

**Town of Bedford**

*Actuarial Valuation and Review of Other Postemployment  
Benefits (OPEB) as of July 1, 2010  
In accordance with GASB Statements Number 43 and 45*

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*December 15, 2010*

*Mr. Peter Naum  
Finance Director  
10 Mudge Way  
Town Hall  
Bedford, MA 01730*

*Dear Peter:*

*We are pleased to submit this report on our actuarial valuation of postemployment welfare benefits as of July 1, 2010 under GASB Statements Number 43 and 45. It establishes the liabilities of the postemployment welfare benefit plan in accordance with GASB Statements Number 43 and 45 for the current year and summarizes the actuarial data.*

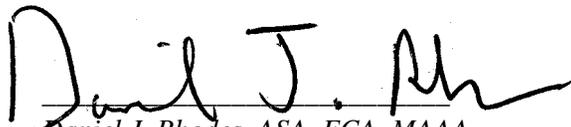
*This report is based on information received from the Town. The actuarial projections were based on the assumptions and methods described in Exhibit II and on the plan of benefits as summarized in Exhibit III.*

*We look forward to discussing this material with you at your convenience.*

*Sincerely,*

THE SEGAL COMPANY

By:   
Kathleen A. Riley, FSA, MAAA, EA  
Senior Vice President and Actuary

  
Daniel J. Rhodes, ASA, FCA, MAAA  
Consulting Actuary

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## SECTION 1: Introduction for Town of Bedford July 1, 2010 Measurement under GASB

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### PURPOSE

This report presents the results of our actuarial valuation of the Town of Bedford (the “Employer”) postemployment welfare benefit plan as of July 1, 2010. The results are in accordance with the Governmental Accounting Standards, which prescribe an accrual methodology for accumulating the value of other postemployment benefits (OPEB) over participants’ active working lifetimes. The accounting standard supplements cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (*i.e.*, a pay-as-you-go basis).

### HIGHLIGHTS OF THE VALUATION

During the fiscal year ending June 30, 2011, we project the Town will pay benefits (net of retiree contributions) on behalf of retired employees of about \$1,795,000. This amount is less than the annual “cost” under the new accounting rules of \$5,052,000.

The GASB statements provide the method for selecting the investment return assumption (discount rate). If the benefits are pre-funded, the discount rate should be based on the estimated long-term investment yield on the investments expected to be used to finance the payment of benefits. If financing continues to be pay-as-you-go, the discount rate should be based on the expected yield on the assets of the employer.

Because the benefits are not being funded, we have used a 4.0% discount rate (referred to as the pay-as-you-go interest rate). However, we do continue to show an illustration on a pre-funded basis using a 7.50% assumption.

The GASB statements allow the use of one of six funding methods to determine the actuarial liabilities. We have used the projected unit credit cost method.

To determine the amortization payment on the unfunded actuarial accrued liability (UAAL), an amortization period and amortization method must be selected. We have used a 30-year open amortization of the UAAL (the maximum permitted by the GASB statements), with payments increasing at 4.0% year. The GASB statements allow for either an open or closed amortization period. In open amortization, the period is reset to the initial value every year and the UAAL is reamortized, while under a closed amortization, the remaining period decreases and the UAAL is eventually “paid off.”

If the benefits are funded in the future, assets set aside to fund OPEB liabilities would have to be held in a trust or equivalent arrangement, through which assets are accumulated and benefits are paid as they come due. Employer contributions to the trust will be irrevocable, trust assets will be dedicated to providing benefits to retirees and their spouses in accordance with the terms of the plan, and trust assets will be legally protected from creditors of the employer.

We understand that there are approximately \$2.03 million in assets set aside to pre-fund retiree health benefits. We have not included these assets in our calculations because these assets are not held in an irrevocable trust.

GASB guidelines prohibit the offset of OPEB obligations by the future value of Medicare Part D subsidies. Therefore, these calculations do not include an estimate for retiree prescription drug plan federal subsidies that the Employer may be eligible to receive for plan years beginning in 2006.

## SECTION 1: Introduction for Town of Bedford July 1, 2010 Measurement under GASB

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Employer decisions regarding plan design, cost sharing between the Employer and its retirees, actuarial cost method, amortization techniques, and integration with Medicare are just some of the decisions that affect the magnitude of OPEB obligations. We are available to assist you with any investigation of such options you may wish to undertake.

The Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 creates a temporary reinsurance program for eligible health care coverage for pre-Medicare retirees over age 55. The program will reimburse the plan sponsor for 80% of the retiree claims between \$15,000 and \$90,000. Due to the short nature of this program, the limited financing, and uncertainty of qualifying and receiving payment (the program will be on a first come first served basis until financing runs out), we have not reflected the value of this program in the valuation.

### KEY VALUATION RESULTS

- The **unfunded actuarial accrued liability (UAAL)** as of July 1, 2010 is \$71,292,000. Going forward, net unfunded plan obligations will be expected to change due to normal plan operations, which consist of continuing accruals for active members, plus interest on the total actuarial accrued liability, less expected benefit payments and contributions. Future valuations will analyze the difference between actual and expected unfunded actuarial accrued liabilities.
- The **Annual Required Contribution (ARC)** for fiscal year 2011 is \$5,052,000. The ARC is expected to remain relatively level as a percentage of payroll due to the open amortization period.

