

**Town of Stoughton Other  
Postemployment Benefits Plan**

**GASB 45 Actuarial Valuation**

*as of*

January 1, 2013

For the fiscal years ending

June 30, 2013

June 30, 2014

Delivered March 2014

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March 5, 2014

*Personal and Confidential*

Mr. William Rowe  
Town Accountant  
Town of Stoughton  
10 Pearl Street  
Stoughton, MA 02072

Dear Mr. Rowe:

We have performed an actuarial valuation of the Town of Stoughton Other Postemployment Benefits Plan for the fiscal year ending June 30, 2013. The figures presented in this report reflect the adoption, by the Town of Stoughton, 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 VALUATIONS

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

	<u>January 1, 2013</u>	<u>January 1, 2011</u>
I. Present Value of Future Benefits		
A. Actives	103,382,256	105,086,037
B. Retirees/Disabled	45,285,331	49,326,264
C. Total	148,667,587	154,412,301
II. Present Value of Future Normal Cost	40,642,711	31,729,288
III. Actuarial Accrued Liability (Projected Unit Credit)		
A. Actives	62,739,545	73,356,749
B. Retirees/Disabled	45,285,331	49,326,264
C. Total	108,024,876	122,683,013
IV. Plan Assets	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	108,024,876	122,683,013
VI. Funded Ratio	0.00%	0.00%
VII. Annual Covered Payroll	36,692,795	N/A
VIII. UAAL as % of Covered Payroll	294.40%	N/A
IX. Net OPEB Obligation @ Beginning of Fiscal Year	19,649,919	9,893,009
X. Number of Eligible Participants		
A. Actives	802	571
B. Retirees/Disabled	448	460
C. Total	1,250	1,031
<b>For the Fiscal Year Ending:</b>	<u>June 30, 2013</u>	<u>June 30, 2011</u>
XI. Normal Cost	4,254,207	3,994,026
XII. Amortization of UAAL - 30 year increase 3.25% per yr	4,632,552	4,345,504
XIII. Annual Required Contribution ('ARC') [ XI. + XII.]	8,886,759	8,339,530
XIV. Interest on Net OPEB Obligation	785,999	395,721
XV. Adjustment to Annual Required Contribution	(1,092,653)	(855,565)
XVI. Amortization of Actuarial (Gains) / Losses	(120,395)	369,532
XVII. Annual OPEB Cost [XIII. + XIV. + XV. + XVI.]	8,459,710	8,249,218
XVIII. Expected Employer Contribution	3,065,420	3,513,700
XIX. Percentage of Annual OPEB Cost Contributed	36.2%	42.6%
XX. Net OPEB Obligation at Beginning of Year (IX.)	19,649,919	9,893,009
XXI. Increase in Net OPEB Obligations (XVII. - XVIII.)	5,394,290	4,735,518
XXII. Net OPEB Obligation at End of Year (XX. + XXI.)	25,044,209	14,628,527
XXIII. Discount Rate	4.00%	4.00%

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
 (continued)

**Town of Stoughton**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Plan Liabilities as of January 1, 2013**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Present Value of Future Benefits				
A. Actives	103,113,551	0	268,705	103,382,256
B. Retirees/Disabled	44,688,984	0	596,347	45,285,331
C. Total	147,802,535	0	865,052	148,667,587
II. Present Value of Future Normal Cost	40,571,387	0	71,324	40,642,711
III. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	62,542,164	0	197,381	62,739,545
B. Retirees/Disabled	44,688,984	0	596,347	45,285,331
C. Total	107,231,148	0	793,728	108,024,876
IV. Plan Assets	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	107,231,148	0	793,728	108,024,876
VI. Annual Covered Payroll	36,692,795	36,692,795	36,692,795	36,692,795
VII. UAAL as % of Covered Payroll	292.2%	0.0%	2.2%	294.4%
VIII. Net OPEB Obligation @ Beginning of Fiscal Year	19,505,538	0	144,381	19,649,919
IX. Number of Eligible Participants				
A. Actives	802	201	802	
B. Retirees/Disabled	448	0	393	
C. Total	1,250	201	1,195	

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

X. Normal Cost	4,245,368	0	8,839	4,254,207
XI. Amortization of UAAL - 30 year increase 3.25% per yr	4,598,514	0	34,038	4,632,552
XII. Annual Required Contribution ('ARC') [ X. + XI.]	8,843,882	0	42,877	8,886,759
XIII. Interest on Net OPEB Obligation	780,222	0	5,777	785,999
XIV. Adjustment to Annual Required Contribution	(1,084,623)	0	(8,030)	(1,092,653)
XV. Amortization of Actuarial (Gains) / Losses	(119,510)	0	(885)	(120,395)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	8,419,971	0	39,739	8,459,710
XVII. Expected Employer Contribution	3,038,654	0	26,766	3,065,420
XVIII. Contribution to Trust Fund over 30 Years	0	0	0	0
XIX. Total Employer Contribution	3,038,654	0	26,766	3,065,420
XX. Percentage of Annual OPEB Cost Contributed	36.1%	0.0%	67.4%	36.2%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	19,505,538	0	144,381	19,649,919
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	5,381,317	0	12,973	5,394,290
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	24,886,855	0	157,354	25,044,209

