489	311,142
35 to 39	48	48	1.312	0.850	6,429	4,165	508,512
40 to 44	52	46	1.312	1.000	6,429	4,900	559,708
45 to 49	57	58	1.456	1.193	7,134	5,846	745,706
50 to 54	68	61	1.599	1.441	7,835	7,061	963,501
55 to 59	69	62	1.740	1.753	8,526	8,590	1,120,874
60 to 64	34	49	1.968	2.102	9,643	10,300	832,562
65 to 69	7	13	2.168	2.316	10,623	11,348	221,885
70 & Over	4	3	2.396	2.557	11,740	12,529	84,547
Total	414	377					5,638,663

**ALL RETIREES AND SPOUSES - NOT MEDICARE ELIGIBLE (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
44 & Under	2	1	1.312	1.000	6,429	4,900	17,758
45 to 49	1	1	1.456	1.193	7,134	5,846	12,980
50 to 54	7	2	1.599	1.441	7,835	7,061	68,967
55 to 59	18	15	1.740	1.753	8,526	8,590	282,318
60 to 64	29	22	1.968	2.102	9,643	10,300	506,247
65 to 69	5	8	2.168	2.316	10,623	11,348	143,899
70 to 74	3	2	2.396	2.557	11,740	12,529	60,278
75 to 79	1	3	2.593	2.769	12,706	13,568	53,410
80 to 84	4	1	2.724	2.910	13,348	14,259	67,651
85 to 89	1	0	2.864	3.059	14,034	14,989	14,034
90 & Over	0	0	3.010	3.215	14,749	15,754	0
Total	71	55					1,227,542

**ALL RETIREES AND SPOUSES - MEDICARE ELIGIBLE (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
65 to 69	63	47	2.168	2.316	3,248	3,248	357,280
70 to 74	49	46	2.396	2.557	3,248	3,248	308,560
75 to 79	31	21	2.593	2.769	3,248	3,248	168,896
80 to 84	24	19	2.724	2.910	3,248	3,248	139,664
85 to 89	17	10	2.864	3.059	3,248	3,248	87,696
90 & Over	17	5	3.010	3.215	3,248	3,248	71,456
Total	201	148					1,133,552
Grand Totals	686	580					7,999,757

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

E. DEVELOPMENT OF REPRESENTATIVE DENTAL PER CAPITA CLAIMS COSTS

I. CLAIMS COSTS DEVELOPMENT - with Active & Retiree Incurred Premiums

	Per Contract Costs (monthly) - FY 2014		
	Single	Two-Person	Family
Dental Plan	N/A		N/A
	FY 2014 Expected Per Person Rate		N/A

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions requires the following disclosures in the financial statements with regard to the retiree medical and life insurance benefits;

**1. A DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PROGRAM:**

- a. Plan Type: Various offerings via Blue Cross Blue Shield of Massachusetts
- b. Administrator: City of Newburyport
- c. Eligibility: An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.
- d. Cost Sharing: 25% Participant paid.

**2. A DESCRIPTION OF THE DENTAL INSURANCE PROGRAM:**

- a. Plan Type: Comprehensive Dental
- b. Administrator: City of Newburyport
- c. Eligibility: Same as above
- d. Cost sharing: 100% Participant paid.

**3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:**

- a. Plan Type: Group Term Life Insurance - \$5,000
- b. Administrator: City of Newburyport
- c. Eligibility: Same as above
- d. Cost sharing: 10% Participant paid.

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

**4. RETIREE MEDICAL AND LIFE INSURANCE CONTRIBUTIONS:**

Group	Individual	Family
Medical	25%	25%
Life	10%	N/A

**5. FUNDING POLICY**

The contribution requirements of plan members and the City are established and may be amended through City ordinances. The required contribution is based on the projected pay-as-you-go financing requirements. For the 2013 fiscal year, total City premiums plus implicit costs for the retiree medical program are \$1,696,028. The City is also projected to make a contribution to an OPEB Trust of \$0 for the 2013 fiscal year for a total contribution of \$1,696,028 .



EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

**6. ANNUAL OPEB COST AND NET OPEB OBLIGATION**

The City's annual other postemployment benefit ("OPEB") cost (expense) is calculated based on the annual required contribution of the employer ("ARC"), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty (30) years. The following table shows the components of the City's annual OPEB costs for the fiscal year, the amount actually contributed to the plan and changes in the City's net OPEB obligation to the plan:

Annual Required Contribution	\$6,336,845
Interest on net OPEB obligation	\$636,222
Adjustment to annual required contribution	(\$884,440)
Amortization of Actuarial (Gains) / Losses	(\$1,163,042)
Annual OPEB cost (expense)	\$4,925,585
Contributions made to pay benefits	\$1,696,028
Contributions made to OPEB Trust	\$0
Increase in net OPEB obligation	\$3,229,557
Net OPEB Obligation – beginning of year	\$15,905,529
Net OPEB Obligation – end of year	\$19,135,086

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

The City's annual OPEB cost, the percentage of the annual OPEB cost contributed to the plan, and the net OPEB obligation for the 2013 fiscal year and the three preceding years were as follows:

Fiscal Year Ended	Annual OPEB Cost	Expected Employer Payments	Percentage of OPEB Cost Contributed	Increase in OPEB Obligation	Net OPEB Obligation
06/30/2015 (est.)	\$5,413,274	\$1,897,317	35.0%	\$3,515,957	\$26,060,059
06/30/2014 (est.)	\$5,172,725	\$1,763,709	34.1%	\$3,409,016	\$22,544,102
06/30/2013	\$4,925,585	\$1,696,028	34.4%	\$3,229,557	\$19,135,086
06/30/2012	\$5,651,432	\$2,550,293	45.1%	\$3,101,139	\$15,905,529
06/30/2011	\$5,389,223	\$2,395,597	44.5%	\$2,993,626	\$12,804,390
06/30/2010	\$7,136,512	\$2,231,130	31.3%	\$4,905,382	\$9,810,764