Plan obligations of \$71,292,000 as of July 1, 2010 represent an increase of \$10,121,000 from the obligations of \$61,171,000 as shown in the June 30, 2008 valuation.

Plan obligations had been expected to increase \$6,800,000 due to normal plan operations, which consist of continuing accruals for active members, plus interest on the total obligation, less expected benefit payments. The greater than expected increase was due to the net effect of the following:

- An **actuarial experience loss** increased obligations by \$5,839,000. This was the net result of gains and losses due to demographic changes.
- **Valuation assumption changes** increased obligations by \$3,644,000 due to increasing the trend on medical and prescription drug costs and updating the mortality table for healthy non-teacher retirees. The complete set of assumptions is shown in Exhibit II.
- **Plan changes** decreased obligations by \$6,162,000. This was the result of lower per capita claims costs due to a change in the plan design for all retirees, only offering the basic medical plans. The current plan of benefits is summarized in Exhibit III.

**SECTION 1: Introduction for Town of Bedford July 1, 2010 Measurement under GASB**

**ACCOUNTING REQUIREMENTS**

The Governmental Accounting Standards Board (GASB) issued Statement Number 43 -- *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, and Statement Number 45 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. Under these statements, all state and local governmental entities that provide other post employment benefits (OPEB) are required to report the cost of these benefits on their financial statements.

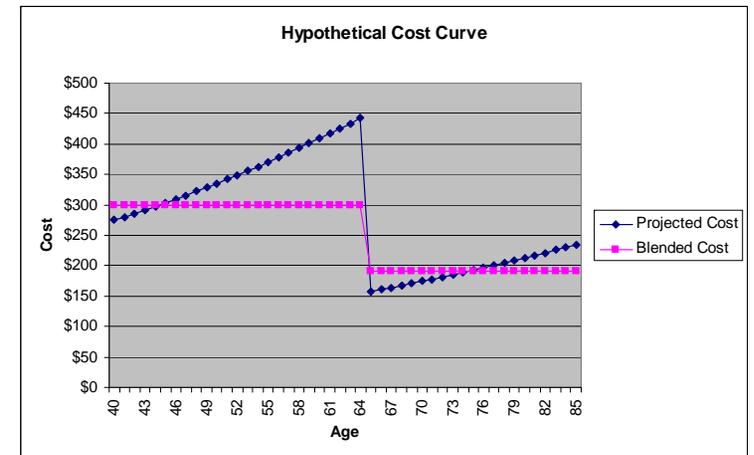
The statements cover postemployment benefits of health, prescription drug, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. These benefits, referred to as OPEB, are typically financed on a pay-as-you-go basis. The new standard introduces an accrual-basis accounting requirement; thereby recognizing the employer cost of postemployment benefits over an employee’s career. The standards also introduce a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. This amount is then discounted to determine the actuarial present value of the total projected benefits (APB). The actuarial accrued liability (AAL) is the portion of the present value of the total projected benefits allocated to years of employment prior to the measurement date. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and actuarial value of assets in the Plan.

Once the UAAL is determined, the Annual Required Contribution (ARC) is determined as the normal cost (the APB allocated to the current year of service) and the amortization of the UAAL. This ARC is compared to actual contributions made and any difference is reported as the net OPEB obligation (NOO). In addition, required supplementary information (RSI) must be reported, including historical information about the UAAL and the progress in funding the Plan.

The benefits valued in this report are limited to those described in Exhibit III of Section 4.