**SECTION I**  
**PRINCIPAL RESULTS OF THE VALUATION**  
(continued)

**Town of Stoughton**  
**Plan Liabilities as of January 1, 2013**  
Assuming maintain pay-as-you-go funding method

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Ambulance Employees and Retirees	Golf Course Enterprise Employees and Retirees	Public Health Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Total
I. Present Value of Future Benefits											
A. Actives	28,551,962	56,836,704	1,463,253	2,510,307	7,539,382	642,807	1,175,473	1,579,825	2,234,987	847,556	103,382,256
B. Retirees/Disabled	19,569,979	25,715,352	0	0	0	0	0	0	0	0	45,285,331
C. Total	48,121,941	82,552,056	1,463,253	2,510,307	7,539,382	642,807	1,175,473	1,579,825	2,234,987	847,556	148,667,587
II. Present Value of Future Normal Cost	7,975,472	26,932,962	533,378	910,143	2,108,867	597,625	238,073	584,011	564,316	197,864	40,642,711
III. Actuarial Accrued Liability (Projected Unit Credit)											
A. Actives	20,576,490	29,903,742	929,875	1,600,164	5,430,515	45,182	937,400	995,814	1,670,671	649,692	62,739,545
B. Retirees/Disabled	19,569,979	25,715,352	0	0	0	0	0	0	0	0	45,285,331
C. Total	40,146,469	55,619,094	929,875	1,600,164	5,430,515	45,182	937,400	995,814	1,670,671	649,692	108,024,876
IV. Plan Assets	0	0	0	0	0	0	0	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	40,146,469	55,619,094	929,875	1,600,164	5,430,515	45,182	937,400	995,814	1,670,671	649,692	108,024,876
VI. Annual Covered Payroll	10,412,533	26,280,262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36,692,795
VII. UAAL as % of Covered Payroll	385.6%	211.6%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	294.4%
VIII. Net OPEB Obligation	6,740,005	9,327,716	156,011	268,470	1,166,864	303,062	310,215	369,189	638,949	369,438	19,649,919
IX. Number of Eligible Participants											
A. Actives	201	494	6	10	44	8	8	11	15	5	802
B. Retirees/Disabled	213	235	0	0	0	0	0	0	0	0	448
C. Total	414	729	6	10	44	8	8	11	15	5	1,250
<b>For Fiscal Year Ending June 30, 2013</b>											
X. Normal Cost	1,077,064	2,500,176	56,602	106,114	283,815	42,191	31,658	68,858	61,572	26,157	4,254,207
XI. Amortization of UAAL - 30 year increase 3.25% per yr	1,433,781	2,620,907	43,836	75,435	256,004	2,130	44,189	46,944	78,757	30,569	4,632,552
XII. Annual Required Contribution ("ARC") [ X. + XI.]	2,510,845	5,121,083	100,438	181,549	539,819	44,321	75,847	115,802	140,329	56,726	8,886,759
XIII. Interest on Net OPEB Obligation	269,601	373,109	6,241	10,739	46,675	12,122	12,408	14,768	25,558	14,778	785,999
XIV. Adjustment to Annual Required Contribution	(374,784)	(518,676)	(8,676)	(14,929)	(64,885)	(16,852)	(17,250)	(20,529)	(35,529)	(20,543)	(1,092,653)
XV. Amortization of Actuarial (Gains) / Losses	64,975	90,017	1,505	2,590	8,789	(295,155)	1,517	1,612	2,704	1,051	(120,395)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	2,470,637	5,065,533	99,508	179,949	530,398	(255,564)	72,522	111,653	133,062	52,012	8,459,710
XVII. Expected Employer Contribution	1,455,406	1,582,165	1,320	1,940	2,806	0	4,035	5,520	10,084	2,144	3,065,420
XVIII. Contribution to Trust Fund over 30 Years	0	0	0	0	0	0	0	0	0	0	0
XIX. Total Employer Contribution	1,455,406	1,582,165	1,320	1,940	2,806	0	4,035	5,520	10,084	2,144	3,065,420
XX. Percentage of Annual OPEB Cost Contributed	58.9%	31.2%	1.3%	1.1%	0.5%	0.0%	5.6%	4.9%	7.6%	4.1%	36.2%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	6,740,005	9,327,716	156,011	268,470	1,166,864	303,062	310,215	369,189	638,949	369,438	19,649,919
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	1,015,231	3,483,368	98,188	178,009	527,592	(255,564)	68,487	106,133	122,978	49,868	5,394,290
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	7,755,236	12,811,084	254,199	446,479	1,694,456	47,498	378,702	475,322	761,927	419,306	25,044,209

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

**Town of Stoughton**  
**Detail of Plan Liabilities by Group and Dependency Status**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Plan Liabilities as of January 1, 2013**

	<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	11,668,528	6,784,706	489,997
B. Spouses	<u>11,610,121</u>	<u>6,915,282</u>	<u>482,684</u>
C. Total	23,278,649	13,699,988	972,681
Age 65 and Over			
A. Participants	44,436,672	27,194,184	1,820,291
B. Spouses	<u>35,666,935</u>	<u>21,845,373</u>	<u>1,461,235</u>
C. Total	80,103,607	49,039,557	3,281,526
Actives Total			
A. Participants	56,105,200	33,978,890	2,310,288
B. Spouses	<u>47,277,056</u>	<u>28,760,655</u>	<u>1,943,919</u>
C. Total	103,382,256	62,739,545	4,254,207
<b>Retirees/Disabled</b>			
Under Age 65			
A. Participants	2,301,134	2,301,134	0
B. Spouses	<u>1,744,338</u>	<u>1,744,338</u>	<u>0</u>
C. Total	4,045,472	4,045,472	0
Age 65 and Over			
A. Participants	31,298,275	31,298,275	<u>0</u>
B. Spouses	<u>9,941,584</u>	<u>9,941,584</u>	<u>0</u>
C. Total	41,239,859	41,239,859	0
Retirees/Disabled Total			
A. Participants	33,599,409	33,599,409	0
B. Spouses	<u>11,685,922</u>	<u>11,685,922</u>	<u>0</u>
C. Total	45,285,331	45,285,331	0
<b>Total Population</b>			
A. Participants	89,704,609	67,578,299	2,310,288
B. Spouses	<u>58,962,978</u>	<u>40,446,577</u>	<u>1,943,919</u>
C. Total	148,667,587	108,024,876	4,254,207