**Schedule of Funding Progress:**

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
07/01/2014 (est.)	\$0	\$52,951,842	\$52,951,842	0.0%	N/A	N/A
07/01/2013 (est.)	\$0	\$50,365,955	\$50,365,955	0.0%	N/A	N/A
07/01/2012	\$0	\$47,929,801	\$47,929,801	0.0%	N/A	N/A
07/01/2011	\$0	\$10,856,450	\$10,856,450	0.0%	N/A	N/A
07/01/2010	\$0	\$10,345,482	\$10,345,482	0.0%	N/A	N/A
07/01/2009	\$0	\$9,861,007	\$9,861,007	0.0%	N/A	N/A

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2012)

(continued)

<b>Fiscal Year Ending June 30, 2013</b>					
	<u>General Government Employees and Retirees</u>	<u>School Employees and Retirees</u>	<u>Sewer Employees and Retirees</u>	<u>Water Employees and Retirees</u>	<u>Total</u>
OPEB obligation at beginning of year	7,258,153	7,555,344	498,537	593,495	15,905,529
Annual Required Contribution	2,658,290	3,253,066	147,257	278,232	6,336,845
Interest on Net OPEB Obligation	290,326	302,214	19,942	23,740	636,222
Adjustment to the ARC	(403,596)	(420,121)	(27,721)	(33,002)	(884,440)
Amortization of Actuarial (Gains)/Losses	<u>(515,539)</u>	<u>(570,333)</u>	<u>(24,772)</u>	<u>(52,398)</u>	<u>(1,163,042)</u>
Annual OPEB Cost	2,029,481	2,564,826	114,706	216,572	4,925,585
Total Expected Employer Payments	736,320	874,364	22,517	62,827	1,696,028
Increase in OPEB Obligation	1,293,161	1,690,462	92,189	153,745	3,229,557
OPEB obligation at end of year	8,551,314	9,245,806	590,726	747,240	19,135,086
APBO at beginning of year	21,245,762	23,503,828	1,020,872	2,159,339	47,929,801

<b>Fiscal Year Ending June 30, 2014</b>					
	<u>General Government Employees and Retirees</u>	<u>School Employees and Retirees</u>	<u>Sewer Employees and Retirees</u>	<u>Water Employees and Retirees</u>	<u>Total</u>
OPEB obligation at beginning of year	8,551,314	9,245,806	590,726	747,240	19,135,086
Annual Required Contribution	2,707,773	3,313,621	149,998	283,411	6,454,803
Interest on Net OPEB Obligation	349,276	363,577	23,991	28,560	765,404
Adjustment to the ARC	(485,545)	(505,425)	(33,350)	(39,703)	(1,064,023)
Amortization of Actuarial (Gains)/Losses	<u>(440,194)</u>	<u>(478,257)</u>	<u>(20,178)</u>	<u>(44,830)</u>	<u>(983,459)</u>
Annual OPEB Cost	2,131,310	2,693,516	120,461	227,438	5,172,725
Total Expected Employer Payments	765,703	909,256	23,416	65,334	1,763,709
Increase in OPEB Obligation	1,365,607	1,784,260	97,045	162,104	3,409,016
OPEB obligation at end of year	9,916,921	11,030,066	687,771	909,344	22,544,102
APBO at beginning of year	22,325,632	24,698,470	1,072,760	2,269,093	50,365,955

## EXHIBIT A

### Financial Statement Disclosure

(As of July 1, 2012)

(continued)

#### **7. FUNDED STATUS AND FUNDING PROGRESS**

As of July 1, 2012, the most recent valuation date, the plan was 0.00% funded. The actuarial liability for benefits was \$47,929,801, and the actuarial value of assets was \$ 0, resulting in an unfunded actuarial accrued liability (UAAL) of \$47,929,801. The covered payroll (annual payroll of active employees covered by the plan) was \$ N/A and the ratio of the UAAL to the covered payroll was N/A.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contribution of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented in the required supplementary information following the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

#### **8. EFFECT OF 1% CHANGE IN HEALTHCARE TREND RATES**

In the event that healthcare trend rates were 1% higher than forecast and employee contributions were to increase at the forecast rates, the Actuarial Accrued Liability would increase to \$58,702,958 or by 22.5% and the corresponding Normal Cost would increase to \$2,993,448 or by 36.4%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Actuarial Accrued Liability would decrease to \$39,372,066 or by 17.9% and the corresponding Normal Cost would decrease to \$1,600,932 or by 27.1%.

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

**9. ACTUARIAL METHODS AND ASSUMPTIONS**

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Actuarial Cost Method: Projected Unit Credit  
Investment Rate of Return: 4.00% per annum (previously 4.00%)  
Healthcare Trend Rates

<u>Year</u>	<u>Medical</u>
FY 2008	11.0%
FY 2009	10.0%
FY 2010	9.0%
FY 2011	8.0%
FY 2012	7.0%
FY 2013	6.0%
FY 2014	5.0%
FY 2015	5.0%

General Inflation Assumption: 2.50% per annum  
Annual Compensation Increases: 3.00% per annum  
Actuarial Value of Assets: Market Value  
Amortization of UAAL: Level dollar amortization over 30 years at the last valuation  
Remaining Amortization Period: 26 years at July 1, 2012

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

**10. Remaining Amortization Bases**

The initial Actuarial Accrued Liability as of the date GASB 45 was adopted is amortized as a component of the Annual Required Contribution ("ARC"). The Unfunded Actuarial Accrued Liability at transition was amortized over a 30 year period and a flat dollar amortization of the Unfunded Actuarial Accrued Liability at transition. For years subsequent to the initial adoption of GASB 45, cumulative gains/losses are amortized on a level dollar basis over a 30 year period. Gains and losses arise from experience and contribution deficiencies and excess contributions in relation to each year's ARC under GASB 45.