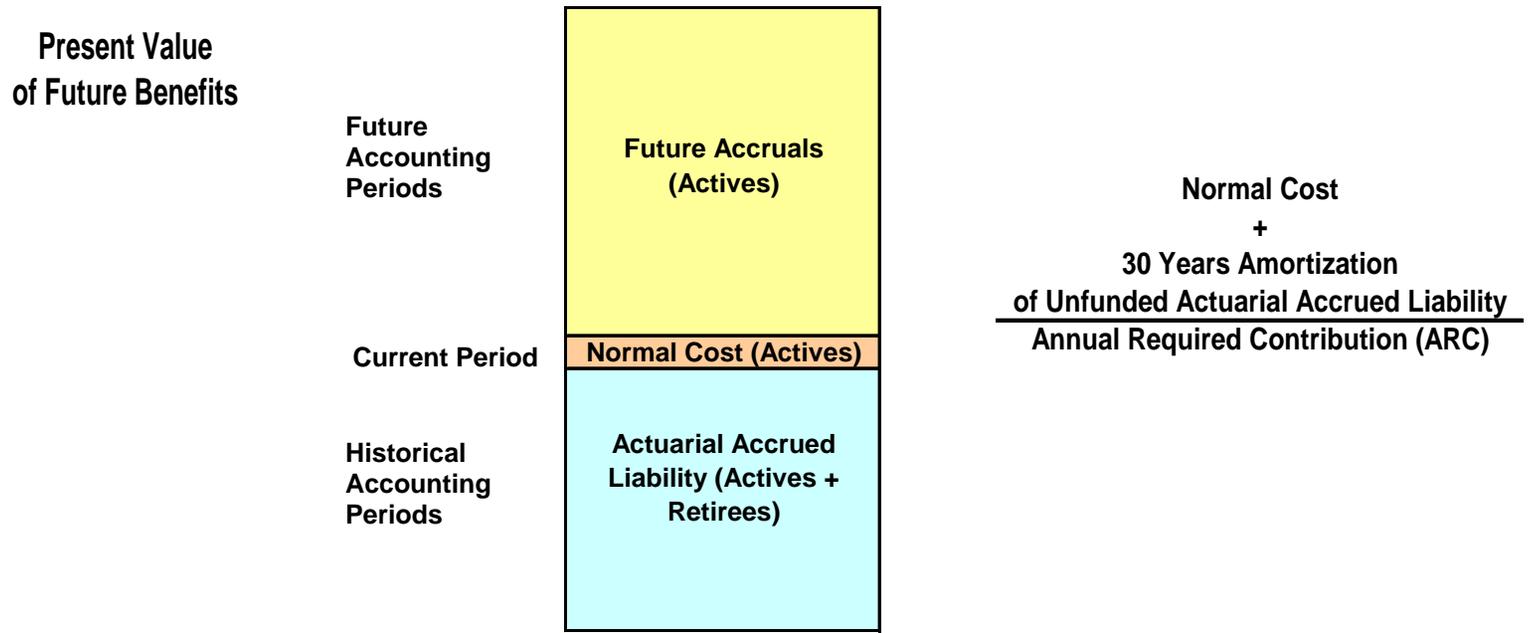
The following graph illustrates why a significant accounting obligation may exist even though the retiree contributes most or all of the blended premium cost of the plan. The average cost for retirees is likely to exceed the average cost for the whole group, leading to an implicit subsidy for these retirees. The accounting standard requires the employer to identify and account for this implicit subsidy as well as any explicit subsidies the employer may provide.



This graph shows how the actuarial present value of the total projected benefits (APB) is broken down and allocated to various accounting periods.

The exact breakdown depends on the actuarial cost method and amortization methods selected by the employer.

### GASB 43/45 Measurement



$$\text{Net OPEB Obligation} = \text{ARC}_1 + \text{ARC}_2 + \text{ARC}_3 + \dots - \text{Contribution}_1 - \text{Contribution}_2 - \text{Contribution}_3 - \dots$$

Actuarial computations under GASB statements are for purposes of fulfilling certain welfare plan accounting requirements. The calculations shown in this report have been made on a basis consistent with our understanding of GASB. Determinations for purposes other than meeting the financial accounting requirements of GASB may differ significantly from the results reported here.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits does not incorporate the potential effect of legal or contractual funding limitations on the pattern of cost sharing between the employer and plan members in the future.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short term volatility in accrued liabilities and the actuarial value of assets, if any.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**SUMMARY OF VALUATION RESULTS  
ALL DEPARTMENTS**

*The key results and significant assumptions for the current year are shown on a pre-funded basis and a pay-as-you-go basis.*

	<b>Pre-funded (7.50% interest rate)</b>	<b>Pay-as-you-go (4.00% interest rate)</b>
<b>Actuarial Accrued Liability by Participant Category</b>		
1. Current retirees, beneficiaries and dependents	\$20,121,463	\$28,693,809
2. Current active members	<u>20,940,483</u>	<u>42,598,625</u>
3. Total as of July 1, 2010: (1) + (2)	\$41,061,946	\$71,292,434
<b>Annual Required Contribution for Fiscal Year Ending June 30, 2011</b>		
4. Normal cost as of July 1, 2010	\$1,012,923	\$2,577,750
5. Adjustment for timing	<u>37,298</u>	<u>51,049</u>
6. Normal cost adjusted for timing: (4) + (5)	\$1,050,221	\$2,628,799
7. 30-year amortization (increasing at 4.0% per year) of the unfunded actuarial accrued liability (UAAL) as of July 1, 2010	\$2,123,629	\$2,376,415
8. Adjustment for timing	<u>78,196</u>	<u>47,062</u>
9. Amortization payment adjusted for timing: (7) + (8)	\$2,201,825	\$2,423,477
10. Total Annual Required Contribution (ARC): (6) + (9)	3,252,046	5,052,276
11. Projected benefit payments	1,795,349	1,795,349