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

**Town of Stoughton**

**Assuming Funding over 30 years at 7.00% discount rate and increasing at 3.25% per year  
Plan Liabilities as of January 1, 2013**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Total</u>
I. Present Value of Future Benefits				
A. Actives	49,707,346	0	124,145	49,831,491
B. Retirees/Disabled	33,570,265	0	425,344	33,995,609
C. Total	83,277,611	0	549,489	83,827,100
II. Present Value of Future Normal Cost	15,848,060	0	25,388	15,873,448
III. Actuarial Accrued Liability (Projected Unit Credit)				
A. Actives	33,859,286	0	98,757	33,958,043
B. Retirees/Disabled	33,570,265	0	425,344	33,995,609
C. Total	67,429,551	0	524,101	67,953,652
IV. Plan Assets	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	67,429,551	0	524,101	67,953,652
VI. Annual Covered Payroll	36,692,795	36,692,795	36,692,795	36,692,795
VII. UAAL as % of Covered Payroll	183.8%	0.0%	1.4%	185.2%
VIII. Net OPEB Obligation	19,505,538	0	144,381	19,649,919
IX. Number of Eligible Participants				
A. Actives	802	201	802	
B. Retirees/Disabled	448	0	393	
C. Total	1,250	201	1,195	

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

X. Normal Cost	1,857,811	0	3,493	1,861,304
XI. Amortization of UAAL - 30 year increase 3.25% per yr	6,339,310	0	49,273	6,388,583
XII. Annual Required Contribution ('ARC') [ X. + XI.]	8,197,121	0	52,766	8,249,887
XIII. Interest on Net OPEB Obligation	1,365,388	0	10,107	1,375,495
XIV. Adjustment to Annual Required Contribution	(1,469,048)	0	(10,874)	(1,479,922)
XV. Amortization of Actuarial (Gains) / Losses	(3,216,659)	0	35,651	(3,181,008)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	4,876,802	0	87,650	4,964,452
XVII. Expected Employer Contribution	3,038,654	0	26,766	3,065,420
XVIII. Contribution over 30 Years increasing at 3.25% per yr	2,244,292	0	60,884	2,305,176
XIX. Total Employer Contribution	5,282,946	0	87,650	5,370,596
XX. Percentage of Annual OPEB Cost Contributed	108.3%	0.0%	100.0%	108.2%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	19,505,538	0	144,381	19,649,919
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	(406,144)	0	0	(406,144)
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	19,099,394	0	144,381	19,243,775

**SECTION I**  
**PRINCIPAL RESULTS OF THE VALUATION**  
(continued)

**Town of Stoughton**  
**Plan Liabilities as of January 1, 2013**  
**Assuming Funding over 30 years at 7.00% discount rate and increasing at 3.25% per year**

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Ambulance Employees and Retirees	Golf Course Enterprise Employees and Retirees	Public Health Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Total
I. Present Value of Future Benefits											
A. Actives	13,762,388	27,395,975	705,306	1,209,998	3,634,073	309,841	566,592	761,495	1,077,291	408,532	49,831,491
B. Retirees/Disabled	14,691,145	19,304,464	0	0	0	0	0	0	0	0	33,995,609
C. Total	28,453,533	46,700,439	705,306	1,209,998	3,634,073	309,841	566,592	761,495	1,077,291	408,532	83,827,100
II. Present Value of Future Normal Cost	3,114,905	10,518,958	208,317	355,466	823,641	233,409	92,982	228,092	220,400	77,278	15,873,448
III. Actuarial Accrued Liability (Projected Unit Credit)											
A. Actives	11,137,110	16,185,526	503,299	866,096	2,939,289	24,455	507,372	538,989	904,258	351,649	33,958,043
B. Retirees/Disabled	14,691,145	19,304,464	0	0	0	0	0	0	0	0	33,995,609
C. Total	25,828,255	35,489,990	503,299	866,096	2,939,289	24,455	507,372	538,989	904,258	351,649	67,953,652
IV. Plan Assets	0	0	0	0	0	0	0	0	0	0	0
V. Unfunded Actuarial Accrued Liability ("UAAL")	25,828,255	35,489,990	503,299	866,096	2,939,289	24,455	507,372	538,989	904,258	351,649	67,953,652
VI. Annual Covered Payroll	10,412,533	26,280,262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36,692,795
VII. UAAL as % of Covered Payroll	248.0%	135.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	185.2%
VIII. Net OPEB Obligation	6,740,005	9,327,716	156,011	268,470	1,166,864	303,062	310,215	369,189	638,949	369,438	19,649,919
IX. Number of Eligible Participants											
A. Actives	201	494	6	10	44	8	8	11	15	5	802
B. Retirees/Disabled	213	235	0	0	0	0	0	0	0	0	448
C. Total	414	729	6	10	44	8	8	11	15	5	1,250
<b>For Fiscal Year Ending June 30, 2013</b>											
X. Normal Cost	471,238	1,093,879	24,765	46,427	124,175	18,459	13,851	30,127	26,939	11,444	1,861,304
XI. Amortization of UAAL - 30 year increase 3.25% per yr	1,977,274	3,614,397	60,453	104,030	353,046	2,937	60,939	64,739	108,611	42,157	6,388,583
XII. Annual Required Contribution (ARC) [ X. + XI.]	2,448,512	4,708,276	85,218	150,457	477,221	21,396	74,790	94,866	135,550	53,601	8,249,887
XIII. Interest on Net OPEB Obligation	471,802	652,939	10,922	18,793	81,681	21,213	21,714	25,844	44,726	25,861	1,375,495
XIV. Adjustment to Annual Required Contribution	(507,619)	(702,510)	(11,751)	(20,220)	(87,882)	(22,825)	(23,364)	(27,805)	(48,122)	(27,824)	(1,479,922)
XV. Amortization of Actuarial (Gains) / Losses	(915,048)	(1,661,337)	(23,560)	(40,543)	(137,592)	(295,155)	(23,751)	(25,231)	(42,330)	(16,461)	(3,181,008)
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	1,497,647	2,997,368	60,829	108,487	333,428	(275,371)	49,389	67,674	89,824	35,177	4,964,452
XVII. Expected Employer Contribution	1,455,406	1,582,165	1,320	1,940	2,806	0	4,035	5,520	10,084	2,144	3,065,420
XVIII. Contribution over 30 Years increasing at 3.25% per yr	876,166	1,203,919	17,073	29,380	99,709	830	17,211	18,284	30,675	11,929	2,305,176
XIX. Total Employer Contribution	2,331,572	2,786,084	18,393	31,320	102,515	830	21,246	23,804	40,759	14,073	5,370,596
XX. Percentage of Annual OPEB Cost Contributed	155.7%	93.0%	30.2%	28.9%	30.7%	-0.3%	43.0%	35.2%	45.4%	40.0%	108.2%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	6,740,005	9,327,716	156,011	268,470	1,166,864	303,062	310,215	369,189	638,949	369,438	19,649,919
XXII. Increase in Net OPEB Obligations (XVI. - XIX.)	(833,925)	211,284	42,436	77,167	230,913	(276,201)	28,143	43,870	49,065	21,104	(406,144)
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	5,906,080	9,539,000	198,447	345,637	1,397,777	26,861	338,358	413,059	688,014	390,542	19,243,775