<b>Changes in Unfunded Actuarial Liability Since Prior Valuation</b>
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***Expected Unfunded Actuarial Liability***

1. Actuarial Accrued Liability at prior valuation date	64,860,191
2. Actuarial Value of Assets at prior valuation date	<u>0</u>
3. Unfunded Actuarial Accrued Liability at prior valuation date [1. - 2.]	64,860,191
4. Normal Cost for prior periods	4,636,670
5. Employer Contributions for prior periods	<b>(4,945,890)</b>
6. Interest to current valuation date	<u>5,479,843</u>
7. Expected Actuarial Accrued Liability [3. + 4. + 5. + 6.]	70,030,814

***Actual Unfunded Actuarial Liability***

8. Actuarial Accrued Liability at current valuation date	47,929,801
9. Actuarial Value of Assets at current valuation date	<u>0</u>
10. Unfunded Actuarial Accrued Liability at current valuation date [8. - 9.]	47,929,801

***Net Actuarial (Gain) / Loss from Plan Experience [10. - 7.]*** **(22,101,013)**

11. Unfunded Actuarial Accrued Liability at current valuation date [10.]	47,929,801
12. Remaining Initial Unfunded to be amortized	<u>68,845,613</u>
13. Actuarial (Gain) / Loss to be amortized: [11. - 12.]	<b>(20,915,812)</b>

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2012)  
(continued)

Amortization of Initial Unfunded and Plan Experience under GASB 45						
Date Established	Description	Initial Amount	Initial Amortization Period	Remaining Balance at Valuation Date	Remaining Amortization Period	Annual Amortization Payment
July 1, 2008	GASB 45 Liability	74,485,260	30	68,845,613	26	4,141,817
July 1, 2012	Cumulative (Gain) / Loss	(20,915,812)	30	(20,915,815)	30	(1,163,042)
July 1, 2012	Adjustment to ARC	(15,905,529)	30	(15,905,529)	30	(884,441)
Total				32,024,269		2,094,334

**11. Recognition of OPEB trust assets**

The State of Massachusetts has recently passed legislation allowing municipal entities to establish a trust for Other Than Postemployment Benefits ("OPEB") under M.G.L. Chapter 32B, Section 20 for purposes of accumulating assets to pre-fund the liabilities under GASB 45. To the best of our knowledge, the City of Newburyport has accepted M.G.L. Chapter 32B, Section 20 which authorizes it to establish an irrevocable Trust for the purposes of prefunding liabilities under GASB 45. However, at this point they have not funded the Trust.

EXHIBIT A

Financial Statement Disclosure

(As of July 1, 2012)

(continued)

**12. Impact of Patient Protection and Affordable Care Act (“PPACA”) Excise Tax**

For purposes of this valuation, we have not attempted to value the impact of the PPACA excise tax for the cost of plan benefits beyond the statutory thresholds beginning in 2018. While the threshold levels are known, our position is to wait for more guidance on how this excise tax will work and how employers and bargaining units will respond so as to avoid overstating the impact of such a tax. Beyond that, it is not clear if this tax should be considered a “benefit” for GASB 45 purposes or should be considered an operating expense of the entity.

**13. Impact of Section 9A1/2 of M.G.L. Chapter 32B**

For employees who retire on or after January 1, 2011 whenever a retired employee or beneficiary receives a healthcare premium contribution from a governmental unit in a case where a portion of the retiree's creditable service is attributable to service in 1 or more other governmental units, the first governmental unit shall be reimbursed in full, in accordance with this paragraph, by the other governmental units for the portion of the premium contributions that corresponds to the percentage of the retiree's creditable service that is attributable to each governmental unit. The other governmental units shall be charged based on their own contribution rate or the contribution rate of the first employer, whichever is lower.

For purposes of the valuation we have not attempted to value the impact of prior governmental service at other entities in the State of Massachusetts for current employees of the City of Newburyport nor have we attempted to value the impact of prior City of Newburyport employees currently working at other governmental entities in the State of Massachusetts.



EXHIBIT B

Reconciliation of Plan Participation  
(As of July 1, 2012)

**ACTIVE EMPLOYEES**

	<u>July 1, 2012</u>	<u>July 1, 2010</u>
<b>A. Average Age at Hire</b>	36.14	37.60
<b>B. Average Service</b>	9.12	11.40
<b>C. Average Current Age</b>	45.26	49.00