*Notes: Adjustment for timing assumes payment in the middle of the fiscal year.*

*For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust.*

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**FUNDING SCHEDULES**

**30 Years Closed (7.50% discount rate)**

<b>Fiscal Year Ended June 30</b>	<b>(1) Projected Benefit Payments</b>	<b>(2) Normal Cost with Interest</b>	<b>(3) Amortization of UAAL</b>	<b>(4) Total Funding Requirement</b>	<b>(5) Additional Funding (4) - (1)</b>	<b>(6) Assets at End of Year</b>	<b>(7) AAL at End of Year</b>	<b>(8) UAAL at End of Year (7) - (6)</b>
2011	\$1,795,348	\$1,050,221	\$2,201,825	\$3,252,046	\$1,456,698	\$1,510,337	\$43,369,028	\$41,858,691
2012	1,995,651	1,102,732	2,289,898	3,392,630	1,396,979	3,072,031	45,695,907	42,623,876
2013	2,211,536	1,157,869	2,381,494	3,539,363	1,327,827	4,679,153	48,030,634	43,351,482
2014	2,416,157	1,215,762	2,476,754	3,692,516	1,276,359	6,353,446	50,388,336	44,034,890
2015	2,574,027	1,276,550	2,575,824	3,852,374	1,278,347	8,155,373	52,822,209	44,666,836
2016	2,755,734	1,340,378	2,678,857	4,019,234	1,263,500	10,077,051	55,316,402	45,239,350
2017	2,829,714	1,407,397	2,786,011	4,193,408	1,363,694	12,246,738	57,990,442	45,743,704
2018	2,957,016	1,477,766	2,897,451	4,375,218	1,418,202	14,635,666	60,806,006	46,170,340
2019	3,088,727	1,551,655	3,013,350	4,565,004	1,476,277	17,263,978	63,772,786	46,508,808
2020	3,172,726	1,629,237	3,133,884	4,763,121	1,590,395	20,207,733	66,955,422	46,747,689
2021	3,378,480	1,710,699	3,259,239	4,969,938	1,591,458	23,373,372	70,247,887	46,874,515
2022	3,547,404	1,796,234	3,389,608	5,185,843	1,638,439	26,825,144	73,700,827	46,875,683
2023	3,724,774	1,886,046	3,525,193	5,411,239	1,686,465	30,585,594	77,321,955	46,736,362
2024	3,911,013	1,980,348	3,666,200	5,646,549	1,735,536	34,678,955	81,119,346	46,440,391
2025	4,106,564	2,079,366	3,812,848	5,892,214	1,785,651	39,131,279	85,101,454	45,970,175
2026	4,311,892	2,183,334	3,965,362	6,148,696	1,836,805	43,970,564	89,277,127	45,306,563
2027	4,527,486	2,292,501	4,123,977	6,416,478	1,888,991	49,226,904	93,655,629	44,428,725
2028	4,753,861	2,407,126	4,288,936	6,696,062	1,942,201	54,932,639	98,246,655	43,314,016
2029	4,991,554	2,527,482	4,460,493	6,987,976	1,996,422	61,122,522	103,060,350	41,937,829
2030	5,241,131	2,653,856	4,638,913	7,292,769	2,051,638	67,833,894	108,107,333	40,273,438
2031	5,503,188	2,786,549	4,824,470	7,611,019	2,107,831	75,106,882	113,398,711	38,291,830
2032	5,778,347	2,925,876	5,017,449	7,943,325	2,164,978	82,984,594	118,946,110	35,961,515
2033	6,067,265	3,072,170	5,218,146	8,290,317	2,223,052	91,513,348	124,761,688	33,248,340
2034	6,370,628	3,225,779	5,426,872	8,652,651	2,282,023	100,742,901	130,858,166	30,115,264
2035	6,689,159	3,387,068	5,643,947	9,031,015	2,341,856	110,726,707	137,248,847	26,522,140
2036	7,023,617	3,556,421	5,869,705	9,426,126	2,402,509	121,522,184	143,947,645	22,425,461
2037	7,374,798	3,734,242	6,104,493	9,838,735	2,463,937	133,191,012	150,969,109	17,778,097
2038	7,743,538	3,920,954	6,348,673	10,269,627	2,526,089	145,799,443	158,328,453	12,529,010
2039	8,130,715	4,117,002	6,602,620	10,719,622	2,588,907	159,418,637	166,041,581	6,622,944
2040	8,537,251	4,322,852	6,866,725	11,189,577	2,652,326	174,125,025	174,125,025	-

Notes: Adjustment for timing assumes payment in the middle of the fiscal year.

Amortization payments calculated to increase 4% per year.

For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust and are not reflected in this schedule.