## 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 Town, 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 Town'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 with amortization payments increasing at 3.25% per year. This approach yields an amortization charge of \$4,632,552. 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 \$4,254,207. 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 \$5,394,290 reduced by contributions to an OPEB Trust of \$0 for a net change in the OPEB liability of \$5,394,290 .

### 2. Plan Experience:

Plan experience was more favorable than expected. This was due to a reduction in the premiums for Medicare integrated plans and premiums remaining flat in pre-Medicare plans vs. an expected 11% 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 an increase in the annual OPEB cost as it was discovered that previous census information from the Schools excluded benefit eligible participants who elected to waive coverage leading to an increase in the Normal 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>	30% of premiums for Medical Insurance, 50% for Life Insurance, retired teachers pay 10%-15% depending on retirement date.
<u>Benefits Offered</u>	Comprehensive Medical, Dental & Life Insurance offered through Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Group and Tufts. Retired teachers receive benefits through the Group Insurance Commission.
<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 total service at full eligibility for benefits.

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 (90% for retired teachers). For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement (90% for retired teachers).

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 (80% for retired teachers). 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
Tufts EPO	181	2	49	232
Harvard Pilgrim	69		28	97
Network Blue	42		5	47
Managed Blue for Seniors	4			4
Tufts Medicare Plus	16	13		29
Medex	143	2		145
<b>Total</b>	<b>455</b>	<b>17</b>	<b>82</b>	<b>554</b>

	Per Contract Premiums (monthly) - FY 2014		
	Single	Two-Person	Family
Tufts EPO	674.27	0.00	1,801.29
Harvard Pilgrim	770.90	0.00	2,002.32
Network Blue	778.42	0.00	2,078.27
BCBSHMO	635.00		1,693.00
Tufts Medicare Plus	410.00	820.00	
Managed Blue for Seniors	347.41	694.82	
Tufts Medicare Plus	333.00	666.00	
Medex	615.86	1,231.72	

Gross Expected FY 2014 Incurred Premiums	5,622,662
Adjustment to reflect children's claims	(419,873)
<b>Total Expected FY 2014 Incurred Premiums (adults only)</b>	<b>5,202,790</b>

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

	<b>Employer Primary</b>	<b>Medicare Primary</b>
Age 65	12,810	6,585
Average Age	12,025	6,585

	GIC Plans for Retired Teachers		
	Per Contract Costs (monthly) - FY 2014		
	Single	Two-Person	Family
Fallon Direct	469.40	0.00	1,126.60
Fallon Select	590.50	0.00	1,417.20
NHP Care	455.60		1,207.40
Tufts Spirit	505.07		1,223.25
Unicare Basic w/ CIC	764.82		1,831.29
Unicare Basic w/o CIC	722.40		1,726.40
Unicare OME w/ CIC	428.80	857.60	
Unicare OME w/o CIC	320.50	641.00	
Tufts Medicare Complement	384.00	768.00	
Tufts Medicare Preferred	265.50	531.00	
Harvard Senior (GIC)	393.20	786.40	
Fallon Senior	289.60	579.20	

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**

5,202,790 Active and Retired Claims (No Children) - Including Administrative fees & trend

5,990 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	3	7	1.312	0.549	7,859	3,289	46,600
25 to 29	17	15	1.312	0.591	7,859	3,540	186,703
30 to 34	18	24	1.312	0.712	7,859	4,265	243,822
35 to 39	20	31	1.312	0.850	7,859	5,092	315,032
40 to 44	18	48	1.312	1.000	7,859	5,990	428,982
45 to 49	12	46	1.456	1.193	8,721	7,146	433,368
50 to 54	16	35	1.599	1.441	9,578	8,632	455,368
55 to 59	26	29	1.740	1.753	10,423	10,500	575,498
60 to 64	16	23	1.968	2.102	11,788	12,591	478,201
65 to 69	4	4	2.168	2.316	12,986	13,873	107,436
70 & Over	0	4	2.396	2.557	14,352	15,316	61,264
Total	150	266					3,332,274

**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	0	0	1.312	1.000	7,859	5,990	0
45 to 49	1	0	1.456	1.193	8,721	7,146	8,721
50 to 54	1	3	1.599	1.441	9,578	8,632	35,474
55 to 59	5	3	1.740	1.753	10,423	10,500	83,615
60 to 64	18	21	1.968	2.102	11,788	12,591	476,595
65 to 69	1	1	2.168	2.316	12,986	13,873	26,859
70 to 74	0	0	2.396	2.557	14,352	15,316	0
75 to 79	0	1	2.593	2.769	15,532	16,586	16,586
80 to 84	0	0	2.724	2.910	16,317	17,431	0
85 to 89	0	1	2.864	3.059	17,155	18,323	18,323
90 & Over	0	1	3.010	3.215	18,030	19,258	19,258
Total	26	31					685,431