EXHIBIT C

Projected Cash Flows (Open Group) - Pay-as-you-go Approach

**Total Medical, Dental & Life Insurance - pay-as-you-go funding - 4.00% discount rate**

Fiscal Year	Total APBO	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Excess Employer Payments (beyond claims)	Plan Assets at Beginning of year	Unfunded Accrued Actuarial Liability ("UAAL")
								15,905,529				
2013	47,929,801	2,195,028	4,141,817	636,222	(884,440)	(1,163,042)	4,925,585	19,135,086	1,696,028	0	0	47,929,801
2014	50,365,955	2,312,986	4,141,817	765,404	(1,064,023)	(983,459)	5,172,725	22,544,102	1,763,709	0	0	50,365,955
2015	52,951,842	2,417,175	4,141,817	901,764	(1,253,584)	(793,898)	5,413,274	26,060,059	1,897,317	0	0	52,951,842
2016	55,610,568	2,522,458	4,141,817	1,042,402	(1,449,092)	(598,390)	5,659,195	29,700,400	2,018,854	0	0	55,610,568
2017	58,358,739	2,621,480	4,141,817	1,188,016	(1,651,517)	(395,965)	5,903,831	33,470,955	2,133,276	0	0	58,358,739
2018	61,200,821	2,742,270	4,141,817	1,338,838	(1,861,181)	(186,301)	6,175,443	37,347,970	2,298,428	0	0	61,200,821
2019	64,110,779	2,864,378	4,141,817	1,493,919	(2,076,766)	29,284	6,452,632	41,389,945	2,410,657	0	0	64,110,779
2020	67,147,079	2,998,974	4,141,817	1,655,598	(2,301,523)	254,041	6,748,907	45,661,199	2,477,653	0	0	67,147,079
2021	70,375,136	3,120,700	4,141,817	1,826,448	(2,539,031)	491,549	7,041,483	50,069,988	2,632,694	0	0	70,375,136
2022	73,697,667	3,250,147	4,141,817	2,002,800	(2,784,185)	736,703	7,347,282	54,665,051	2,752,219	0	0	73,697,667
2023	77,163,420	3,402,627	4,141,817	2,186,602	(3,039,698)	992,216	7,683,564	59,488,932	2,859,683	0	0	77,163,420
2024	80,814,617	3,551,339	4,141,817	2,379,557	(3,307,933)	1,260,451	8,025,231	64,500,975	3,013,188	0	0	80,814,617
2025	84,606,881	3,710,957	4,141,817	2,580,039	(3,586,633)	1,539,151	8,385,331	69,722,945	3,163,361	0	0	84,606,881
2026	88,560,657	3,881,319	4,141,817	2,788,918	(3,877,004)	1,829,522	8,764,572	75,144,488	3,343,029	0	0	88,560,657
2027	92,663,905	4,069,176	4,141,817	3,005,780	(4,178,474)	2,130,992	9,169,291	80,797,278	3,516,501	0	0	92,663,905
2028	96,945,348	4,277,095	4,141,817	3,231,891	(4,492,802)	2,445,320	9,603,321	86,671,796	3,728,803	0	0	96,945,348
2029	101,393,828	4,489,175	4,141,817	3,466,872	(4,819,460)	2,771,978	10,050,382	92,785,627	3,936,551	0	0	101,393,828
2030	106,024,818	4,713,235	4,141,817	3,711,425	(5,159,425)	3,111,943	10,518,995	99,191,681	4,112,941	0	0	106,024,818
2031	110,890,177	4,949,242	4,141,817	3,967,667	(5,515,639)	3,468,157	11,011,244	105,886,110	4,316,815	0	0	110,890,177
2032	115,983,508	5,197,661	4,141,817	4,235,445	(5,887,889)	3,840,407	11,527,441	112,883,954	4,529,597	0	0	115,983,508
2033	121,317,741	5,454,340	4,141,817	4,515,358	(6,277,010)	4,229,528	12,064,033	120,216,445	4,731,542	0	0	121,317,741
2034	126,922,385	5,723,451	4,141,817	4,808,658	(6,684,740)	4,637,258	12,626,444	127,908,664	4,934,225	0	0	126,922,385
2035	132,820,186	5,997,529	4,141,817	5,116,347	(7,112,472)	5,064,990	13,208,211	135,931,691	5,185,184	0	0	132,820,186
2036	138,977,832	6,283,640	4,141,817	5,437,268	(7,558,599)	5,511,117	13,815,243	144,324,481	5,422,453	0	0	138,977,832
2037	145,432,580	6,578,079	4,141,817	5,772,980	(8,025,288)	5,977,806	14,445,394	153,004,406	5,765,469	0	0	145,432,580
2038	152,095,053	6,885,429	4,141,817	6,120,176	(8,507,942)	6,460,460	15,099,940	162,003,187	6,101,159	0	0	152,095,053
2039	158,994,496	7,208,893	0	6,480,128	(9,008,327)	6,960,845	11,641,539	167,241,458	6,403,268	0	0	158,994,496
2040	166,192,337	7,550,462	0	6,689,658	(9,299,606)	7,252,124	12,192,638	172,703,143	6,730,953	0	0	166,192,337
2041	173,692,353	7,913,743	0	6,908,126	(9,603,308)	7,555,826	12,774,387	178,420,851	7,056,679	0	0	173,692,353
2042	181,531,394	8,301,853	0	7,136,834	(9,921,245)	7,873,763	13,391,205	184,452,198	7,359,858	0	0	181,531,394
2043	189,772,324	8,705,128	0	7,378,088	(10,256,624)	10,256,624	16,083,216	192,927,043	7,608,371	0	0	189,772,324
2044	198,503,845	9,130,763	0	7,717,082	(10,727,875)	10,727,875	16,847,845	201,861,991	7,912,897	0	0	198,503,845

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding over 30 years at 7.00% discount rate and increasing at 0.00% per year**