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**FUNDING SCHEDULES**

**30 Years Closed (7.50% discount rate), reflecting assets of \$2.03 million in irrevocable trust**

<b>Fiscal Year Ended June 30</b>	<b>(1) Projected Benefit Payments</b>	<b>(2) Normal Cost with Interest</b>	<b>(3) Amortization of UAAL</b>	<b>(4) Total Funding Requirement</b>	<b>(5) Additional Funding (4) - (1)</b>	<b>(6) Assets at End of Year</b>	<b>(7) AAL at End of Year</b>	<b>(8) UAAL at End of Year (7) - (6)</b>
2011	\$1,795,348	\$1,050,221	\$2,092,950	\$3,143,171	\$1,347,823	\$3,580,161	\$43,369,028	\$39,788,867
2012	1,995,651	1,102,732	2,176,668	3,279,400	1,283,749	5,179,692	45,695,907	40,516,215
2013	2,211,536	1,157,869	2,263,735	3,421,603	1,210,067	6,822,793	48,030,634	41,207,841
2014	2,416,157	1,215,762	2,354,284	3,570,046	1,153,889	8,530,881	50,388,336	41,857,455
2015	2,574,027	1,276,550	2,448,455	3,725,006	1,150,979	10,364,057	52,822,209	42,458,152
2016	2,755,734	1,340,378	2,546,394	3,886,771	1,131,037	12,314,046	55,316,402	43,002,356
2017	2,829,714	1,407,397	2,648,249	4,055,646	1,225,932	14,508,672	57,990,442	43,481,769
2018	2,957,016	1,477,766	2,754,179	4,231,946	1,274,930	16,918,698	60,806,006	43,887,308
2019	3,088,727	1,551,655	2,864,347	4,416,001	1,327,274	19,563,748	63,772,786	44,209,038
2020	3,172,726	1,629,237	2,978,920	4,608,158	1,435,432	22,519,317	66,955,422	44,436,106
2021	3,378,480	1,710,699	3,098,077	4,808,777	1,430,297	25,691,228	70,247,887	44,556,659
2022	3,547,404	1,796,234	3,222,000	5,018,235	1,470,831	29,143,060	73,700,827	44,557,767
2023	3,724,774	1,886,046	3,350,880	5,236,926	1,512,152	32,896,622	77,321,955	44,425,333
2024	3,911,013	1,980,348	3,484,916	5,465,264	1,554,251	36,975,351	81,119,346	44,143,995
2025	4,106,564	2,079,366	3,624,312	5,703,678	1,597,114	41,404,426	85,101,454	43,697,028
2026	4,311,892	2,183,334	3,769,285	5,952,619	1,640,727	46,210,900	89,277,127	43,066,228
2027	4,527,486	2,292,501	3,920,056	6,212,557	1,685,071	51,423,835	93,655,629	42,231,794
2028	4,753,861	2,407,126	4,076,858	6,483,984	1,730,123	57,074,453	98,246,655	41,172,202
2029	4,991,554	2,527,482	4,239,933	6,767,415	1,775,861	63,196,289	103,060,350	39,864,061
2030	5,241,131	2,653,856	4,409,530	7,063,386	1,822,255	69,825,365	108,107,333	38,281,968
2031	5,503,188	2,786,549	4,585,911	7,372,460	1,869,272	77,000,370	113,398,711	36,398,341
2032	5,778,347	2,925,876	4,769,348	7,695,224	1,916,877	84,762,858	118,946,110	34,183,252
2033	6,067,265	3,072,170	4,960,122	8,032,292	1,965,027	93,157,455	124,761,688	31,604,233
2034	6,370,628	3,225,779	5,158,526	8,384,305	2,013,677	102,232,090	130,858,166	28,626,076
2035	6,689,159	3,387,068	5,364,867	8,751,935	2,062,776	112,038,228	137,248,847	25,210,619
2036	7,023,617	3,556,421	5,579,462	9,135,883	2,112,266	122,631,139	143,947,645	21,316,506
2037	7,374,798	3,734,242	5,802,641	9,536,883	2,162,085	134,070,171	150,969,109	16,898,938
2038	7,743,538	3,920,954	6,034,746	9,955,700	2,212,162	146,419,053	158,328,453	11,909,400
2039	8,130,715	4,117,002	6,276,136	10,393,138	2,262,423	159,746,212	166,041,581	6,295,369
2040	8,537,251	4,322,852	6,527,182	10,850,034	2,312,783	174,125,122	174,125,122	-

*Notes: Adjustment for timing assumes payment in the middle of the fiscal year.  
Amortization payments calculated to increase 4% per year.*