**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	20	23	2.168	2.316	6,585	6,585	283,155
70 to 74	18	23	2.396	2.557	6,585	6,585	269,985
75 to 79	20	11	2.593	2.769	6,585	6,585	204,135
80 to 84	16	16	2.724	2.910	6,585	6,585	210,720
85 to 89	15	9	2.864	3.059	6,585	6,585	158,040
90 & Over	8	1	3.010	3.215	6,585	6,585	59,265
Total	97	83					1,185,300
Grand Totals	273	380					5,203,005

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		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Dental Plan	N/A		N/A

FY 2014 Expected Per Person Rate

N/A

## EXHIBIT A

### Financial Statement Disclosure

(As of January 1, 2013)

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: Comprehensive Medical offered through Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Group and Tufts. Retired teachers receive benefits through the Group Insurance Commission.
- b. Administrator: Town of Stoughton
- 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: 30% of premiums, retired teachers pay 10%-15% depending on retirement date.

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

- a. Plan Type: Comprehensive Dental Insurance offered through the Group Insurance Commission (retired teachers only)
- b. Administrator: Town of Stoughton
- 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 - \$2,000 offered through Boston Mutual. Retired Teachers receive a \$5,000 policy via the Group Insurance Commission
- b. Administrator: Town of Stoughton
- c. Eligibility: Same as above
- d. Cost sharing: 50% of premiums, retired teachers pay 10%-15% depending on retirement date.

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(continued)

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

Group	Individual	Family
Medical	30% of premiums, retired teachers pay 10%-15% depending on retirement date.	30% of premiums, retired teachers pay 10%-15% depending on retirement date.
Life	50% of premiums, retired teachers pay 10%-15% depending on retirement date.	N/A

**5. FUNDING POLICY**

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The required contribution is based on the projected pay-as-you-go financing requirements. For the 2013 fiscal year, total Town premiums plus implicit costs for the retiree medical program are \$3,065,420. The Town is also projected to make a contribution to an OPEB Trust of \$0 for the 2013 fiscal year for a total contribution of \$3,065,420 .

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(continued)

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

The Town'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 Town's annual OPEB costs for the fiscal year, the amount actually contributed to the plan and changes in the Town's net OPEB obligation to the plan:

Annual Required Contribution	\$8,886,759
Interest on net OPEB obligation	\$785,999
Adjustment to annual required contribution	(\$1,092,653)
Amortization of Actuarial (Gains) / Losses	(\$120,395)
Annual OPEB cost (expense)	\$8,459,710
Contributions made to pay benefits	\$3,065,420
Contributions made to OPEB Trust	\$0
Increase in net OPEB obligation	\$5,394,290
Net OPEB Obligation – beginning of year	\$19,649,919
Net OPEB Obligation – end of year	\$25,044,209

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(continued)

The Town'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:

<b>Fiscal Year Ended</b>	<b>Annual OPEB Cost</b>	<b>Expected Employer Payments</b>	<b>Percentage of OPEB Cost Contributed</b>	<b>Increase in OPEB Obligation</b>	<b>Net OPEB Obligation</b>
06/30/2015 (est.)	\$9,948,753	\$3,363,431	33.8%	\$6,585,322	\$37,639,739
06/30/2014 (est.)	\$9,225,744	\$3,215,538	34.9%	\$6,010,206	\$31,054,417
06/30/2013	\$8,459,712	\$3,065,420	36.2%	\$5,394,292	\$25,044,211
06/30/2012	\$8,695,467	\$3,674,075	42.3%	\$5,021,392	\$19,649,919
06/30/2011	\$8,249,218	\$3,513,700	42.6%	\$4,735,518	\$14,628,527
06/30/2010	\$9,138,293	\$4,132,308	45.2%	\$5,005,985	\$9,893,009

**Schedule of Funding Progress:**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liability</b>	<b>Unfunded Actuarial Accrued Liability</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL as a % of Covered Payroll</b>
01/01/2015 (est.)	\$0	\$119,568,949	\$119,568,949	0.0%	\$38,927,387	307.2%
01/01/2014 (est.)	\$0	\$113,563,317	\$113,563,317	0.0%	\$37,793,579	300.5%
01/01/2013	\$0	\$108,024,876	\$108,024,876	0.0%	\$36,692,795	294.4%
01/01/2012	\$0	\$122,683,013	\$122,683,013	0.0%	N/A	N/A
01/01/2011	\$0	\$122,837,052	\$122,837,052	0.0%	N/A	N/A
01/01/2010	\$0	\$117,348,576	\$117,348,576	0.0%	N/A	N/A

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(continued)

Fiscal Year Ending June 30, 2013											
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Ambulance Employees and Retirees	Golf Course Enterprise Employees and Retirees	Public Health Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Total
OPEB obligation at beginning of year	6,740,005	9,327,716	156,011	268,470	1,166,864	303,062	310,215	369,189	638,949	369,438	19,649,919
Annual Required Contribution	2,510,845	5,121,083	100,438	181,549	539,819	44,321	75,847	115,802	140,329	56,726	8,886,759
Interest on Net OPEB Obligation	269,601	373,109	6,241	10,739	46,675	12,122	12,408	14,768	25,558	14,778	785,999
Adjustment to the ARC	(374,784)	(518,676)	(8,676)	(14,929)	(64,885)	(16,852)	(17,250)	(20,529)	(35,529)	(20,543)	(1,092,653)
Amortization of Actuarial (Gains)/Losses	64,975	90,017	1,505	2,590	8,789	(295,155)	1,517	1,612	2,704	1,051	(120,395)
Annual OPEB Cost	2,470,637	5,065,533	99,508	179,949	530,398	(255,564)	72,522	111,653	133,062	52,012	8,459,710
Total Expected Employer Payments	1,455,406	1,582,165	1,320	1,940	2,806	-	4,035	5,520	10,084	2,144	3,065,420
Increase in OPEB Obligation	1,015,231	3,483,368	98,188	178,009	527,592	(255,564)	68,487	106,133	122,978	49,868	5,394,290
OPEB obligation at end of year	7,755,236	12,811,084	254,199	446,479	1,694,456	47,498	378,702	475,322	761,927	419,306	25,044,209
APBO at beginning of year	40,146,469	55,619,094	929,875	1,600,164	5,430,515	45,182	937,400	995,814	1,670,671	649,692	108,024,876