Fiscal Year	Total APBO	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Excess Employer Payments (beyond claims)	Plan Assets at Beginning of year	Unfunded Accrued Actuarial Liability ("UAAL")
								15,905,529				
2013	32,001,214	1,155,162	5,440,800	1,113,387	(1,197,915)	(2,774,914)	3,736,520	16,637,855	1,696,028	1,308,166	0	32,001,214
2014	33,662,571	1,222,791	5,440,800	1,164,650	(1,253,070)	(2,719,759)	3,855,412	17,421,392	1,763,709	1,308,166	1,308,166	32,354,405
2015	35,440,170	1,281,300	5,440,800	1,219,497	(1,312,082)	(2,660,747)	3,968,768	18,184,677	1,897,317	1,308,166	2,707,904	32,732,266
2016	37,261,844	1,340,806	5,440,800	1,272,927	(1,369,568)	(2,603,261)	4,081,704	18,939,361	2,018,854	1,308,166	4,205,623	33,056,221
2017	39,144,662	1,394,481	5,440,800	1,325,755	(1,426,407)	(2,546,422)	4,188,207	19,686,126	2,133,276	1,308,166	5,808,183	33,336,479
2018	41,094,277	1,462,262	5,440,800	1,378,029	(1,482,649)	(2,490,180)	4,308,262	20,387,794	2,298,428	1,308,166	7,522,922	33,571,355
2019	43,076,428	1,530,735	5,440,800	1,427,145	(1,535,494)	(2,437,335)	4,425,851	21,094,822	2,410,657	1,308,166	9,357,693	33,718,735
2020	45,150,261	1,606,158	5,440,800	1,476,637	(1,588,744)	(2,384,085)	4,550,766	21,859,769	2,477,653	1,308,166	11,320,898	33,829,363
2021	47,378,280	1,670,445	5,440,800	1,530,184	(1,646,355)	(2,326,474)	4,668,600	22,587,509	2,632,694	1,308,166	13,421,527	33,956,753
2022	49,665,154	1,737,996	5,440,800	1,581,126	(1,701,165)	(2,271,664)	4,787,093	23,314,217	2,752,219	1,308,166	15,669,200	33,995,954
2023	52,056,495	1,821,453	5,440,800	1,631,995	(1,755,896)	(2,216,933)	4,921,419	24,067,787	2,859,683	1,308,166	18,074,210	33,982,285
2024	54,589,544	1,900,797	5,440,800	1,684,745	(1,812,651)	(2,160,178)	5,053,513	24,799,946	3,013,188	1,308,166	20,647,571	33,941,973
2025	57,220,553	1,984,808	5,440,800	1,735,996	(1,867,793)	(2,105,036)	5,188,775	25,517,194	3,163,361	1,308,166	23,401,067	33,819,486
2026	59,964,942	2,074,464	5,440,800	1,786,203	(1,921,812)	(2,051,017)	5,328,638	26,194,637	3,343,029	1,308,166	26,347,308	33,617,634
2027	62,805,891	2,174,245	5,440,800	1,833,624	(1,972,833)	(1,999,996)	5,475,840	26,845,810	3,516,501	1,308,166	29,499,786	33,306,105
2028	65,766,170	2,286,804	5,440,800	1,879,207	(2,021,876)	(1,950,953)	5,633,982	27,442,823	3,728,803	1,308,166	32,872,937	32,893,233
2029	68,827,202	2,401,543	5,440,800	1,920,997	(2,066,840)	(1,905,989)	5,790,511	27,988,617	3,936,551	1,308,166	36,482,209	32,344,993
2030	72,003,039	2,523,767	5,440,800	1,959,203	(2,107,946)	(1,864,883)	5,950,941	28,518,451	4,112,941	1,308,166	40,344,130	31,658,909
2031	75,342,881	2,653,210	5,440,800	1,996,291	(2,147,850)	(1,824,979)	6,117,472	29,010,942	4,316,815	1,308,166	44,476,385	30,866,496
2032	78,836,826	2,790,215	5,440,800	2,030,766	(2,184,942)	(1,787,887)	6,288,952	29,462,131	4,529,597	1,308,166	48,897,898	29,938,928
2033	82,494,345	2,931,899	5,440,800	2,062,349	(2,218,923)	(1,753,906)	6,462,219	29,884,642	4,731,542	1,308,166	53,628,917	28,865,428
2034	86,343,506	3,080,199	5,440,800	2,091,925	(2,250,744)	(1,722,085)	6,640,095	30,282,346	4,934,225	1,308,166	58,691,107	27,652,399
2035	90,403,828	3,229,949	5,440,800	2,119,764	(2,280,697)	(1,692,132)	6,817,684	30,606,680	5,185,184	1,308,166	64,107,650	26,296,178
2036	94,639,993	3,385,252	5,440,800	2,142,467	(2,305,124)	(1,667,705)	6,995,690	30,871,751	5,422,453	1,308,166	69,903,352	24,736,641
2037	99,084,989	3,543,517	5,440,800	2,161,022	(2,325,087)	(1,647,742)	7,172,510	30,970,626	5,765,469	1,308,166	76,104,753	22,980,236
2038	103,643,491	3,707,783	5,440,800	2,167,944	(2,332,534)	(1,640,295)	7,343,698	30,904,999	6,101,159	1,308,166	82,740,252	20,903,239
2039	108,337,624	3,879,847	0	2,163,350	(2,327,591)	(1,645,238)	2,070,368	25,263,933	6,403,268	1,308,166	89,840,236	18,497,388
2040	113,221,360	4,060,698	0	1,768,475	(1,902,738)	(2,070,091)	1,856,344	19,081,158	6,730,953	1,308,166	97,437,219	15,784,141
2041	118,289,706	4,253,283	0	1,335,681	(1,437,086)	(2,535,743)	1,616,135	12,332,448	7,056,679	1,308,166	105,565,990	12,723,716
2042	123,570,352	4,460,057	0	863,271	(928,811)	(3,044,018)	1,350,499	5,014,923	7,359,858	1,308,166	114,263,775	9,306,577
2043	129,117,489	4,675,051	0	351,044	(377,696)	377,696	5,026,095	1,124,481	7,608,371	1,308,166	123,570,405	5,547,084
2044	135,017,062	4,900,892	0	78,714	(84,690)	84,690	4,979,606	(3,116,976)	7,912,897	1,308,166	133,528,499	1,488,563