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**PROJECTION OF ARC**

**30 Years Open (4.0% discount rate)**

<b>Fiscal Year Ended June 30</b>	<b>(1) Projected Benefit Payments</b>	<b>(2) Normal Cost with Interest</b>	<b>(3) Amortization of UAAL</b>	<b>(4) ARC</b>	<b>(5) Additional Funding (4) - (1)</b>	<b>(6) Assets at End of Year</b>	<b>(7) AAL at End of Year</b>	<b>(8) UAAL at End of Year (7) - (6)</b>
2011	\$1,795,348	\$2,628,799	\$2,423,477	\$5,052,276	\$0	\$0	\$74,994,088	\$74,994,088
2012	1,995,651	2,760,239	2,549,309	5,309,548	-	-	78,773,581	78,773,581
2013	2,211,536	2,898,251	2,677,787	5,576,038	-	-	82,624,839	82,624,839
2014	2,416,157	3,043,163	2,808,704	5,851,867	-	-	86,569,256	86,569,256
2015	2,574,027	3,195,322	2,942,789	6,138,111	-	-	90,665,625	90,665,625
2016	2,755,734	3,355,088	3,082,039	6,437,127	-	-	94,903,473	94,903,473
2017	2,829,714	3,522,842	3,226,098	6,748,940	-	-	99,406,467	99,406,467
2018	2,957,016	3,698,984	3,379,170	7,078,154	-	-	104,139,388	104,139,388
2019	3,088,727	3,883,933	3,540,058	7,423,991	-	-	109,115,918	109,115,918
2020	3,172,726	4,078,130	3,709,228	7,787,358	-	-	114,403,889	114,403,889
2021	3,378,480	4,282,037	3,888,984	8,171,021	-	-	119,901,495	119,901,495
2022	3,547,404	4,496,138	4,075,867	8,572,005	-	-	125,665,078	125,665,078
2023	3,724,774	4,720,945	4,271,791	8,992,736	-	-	131,707,580	131,707,580
2024	3,911,013	4,956,993	4,477,197	9,434,190	-	-	138,042,578	138,042,578
2025	4,106,564	5,204,842	4,692,545	9,897,387	-	-	144,684,310	144,684,310
2026	4,311,892	5,465,084	4,918,321	10,383,405	-	-	151,647,712	151,647,712
2027	4,527,486	5,738,339	5,155,031	10,893,370	-	-	158,948,453	158,948,453
2028	4,753,861	6,025,255	5,403,208	11,428,463	-	-	166,602,964	166,602,964
2029	4,991,554	6,326,518	5,663,412	11,989,930	-	-	174,628,485	174,628,485
2030	5,241,131	6,642,844	5,936,227	12,579,071	-	-	183,043,096	183,043,096
2031	5,503,188	6,974,986	6,222,269	13,197,255	-	-	191,865,766	191,865,766
2032	5,778,347	7,323,736	6,522,182	13,845,918	-	-	201,116,390	201,116,390
2033	6,067,265	7,689,922	6,836,643	14,526,565	-	-	210,815,838	210,815,838
2034	6,370,628	8,074,419	7,166,360	15,240,779	-	-	220,986,004	220,986,004
2035	6,689,159	8,478,140	7,512,080	15,990,220	-	-	231,649,853	231,649,853
2036	7,023,617	8,902,046	7,874,581	16,776,627	-	-	242,831,477	242,831,477
2037	7,374,798	9,347,149	8,254,683	17,601,832	-	-	254,556,147	254,556,147
2038	7,743,538	9,814,506	8,653,245	18,467,751	-	-	266,850,374	266,850,374
2039	8,130,715	10,305,232	9,071,168	19,376,400	-	-	279,741,970	279,741,970
2040	8,537,251	10,820,493	9,509,398	20,329,891	-	-	293,260,108	293,260,108

Notes: Adjustment for timing assumes payment in the middle of the fiscal year.

Amortization payments calculated to increase 4% per year.

For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust and are not reflected in this schedule.

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**DEPARTMENT RESULTS**

**Actuarial Accrued Liability (AAL) and Annual Required Contribution – Pre-Funded (7.50%)**

	All Other	Teacher	Total
<b>Actuarial Accrued Liability by Participant Category</b>			
1. Current retirees, beneficiaries and dependents	\$9,100,494	\$11,020,969	\$20,121,463
2. Current active members	<u>12,680,750</u>	<u>8,259,733</u>	<u>20,940,483</u>
3. Total as of July 1, 2010: (1) + (2)	\$21,781,244	\$19,280,702	\$41,061,946
<b>Annual Required Contribution for Fiscal Year Ending June 30, 2011</b>			
4. Normal cost as of July 1, 2010	\$571,093	\$441,830	\$1,012,923
5. Adjustment for timing	<u>21,029</u>	<u>16,269</u>	<u>37,298</u>
6. Normal cost adjusted for timing: (4) + (5)	\$592,122	\$458,099	\$1,050,221
7. 30-year amortization (increasing at 4.0% per year) of the unfunded actuarial accrued liability (UAAL) as of July 1, 2010	\$1,126,476	\$997,153	\$2,123,629
8. Adjustment for timing	<u>41,479</u>	<u>36,717</u>	<u>78,196</u>
9. Amortization payment adjusted for timing: (7) + (8)	\$1,167,955	\$1,033,870	\$2,201,825
10. Total Annual Required Contribution (ARC): (6) + (9)	1,760,077	1,491,969	3,252,046
11. Projected benefit payments	819,239	976,110	1,795,349