  

Fiscal Year Ending June 30, 2014											
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Ambulance Employees and Retirees	Golf Course Enterprise Employees and Retirees	Public Health Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Sanitation Enterprise Employees and Retirees	Total
OPEB obligation at beginning of year	7,755,236	12,811,084	254,199	446,479	1,694,456	47,498	378,702	475,322	761,927	419,306	25,044,209
Annual Required Contribution	2,666,318	5,438,179	106,657	192,790	573,244	47,065	80,543	122,972	149,018	60,238	9,437,024
Interest on Net OPEB Obligation	343,611	475,533	7,954	13,687	59,488	15,450	15,814	18,822	32,574	18,835	1,001,768
Adjustment to the ARC	(477,670)	(661,061)	(11,058)	(19,027)	(82,697)	(21,478)	(21,985)	(26,165)	(45,282)	(26,182)	(1,392,605)
Amortization of Actuarial (Gains)/Losses	(119,122)	271,570	4,966	8,794	28,391	(38,525)	4,717	6,134	8,801	3,831	179,557
Annual OPEB Cost	2,413,137	5,524,221	108,519	196,244	578,426	2,512	79,089	121,763	145,111	56,722	9,225,744
Total Expected Employer Payments	1,526,679	1,659,646	1,385	2,035	2,943	-	4,233	5,790	10,578	2,249	3,215,538
Increase in OPEB Obligation	886,458	3,864,575	107,134	194,209	575,483	2,512	74,856	115,973	134,533	54,473	6,010,206
OPEB obligation at end of year	8,641,694	16,675,659	361,333	640,688	2,269,939	50,010	453,558	591,295	896,460	473,779	31,054,415
APBO at beginning of year	42,204,781	58,470,688	977,550	1,682,204	5,708,938	47,498	985,461	1,046,869	1,756,326	683,002	113,563,317

## EXHIBIT A

### Financial Statement Disclosure

(As of January 1, 2013)

(continued)

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

As of January 1, 2013, the most recent valuation date, the plan was 0.00% funded. The actuarial liability for benefits was \$108,024,876, and the actuarial value of assets was \$ 0, resulting in an unfunded actuarial accrued liability (UAAL) of \$108,024,876. The covered payroll (annual payroll of active employees covered by the plan) was \$ 36,692,795 and the ratio of the UAAL to the covered payroll was 294.4%.

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 \$136,870,108 or by 26.7% and the corresponding Normal Cost would increase to \$6,298,923 or by 48.1%. 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 \$85,717,125 or by 20.7% and the corresponding Normal Cost would decrease to \$2,807,680 or by 34.0%.

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(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: Amortized increasing at 3.25% per year over 30 years at transition  
Remaining Amortization Period: 26 years at January 1, 2013

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(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 with amortization payments increasing at 3.25% per year. 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>
--

***Expected Unfunded Actuarial Liability***

1. Actuarial Accrued Liability at prior valuation date	122,683,013
2. Actuarial Value of Assets at prior valuation date	<u>0</u>
3. Unfunded Actuarial Accrued Liability at prior valuation date [1. - 2.]	122,683,013
4. Normal Cost for prior periods	7,988,052
5. Employer Contributions for prior periods	<b>(7,187,775)</b>
6. Interest to current valuation date	<u>10,356,453</u>
7. Expected Actuarial Accrued Liability [3. + 4. + 5. + 6.]	133,839,743

***Actual Unfunded Actuarial Liability***

8. Actuarial Accrued Liability at current valuation date	108,024,876
9. Actuarial Value of Assets at current valuation date	<u>0</u>
10. Unfunded Actuarial Accrued Liability at current valuation date [8. - 9.]	108,024,876

***Net Actuarial (Gain) / Loss from Plan Experience [10. - 7.]*** **(25,814,867)**

11. Unfunded Actuarial Accrued Liability at current valuation date [10.]	108,024,876
12. Remaining Initial Unfunded to be amortized	<u>110,190,034</u>
13. Actuarial (Gain) / Loss to be amortized: [11. - 12.]	<b>(2,165,158)</b>

EXHIBIT A

Financial Statement Disclosure  
(As of January 1, 2013)  
(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	117,348,576	30	110,190,034	26	4,632,552
July 1, 2012	Cumulative (Gain) / Loss	(2,165,158)	30	(2,165,149)	30	(120,395)
July 1, 2012	Adjustment to ARC	(19,649,919)	30	(19,649,919)	30	(1,092,651)
Total				88,374,966		3,419,506

**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 Town of Stoughton 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 January 1, 2013)  
(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 Town of Stoughton nor have we attempted to value the impact of prior Town of Stoughton employees currently working at other governmental entities in the State of Massachusetts.