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding over 30 years at 7.00% discount rate and increasing at 2.50% per year**

Fiscal Year	Total APBO	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Excess Employer Payments (beyond claims)	Plan Assets at Beginning of year	Unfunded Accrued Actuarial Liability ("UAAL")
								15,905,529				
2013	32,001,214	1,155,162	5,440,800	1,113,387	(1,197,915)	(2,774,914)	3,736,520	16,637,855	1,696,028	1,008,337	0	32,001,214
2014	33,662,571	1,222,791	5,440,800	1,164,650	(1,253,070)	(2,719,759)	3,855,412	17,421,392	1,763,709	1,033,546	1,008,337	32,654,234
2015	35,440,170	1,281,300	5,440,800	1,219,497	(1,312,082)	(2,660,747)	3,968,768	18,184,677	1,897,317	1,059,385	2,112,467	33,327,703
2016	37,261,844	1,340,806	5,440,800	1,272,927	(1,369,568)	(2,603,261)	4,081,704	18,939,361	2,018,854	1,085,870	3,319,725	33,942,119
2017	39,144,662	1,394,481	5,440,800	1,325,755	(1,426,407)	(2,546,422)	4,188,207	19,686,126	2,133,276	1,113,017	4,637,976	34,506,686
2018	41,094,277	1,462,262	5,440,800	1,378,029	(1,482,649)	(2,490,180)	4,308,262	20,387,794	2,298,428	1,140,842	6,075,651	35,018,626
2019	43,076,428	1,530,735	5,440,800	1,427,145	(1,535,494)	(2,437,335)	4,425,851	21,094,822	2,410,657	1,169,363	7,641,789	35,434,639
2020	45,150,261	1,606,158	5,440,800	1,476,637	(1,588,744)	(2,384,085)	4,550,766	21,859,769	2,477,653	1,198,597	9,346,077	35,804,184
2021	47,378,280	1,670,445	5,440,800	1,530,184	(1,646,355)	(2,326,474)	4,668,600	22,587,509	2,632,694	1,228,562	11,198,899	36,179,381
2022	49,665,154	1,737,996	5,440,800	1,581,126	(1,701,165)	(2,271,664)	4,787,093	23,314,217	2,752,219	1,259,276	13,211,384	36,453,770
2023	52,056,495	1,821,453	5,440,800	1,631,995	(1,755,896)	(2,216,933)	4,921,419	24,067,787	2,859,683	1,290,758	15,395,457	36,661,038
2024	54,589,544	1,900,797	5,440,800	1,684,745	(1,812,651)	(2,160,178)	5,053,513	24,799,946	3,013,188	1,323,027	17,763,897	36,825,647
2025	57,220,553	1,984,808	5,440,800	1,735,996	(1,867,793)	(2,105,036)	5,188,775	25,517,194	3,163,361	1,356,103	20,330,397	36,890,156
2026	59,964,942	2,074,464	5,440,800	1,786,203	(1,921,812)	(2,051,017)	5,328,638	26,194,637	3,343,029	1,390,006	23,109,628	36,855,314
2027	62,805,891	2,174,245	5,440,800	1,833,624	(1,972,833)	(1,999,996)	5,475,840	26,845,810	3,516,501	1,424,756	26,117,308	36,688,583
2028	65,766,170	2,286,804	5,440,800	1,879,207	(2,021,876)	(1,950,953)	5,633,982	27,442,823	3,728,803	1,460,375	29,370,276	36,395,894
2029	68,827,202	2,401,543	5,440,800	1,920,997	(2,066,840)	(1,905,989)	5,790,511	27,988,617	3,936,551	1,496,884	32,886,570	35,940,632
2030	72,003,039	2,523,767	5,440,800	1,959,203	(2,107,946)	(1,864,883)	5,950,941	28,518,451	4,112,941	1,534,306	36,685,514	35,317,525
2031	75,342,881	2,653,210	5,440,800	1,996,291	(2,147,850)	(1,824,979)	6,117,472	29,010,942	4,316,815	1,572,664	40,787,806	34,555,075
2032	78,836,826	2,790,215	5,440,800	2,030,766	(2,184,942)	(1,787,887)	6,288,952	29,462,131	4,529,597	1,611,981	45,215,616	33,621,210
2033	82,494,345	2,931,899	5,440,800	2,062,349	(2,218,923)	(1,753,906)	6,462,219	29,884,642	4,731,542	1,652,281	49,992,690	32,501,655
2034	86,343,506	3,080,199	5,440,800	2,091,925	(2,250,744)	(1,722,085)	6,640,095	30,282,346	4,934,225	1,693,588	55,144,459	31,199,047
2035	90,403,828	3,229,949	5,440,800	2,119,764	(2,280,697)	(1,692,132)	6,817,684	30,606,680	5,185,184	1,735,928	60,698,159	29,705,669
2036	94,639,993	3,385,252	5,440,800	2,142,467	(2,305,124)	(1,667,705)	6,995,690	30,871,751	5,422,453	1,779,326	66,682,958	27,957,035
2037	99,084,989	3,543,517	5,440,800	2,161,022	(2,325,087)	(1,647,742)	7,172,510	30,970,626	5,765,469	1,823,809	73,130,091	25,954,898
2038	103,643,491	3,707,783	5,440,800	2,167,944	(2,332,534)	(1,640,295)	7,343,698	30,904,999	6,101,159	1,869,404	80,073,006	23,570,485
2039	108,337,624	3,879,847	0	2,163,350	(2,327,591)	(1,645,238)	2,070,368	25,263,933	6,403,268	1,916,139	87,547,520	20,790,104
2040	113,221,360	4,060,698	0	1,768,475	(1,902,738)	(2,070,091)	1,856,344	19,081,158	6,730,953	1,964,042	95,591,985	17,629,375
2041	118,289,706	4,253,283	0	1,335,681	(1,437,086)	(2,535,743)	1,616,135	12,332,448	7,056,679	2,013,143	104,247,466	14,042,240
2042	123,570,352	4,460,057	0	863,271	(928,811)	(3,044,018)	1,350,499	5,014,923	7,359,858	2,063,472	113,557,932	10,012,420
2043	129,117,489	4,675,051	0	351,044	(377,696)	377,696	5,026,095	1,124,481	7,608,371	2,115,059	123,570,459	5,547,030
2044	135,017,062	4,900,892	0	78,714	(84,690)	84,690	4,979,606	(3,116,976)	7,912,897	681,612	134,335,450	681,612