*Notes: Adjustment for timing assumes payment in the middle of the fiscal year.*

*For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust.*

**SECTION 2: Valuation Results for the Town of Bedford July 1, 2010 Measurement under GASB**

**Actuarial Accrued Liability (AAL) and Annual Required Contribution – Pay-As-You-Go (4.00%)**

	All Other	Teacher	Total
<b>Actuarial Accrued Liability by Participant Category</b>			
1. Current retirees, beneficiaries and dependents	\$12,943,968	\$15,749,841	\$28,693,809
2. Current active members	<u>26,421,609</u>	<u>16,177,016</u>	<u>42,598,625</u>
3. Total as of July 1, 2010: (1) + (2)	\$39,365,577	\$31,926,857	\$71,292,434
<b>Annual Required Contribution for Fiscal Year Ending June 30, 2011</b>			
4. Normal cost as of July 1, 2010	\$1,434,418	\$1,143,332	\$2,577,750
5. Adjustment for timing	<u>28,407</u>	<u>22,642</u>	<u>51,049</u>
6. Normal cost adjusted for timing: (4) + (5)	\$1,462,825	\$1,165,974	\$2,628,799
7. 30-year amortization (increasing at 4.0% per year) of the unfunded actuarial accrued liability (UAAL) as of July 1, 2010	\$1,312,186	\$1,064,229	\$2,376,415
8. Adjustment for timing	<u>25,986</u>	<u>21,076</u>	<u>47,062</u>
9. Amortization payment adjusted for timing: (7) + (8)	\$1,338,172	\$1,085,305	\$2,423,477
10. Total Annual Required Contribution (ARC): (6) + (9)	2,800,997	2,251,279	5,052,276
11. Projected benefit payments	819,239	976,110	1,795,349

*Notes: Adjustment for timing assumes payment in the middle of the fiscal year.*

*For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust.*

December 15, 2010

**ACTUARIAL CERTIFICATION**

This is to certify that The Segal Company has conducted an actuarial valuation of certain benefit obligations of the Town of Bedford other postemployment benefit programs as of July 1, 2010, in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Number 43 and 45 for the determination of the liability for postemployment benefits other than pensions.

The actuarial valuation is based on the plan of benefits verified by the Town and on participant, premium and expense data provided by the Town or from vendors employed by the Town.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination or adequacy of funding an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the information necessary to comply with GASB Statements Number 43 and 45 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and collectively meet their "General Qualification Standards for Statements of Actuarial Opinion" to render the actuarial opinion contained herein.



Kathleen A. Riley, FSA, MAAA  
Senior Vice President and Actuary



Howard Atkinson, Jr., ASA, MAAA, FCA  
Vice President and Health Actuary

**SECTION 3: Valuation Details for the Town of Bedford July 1, 2010 Measurement under GASB**

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**CHART 1**

**Required Supplementary Information – Schedule of Employer Contributions**

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<b>Fiscal Year Ended June 30,</b>	<b>Annual OPEB Cost</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2009	\$4,523,142	\$1,444,166	31.9%
2010	4,781,652	1,604,495	33.6%
2011	5,089,853	1,795,348	35.3%

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**SECTION 3: Valuation Details for the Town of Bedford July 1, 2010 Measurement under GASB**

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

**CHART 2**  
**Required Supplementary Information – Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]</b>
6/30/2008	\$0	\$61,170,521	\$61,170,521	0%	\$32,251,042	183.97%
6/30/2010	\$0	71,292,434	71,292,434	0%	N/A	N/A

*Notes: For purposes of determining the Annual Required Contribution, assets not in an irrevocable trust were excluded. Although the Town has set aside approximately \$2.03 million in assets to pre-fund retiree health benefits, the assets are not held in an irrevocable trust. Enter covered payroll for fiscal year 2010.*

**SECTION 3: Valuation Details for the Town of Bedford July 1, 2010 Measurement under GASB**

**CHART 3**

**Required Supplementary Information – Net OPEB Obligation/(Asset) (NOO/NOA)**

<b>Fiscal Year Ended June 30,</b>	<b>Annual Required Contribution (a)</b>	<b>Interest on Existing NOO (b)</b>	<b>ARC Adjustment (c)</b>	<b>Annual OPEB Cost (a) + (b) + (c) (d)</b>	<b>Actual Contribution Amount (e)</b>	<b>Net Increase in NOO (d) - (e) (f)</b>	<b>NOO as of Following Date (g)</b>
2009	\$4,523,142	\$0	\$0	\$4,523,142	\$1,444,166	\$3,078,976	\$3,078,976
2010	4,763,158	123,159	(104,665)	4,781,652	1,604,495	3,177,157	6,256,133
2011	5,052,276	250,245	(212,668)	5,089,853	1,795,348	3,294,505	9,550,638

**SECTION 3: Valuation Details for the Town of Bedford July 1, 2010 Measurement under GASB**

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**CHART 4**

**Required Supplementary Information**

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<b>Valuation date</b>	July 1, 2010
<b>Actuarial cost method</b>	Projected Unit Credit
<b>Amortization method</b>	Payments increasing at 4.00% per year
<b>Remaining amortization period</b>	30 years open
<b>Asset valuation method</b>	Market value
<hr/>	
<b>Actuarial assumptions:</b>	
Investment rate of return	4.00%
Inflation rate	4.00%
Medical/drug cost trend rate	9.00% decreasing by 0.75% for 5 years and by 0.25% for 1 year to an ultimate level of 5.00% per year.
<hr/>	
<b>Plan membership:</b>	
Current retirees, beneficiaries, and dependents	337
Current active members*	<u>381</u>
Total	718

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\* Includes 180 active employees with family coverage.