EXHIBIT B

Reconciliation of Plan Participation  
(As of January 1, 2013)

**ACTIVE EMPLOYEES**

	<u>January 1, 2013</u>	<u>January 1, 2011</u>
<b>A. Average Age at Hire</b>	35.03	32.43
<b>B. Average Service</b>	9.41	12.60
<b>C. Average Current Age</b>	44.44	45.03

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 ("UAAAL")
								19,649,919				
2013	108,024,876	4,254,209	4,632,552	785,999	(1,092,653)	(120,395)	8,459,712	25,044,211	3,065,420	0	0	108,024,876
2014	113,563,317	4,653,914	4,783,110	1,001,768	(1,392,605)	179,557	9,225,744	31,054,417	3,215,538	0	0	113,563,317
2015	119,568,949	4,981,063	4,938,561	1,242,177	(1,726,808)	513,760	9,948,753	37,639,739	3,363,431	0	0	119,568,949
2016	126,018,270	5,347,781	5,099,064	1,505,590	(2,092,991)	879,943	10,739,387	44,837,667	3,541,459	0	0	126,018,270
2017	132,903,311	5,666,208	5,264,784	1,793,507	(2,493,237)	1,280,189	11,511,451	52,626,939	3,722,179	0	0	132,903,311
2018	140,219,565	5,966,182	5,435,889	2,105,078	(2,926,366)	1,713,318	12,294,101	60,970,330	3,950,710	0	0	140,219,565
2019	147,886,595	6,349,110	5,612,555	2,438,813	(3,390,308)	2,177,260	13,187,430	70,008,428	4,149,332	0	0	147,886,595
2020	156,061,348	6,774,845	5,794,963	2,800,338	(3,892,879)	2,679,831	14,157,098	79,828,896	4,336,630	0	0	156,061,348
2021	164,807,071	7,126,934	5,983,300	3,193,156	(4,438,955)	3,225,907	15,090,342	90,373,543	4,545,695	0	0	164,807,071
2022	174,068,378	7,533,153	6,177,757	3,614,941	(5,025,299)	3,812,251	16,112,803	101,693,555	4,792,791	0	0	174,068,378
2023	183,846,937	7,841,652	6,378,534	4,067,742	(5,654,758)	4,441,710	17,074,880	113,709,928	5,058,507	0	0	183,846,937
2024	194,057,937	8,227,638	6,585,836	4,548,397	(6,322,939)	5,109,891	18,148,823	126,492,476	5,366,275	0	0	194,057,937
2025	204,753,101	8,607,382	6,799,876	5,059,699	(7,033,724)	5,820,676	19,253,909	140,001,887	5,744,498	0	0	204,753,101
2026	215,901,757	9,028,317	7,020,872	5,600,075	(7,784,926)	6,571,878	20,436,216	154,309,116	6,128,987	0	0	215,901,757
2027	227,534,761	9,540,524	7,249,051	6,172,365	(8,580,492)	7,367,444	21,748,892	169,547,268	6,510,740	0	0	227,534,761
2028	239,755,439	10,013,553	7,484,645	6,781,891	(9,427,823)	8,214,775	23,067,041	185,673,261	6,941,048	0	0	239,755,439
2029	252,535,280	10,323,903	7,727,896	7,426,930	(10,324,522)	9,111,474	24,265,681	202,616,435	7,322,507	0	0	252,535,280
2030	265,754,098	10,823,650	7,979,052	8,104,658	(11,266,662)	10,053,614	25,694,312	220,618,244	7,692,503	0	0	265,754,098
2031	279,624,135	11,384,008	8,238,371	8,824,730	(12,267,668)	11,054,620	27,234,061	239,739,130	8,113,175	0	0	279,624,135
2032	294,197,075	11,883,498	8,506,118	9,589,565	(13,330,902)	12,117,854	28,766,133	259,953,336	8,551,927	0	0	294,197,075
2033	309,429,792	12,099,426	8,782,567	10,398,133	(14,454,930)	13,241,882	30,067,078	281,010,228	9,010,186	0	0	309,429,792
2034	325,019,793	12,677,920	9,068,000	11,240,409	(15,625,817)	14,412,769	31,773,281	303,258,526	9,524,983	0	0	325,019,793
2035	341,299,639	13,309,216	9,362,710	12,130,341	(16,862,953)	15,649,905	33,589,219	326,774,656	10,073,089	0	0	341,299,639
2036	358,317,197	13,991,498	9,666,998	13,070,987	(18,170,587)	16,957,539	35,516,435	351,632,752	10,658,339	0	0	358,317,197
2037	376,116,371	14,717,681	9,981,175	14,065,310	(19,552,843)	18,339,795	37,551,118	377,902,058	11,281,812	0	0	376,116,371
2038	394,734,330	15,494,272	10,305,563	15,116,083	(21,013,571)	19,800,523	39,702,870	405,664,919	11,940,009	0	0	394,734,330
2039	414,220,137	16,314,818	0	16,226,597	(22,557,348)	21,344,300	31,328,367	424,475,259	12,518,027	0	0	414,220,137
2040	434,737,604	17,186,570	0	16,979,011	(23,603,313)	22,390,265	32,952,533	444,239,843	13,187,949	0	0	434,737,604
2041	456,285,675	18,107,041	0	17,769,594	(24,702,341)	23,489,293	34,663,587	465,012,719	13,890,711	0	0	456,285,675
2042	478,922,085	19,074,474	0	18,600,509	(25,857,434)	24,644,386	36,461,935	486,818,048	14,656,606	0	0	478,922,085
2043	502,673,551	20,104,430	0	19,472,722	(27,069,939)	27,069,939	39,577,152	510,978,831	15,416,369	0	0	502,673,551
2044	527,656,077	21,189,891	0	20,439,154	(28,413,419)	28,413,419	41,629,045	536,329,914	16,277,962	0	0	527,656,077