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding over 30 years at 7.00% discount rate and increasing at 4.00% per year**

Fiscal Year	Total APBO	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Excess Employer Payments (beyond claims)	Plan Assets at Beginning of year	Unfunded Accrued Actuarial Liability ("UAAL")
2013	32,001,214	1,155,162	5,440,800	1,113,387	(1,197,915)	(2,774,914)	3,736,520	15,905,529	1,696,028	848,531	0	32,001,214
2014	33,662,571	1,222,791	5,440,800	1,164,650	(1,253,070)	(2,719,759)	3,855,412	16,637,855	1,763,709	882,472	848,531	32,814,040
2015	35,440,170	1,281,300	5,440,800	1,219,497	(1,312,082)	(2,660,747)	3,968,768	17,421,392	1,897,317	917,771	1,790,400	33,649,770
2016	37,261,844	1,340,806	5,440,800	1,272,927	(1,369,568)	(2,603,261)	4,081,704	18,184,677	2,018,854	954,482	2,833,499	34,428,345
2017	39,144,662	1,394,481	5,440,800	1,325,755	(1,426,407)	(2,546,422)	4,188,207	18,939,361	2,133,276	992,661	3,986,326	35,158,336
2018	41,094,277	1,462,262	5,440,800	1,378,029	(1,482,649)	(2,490,180)	4,308,262	19,686,126	2,298,428	1,032,367	5,258,030	35,836,247
2019	43,076,428	1,530,735	5,440,800	1,427,145	(1,535,494)	(2,437,335)	4,425,851	20,387,794	2,410,657	1,073,662	6,658,459	36,417,969
2020	45,150,261	1,606,158	5,440,800	1,476,637	(1,588,744)	(2,384,085)	4,550,766	21,094,822	2,477,653	1,116,608	8,198,213	36,952,048
2021	47,378,280	1,670,445	5,440,800	1,530,184	(1,646,355)	(2,326,474)	4,668,600	21,859,769	2,632,694	1,161,272	9,888,696	37,489,584
2022	49,665,154	1,737,996	5,440,800	1,581,126	(1,701,165)	(2,271,664)	4,787,093	22,587,509	2,752,219	1,207,723	11,742,177	37,922,977
2023	52,056,495	1,821,453	5,440,800	1,631,995	(1,755,896)	(2,216,933)	4,921,419	23,314,217	2,859,683	1,256,032	13,771,852	38,284,643
2024	54,589,544	1,900,797	5,440,800	1,684,745	(1,812,651)	(2,160,178)	5,053,513	24,067,787	3,013,188	1,306,273	15,991,914	38,597,630
2025	57,220,553	1,984,808	5,440,800	1,735,996	(1,867,793)	(2,105,036)	5,188,775	24,799,946	3,163,361	1,358,524	18,417,621	38,802,932
2026	59,964,942	2,074,464	5,440,800	1,786,203	(1,921,812)	(2,051,017)	5,328,638	25,517,194	3,343,029	1,412,865	21,065,378	38,899,564
2027	62,805,891	2,174,245	5,440,800	1,833,624	(1,972,833)	(1,999,996)	5,475,840	26,194,637	3,516,501	1,469,380	23,952,819	38,853,072
2028	65,766,170	2,286,804	5,440,800	1,879,207	(2,021,876)	(1,950,953)	5,633,982	26,845,810	3,728,803	1,528,155	27,098,896	38,667,274
2029	68,827,202	2,401,543	5,440,800	1,920,997	(2,066,840)	(1,905,989)	5,790,511	27,442,823	3,936,551	1,589,281	30,523,974	38,303,228
2030	72,003,039	2,523,767	5,440,800	1,959,203	(2,107,946)	(1,864,883)	5,950,941	27,988,617	4,112,941	1,652,852	34,249,933	37,753,106
2031	75,342,881	2,653,210	5,440,800	1,996,291	(2,147,850)	(1,824,979)	6,117,472	28,518,451	4,316,815	1,718,966	38,300,280	37,042,601
2032	78,836,826	2,790,215	5,440,800	2,030,766	(2,184,942)	(1,787,887)	6,288,952	29,010,942	4,529,597	1,787,725	42,700,266	36,136,560
2033	82,494,345	2,931,899	5,440,800	2,062,349	(2,218,923)	(1,753,906)	6,462,219	29,462,131	4,731,542	1,859,234	47,477,010	35,017,335
2034	86,343,506	3,080,199	5,440,800	2,091,925	(2,250,744)	(1,722,085)	6,640,095	29,884,642	4,934,225	1,933,603	52,659,635	33,683,871
2035	90,403,828	3,229,949	5,440,800	2,119,764	(2,280,697)	(1,692,132)	6,817,684	30,282,346	5,185,184	2,010,947	58,279,412	32,124,416
2036	94,639,993	3,385,252	5,440,800	2,142,467	(2,305,124)	(1,667,705)	6,995,690	30,606,680	5,422,453	2,091,385	64,369,918	30,270,075
2037	99,084,989	3,543,517	5,440,800	2,161,022	(2,325,087)	(1,647,742)	7,172,510	30,871,751	5,765,469	2,175,040	70,967,197	28,117,792
2038	103,643,491	3,707,783	5,440,800	2,167,944	(2,332,534)	(1,640,295)	7,343,698	30,970,626	6,101,159	2,262,042	78,109,941	25,533,550
2039	108,337,624	3,879,847	0	2,163,350	(2,327,591)	(1,645,238)	7,507,368	30,904,999	6,403,268	2,352,524	85,839,679	22,497,945
2040	113,221,360	4,060,698	0	1,768,475	(1,902,738)	(2,070,091)	1,856,344	25,263,933	6,730,953	2,446,625	94,200,981	19,020,379
2041	118,289,706	4,253,283	0	1,335,681	(1,437,086)	(2,535,743)	1,616,135	19,081,158	7,056,679	2,544,490	103,241,675	15,048,031
2042	123,570,352	4,460,057	0	863,271	(928,811)	(3,044,018)	1,350,499	12,332,448	5,014,923	2,646,270	113,013,082	10,557,270
2043	129,117,489	4,675,051	0	351,044	(377,696)	377,696	5,026,095	7,056,679	1,124,481	2,752,121	123,570,268	5,547,221
2044	135,017,062	4,900,892	0	78,714	(84,690)	84,690	4,979,606	12,332,448	7,912,897	44,754	134,972,308	44,754