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 3.25% 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	67,953,652	1,861,304	6,388,583	1,375,495	(1,479,922)	(3,181,008)	4,964,452	19,649,919 19,243,775	3,065,420	2,305,176	0	67,953,652
2014	71,412,361	2,063,656	6,596,212	1,347,065	(1,449,333)	(3,211,597)	5,346,003	18,994,146	3,215,538	2,380,094	2,305,176	69,107,185
2015	75,158,389	2,220,926	6,810,588	1,329,591	(1,430,533)	(3,230,397)	5,700,175	18,873,443	3,363,431	2,457,447	4,846,632	70,311,757
2016	79,187,448	2,393,871	7,031,932	1,321,141	(1,421,442)	(3,239,488)	6,086,014	18,880,684	3,541,459	2,537,314	7,643,343	71,544,105
2017	83,483,114	2,546,011	7,260,470	1,321,648	(1,421,987)	(3,238,943)	6,467,199	19,005,927	3,722,179	2,619,777	10,715,691	72,767,423
2018	88,056,174	2,696,711	7,496,435	1,330,415	(1,431,420)	(3,229,510)	6,862,631	19,212,928	3,950,710	2,704,920	14,085,566	73,970,608
2019	92,856,777	2,893,152	7,740,069	1,344,905	(1,447,010)	(3,213,920)	7,317,196	19,587,962	4,149,332	2,792,830	17,776,476	75,080,301
2020	97,995,757	3,114,037	7,991,621	1,371,158	(1,475,256)	(3,185,674)	7,815,886	20,183,621	4,336,630	2,883,597	21,813,659	76,182,098
2021	103,528,992	3,296,318	8,251,349	1,412,854	(1,520,117)	(3,140,813)	8,299,591	20,960,203	4,545,695	2,977,314	26,224,212	77,304,780
2022	109,429,463	3,504,989	8,519,518	1,467,215	(1,578,605)	(3,082,325)	8,830,792	21,924,127	4,792,791	3,074,077	31,037,221	78,392,242
2023	115,690,871	3,635,483	8,796,402	1,534,689	(1,651,202)	(3,009,728)	9,305,644	22,997,279	5,058,507	3,173,985	36,283,903	79,406,968
2024	122,244,565	3,818,686	9,082,285	1,609,810	(1,732,026)	(2,928,904)	9,849,851	24,203,715	5,366,275	3,277,140	41,997,761	80,246,804
2025	129,121,004	4,004,771	9,377,460	1,694,260	(1,822,888)	(2,838,042)	10,415,561	25,491,131	5,744,498	3,383,647	48,214,744	80,906,260
2026	136,286,910	4,216,249	9,682,228	1,784,380	(1,919,849)	(2,741,081)	11,021,927	26,890,455	6,128,987	3,493,616	54,973,423	81,313,487
2027	143,769,522	4,478,472	9,996,900	1,882,332	(2,025,238)	(2,635,692)	11,696,774	28,469,330	6,510,740	3,607,159	62,315,179	81,454,343
2028	151,641,806	4,720,800	10,321,799	1,992,853	(2,144,150)	(2,516,780)	12,374,522	30,178,412	6,941,048	3,724,392	70,284,401	81,357,405
2029	159,877,593	4,855,800	10,657,257	2,112,489	(2,272,869)	(2,388,061)	12,964,616	31,975,086	7,322,507	3,845,435	78,928,701	80,948,892
2030	168,427,220	5,089,069	11,003,618	2,238,256	(2,408,184)	(2,252,746)	13,670,013	33,982,184	7,692,503	3,970,412	88,299,145	80,128,075
2031	177,423,055	5,352,700	11,361,235	2,378,753	(2,559,348)	(2,101,582)	14,431,758	36,201,317	8,113,175	4,099,450	98,450,497	78,972,558
2032	186,882,494	5,591,669	11,730,475	2,534,093	(2,726,480)	(1,934,450)	15,195,307	38,612,015	8,551,927	4,232,682	109,441,482	77,441,012
2033	196,796,792	5,685,533	12,111,715	2,702,841	(2,908,041)	(1,752,889)	15,839,159	41,070,744	9,010,186	4,370,244	121,335,068	75,461,724
2034	207,015,189	5,958,117	12,505,346	2,874,952	(3,093,218)	(1,567,712)	16,677,485	43,710,969	9,524,983	4,512,277	134,198,767	72,816,422
2035	217,689,705	6,254,078	12,911,770	3,059,768	(3,292,065)	(1,368,865)	17,564,686	46,543,640	10,073,089	4,658,926	148,104,958	69,584,747
2036	228,841,643	6,572,809	13,331,402	3,258,055	(3,505,406)	(1,155,524)	18,501,336	49,576,296	10,658,339	4,810,341	163,131,231	65,710,412
2037	240,489,041	6,912,109	13,764,673	3,470,341	(3,733,809)	(927,121)	19,486,193	52,814,000	11,281,812	4,966,677	179,360,758	61,128,283
2038	252,647,692	7,275,958	14,212,025	3,696,980	(3,977,655)	(683,275)	20,524,033	56,269,930	11,940,009	5,128,094	196,882,688	55,765,004
2039	265,342,496	7,659,409	0	3,938,895	(4,237,936)	(422,994)	6,937,374	45,394,520	12,518,027	5,294,757	215,792,570	49,549,926
2040	278,717,749	8,067,974	0	3,177,617	(3,418,861)	(1,242,069)	6,584,661	33,324,395	13,187,949	5,466,837	236,192,807	42,524,942
2041	292,749,618	8,498,802	0	2,332,708	(2,509,807)	(2,151,123)	6,170,580	19,959,755	13,890,711	5,644,509	258,193,140	34,556,478
2042	307,472,749	8,951,823	0	1,397,183	(1,503,257)	(3,157,673)	5,688,076	5,163,269	14,656,606	5,827,956	281,911,169	25,561,580
2043	322,891,723	9,435,592	0	361,429	(388,869)	388,869	9,797,021	(6,473,444)	15,416,369	6,017,365	307,472,907	15,418,816
2044	339,094,712	9,945,719	0	(453,141)	487,543	10,874	9,990,995	(16,841,748)	16,277,962	4,081,337	335,013,375	4,081,337

## 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.