## EXHIBIT E

### GLOSSARY

**Accrual Accounting** - A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

**Actuarial Value of Assets** - The value of cash, investments, other assets and property belonging to an OPEB trust, pension fund or similar entity, as used by the actuary for the purpose of actuarial valuation. Some funds may be restricted for other purposes, and "smoothing" of investment gains and losses often make the actuarial value of assets different from the market value of assets.

**Annual Required Contribution** - Normal Cost plus an amortization of the funding shortfall over a period of no more than 30 years.

**Cash Basis Accounting** - A system of accounting in which revenues are recorded when actually received and outlays are recorded when payment is made.

**Discount Rate** - The interest rate used to calculate present value of a series of future cash flows. Under GASB 45, the rate should be "long term expected yield on the investments that are expected to be used to pay benefits as they come due. These would be plan investments for a funded plan, the employer's investments for a pay as you go plan [e.g. short term county investment pool], or a weighted average of expected plan and employer investments for a plan that is partially funded".

**FASB - Financial Accounting Standards Board.** "Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting and reporting".

**GASB - Government Accounting Standards Board.** "The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities."

**GFOA - Government Finance Officers Association.** "GFOA is the professional association of state/provincial and local finance officers in the United States and Canada, and has served the public finance profession since 1906. Approximately 16,000 GFOA members are dedicated to the sound management of government financial resources."

## EXHIBIT E

### **GLOSSARY**

*(continued)*

**Implicit Subsidy** - “The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.”

**Irrevocable Contribution** - “Irrevocably transferred assets to a qualifying trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator. The preceding criteria preclude counting as [irrevocable] contributions (a) designations of net assets of a governmental or proprietary fund to be used for OPEB or (b) internal transfers of assets to a separate governmental or proprietary fund for the same purpose. Rather, such actions should be regarded as earmarking of employer assets.”

**Level Dollar Amortization** - Funding a shortfall in OPEB assets with equal dollar payments over a designated number of years (no more than 30 years). The present value of the level payments equals the present value of unfunded liabilities, the UAAL.

**Level Percent of Payroll Amortization** - Funding a shortfall in OPEB assets as a level percent of payroll over a designated number of years (no more than 30 years). The present value of the payments equals the present value of unfunded liabilities, the UAAL. Level percent of payroll typically has lower payments in the early years than level dollar amortization. When using level payroll amortization, employee count is assumed to be constant, and the payroll differences arise from overall wage trends.

**Normal Cost** - The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Normal cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

**OPEB** - Other Post Employment Benefits

**OPEB Trust** - An entity other than a pension or retirement system which manages OPEB assets. In many respects it is similar to a pension fund for OPEB. For reasons detailed in GASB 45, contributions to an OPEB trust should be irrevocable in order to obtain the most favorable accounting treatment.

EXHIBIT E

**GLOSSARY**

*(continued)*

**Pay-as-you-go funding** - Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

**POB** - Pension Obligation Bond. Generally yielding taxable interest, POBs are issued to help fund a previously unfunded or underfunded pension liability.

**UAAL** - Unfunded Accrued Actuarial Liability. Actuarial Accrued Liability minus the Actuarial Value of Assets.