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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*This exhibit summarizes the participant data used for the current valuation.*

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**EXHIBIT I**

**Summary of Participant Data**

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	<b>July 1, 2010</b>	<b>July 1, 2008</b>
<b>Active employees covered for medical benefits</b>		
Number of employees		
Male	150	155
Female	<u>231</u>	<u>237</u>
Total	381	392
Average age	45.0	44.2
Average service	10.6	10.1
<b>Retired employees, spouses and beneficiaries covered for medical benefits</b>		
Number of individuals	337	289
Average age	72.4	72.6

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**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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**EXHIBIT II**

**Actuarial Assumptions and Actuarial Cost Method**

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**Data:** Detailed census data, premium rates, and summary plan descriptions for postemployment welfare benefits were provided by the Town of Bedford.

**Actuarial Cost Method:** Projected Unit Credit

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**Per Capita Cost Development:**

*Medical and drug*

Per capita costs were based on the fully-insured premium rates effective July 1, 2010. Premiums were combined by taking a weighted average based on the number of participants in each plan and were then trended to the midpoint of the valuation year at assumed trend rates. Actuarial factors were applied to the premium to estimate individual retiree and spouse costs by age and by gender.

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**Measurement Date:** July 1, 2010

**Discount Rate:** 4.0% pay-as-you-go and 7.5% funding

**Mortality Rates:**

*Pre-Retirement (Non-Teachers)*

RP-2000 Healthy Employee Mortality Table projected 10 years with Scale AA (previously, RP-2000 Healthy Employee Mortality Table)

*Healthy (Non-Teachers)*

RP-2000 Healthy Annuitant Mortality Table projected 10 years with Scale AA (previously, RP-2000 Healthy Annuitant Mortality Table)

*Disabled (Non-Teachers)*

RP-2000 Healthy Annuitant Mortality Table set forward 2 years

*Pre-Retirement (Teachers)*

RP-2000 Healthy Employee Mortality Table projected 10 years with Scale AA

*Healthy (Teachers)*

RP-2000 Healthy Annuitant Mortality Table projected 10 years with Scale AA

*Disabled (Teachers)*

RP-2000 Healthy Annuitant Mortality Table set forward 3 years for males

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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**Termination Rates before Retirement: Groups 1 and 2 (Excluding Teachers) – Rate per year (%)**

Age	Mortality		Disability
	Male	Female	
20	0.03	0.02	0.02
25	0.03	0.02	0.02
30	0.04	0.02	0.03
35	0.07	0.04	0.06
40	0.10	0.06	0.10
45	0.13	0.10	0.15
50	0.18	0.14	0.19
55	0.25	0.23	0.24
60	0.42	0.37	0.28

*Note: 55% of the rates shown represent accidental disability and death.*

Previous assumption

**Groups 1 and 2 (Excluding Teachers) – Rate per year (%)**

Age	Mortality		Disability
	Male	Female	
20	0.03	0.02	0.02
25	0.04	0.02	0.02
30	0.04	0.03	0.03
35	0.08	0.05	0.06
40	0.11	0.07	0.10
45	0.15	0.11	0.15
50	0.21	0.17	0.19
55	0.30	0.25	0.24
60	0.49	0.39	0.28

*Note: 55% of the rates shown represent accidental disability and death.*

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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Age	Group 4 – Rate per year (%)		
	Mortality		Disability
	Male	Female	
20	0.03	0.02	0.10
25	0.03	0.02	0.20
30	0.04	0.02	0.30
35	0.07	0.04	0.30
40	0.10	0.06	0.30
45	0.13	0.10	1.00
50	0.18	0.14	1.25
55	0.25	0.23	1.20
60	0.42	0.37	0.85

*Note: 90% of the rates shown represent accidental disability and death.*

Previous assumption

Age	Group 4 – Rate per year (%)		
	Mortality		Disability
	Male	Female	
20	0.03	0.02	0.10
25	0.04	0.02	0.20
30	0.04	0.03	0.30
35	0.08	0.05	0.30
40	0.11	0.07	0.30
45	0.15	0.11	1.00
50	0.21	0.17	1.25
55	0.30	0.25	1.20
60	0.49	0.39	0.85

*Note: 90% of the rates shown represent accidental disability and death.*

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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**Teachers - Rate per year (%)**

Age	Mortality		Disability
	Male	Female	
20	0.03	0.02	0.00
25	0.03	0.02	0.01
30	0.04	0.02	0.01
35	0.07	0.04	0.01
40	0.10	0.06	0.01
45	0.13	0.10	0.03
50	0.18	0.14	0.05
55	0.25	0.23	0.08
60	0.42	0.37	0.10

*Notes: 35% of the disability rates shown represent accidental disability.  
55% of the death rates shown represent accidental death.*

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**Withdrawal Rates:**

Years of Service	Rate per year (%)		
	Groups 1 and 2	Years of Service	Group 4
0	15.0	0 – 10	1.5
1	12.0	11+	0.0
2	10.0		
3	9.0		
4	8.0		
5	7.6		
6	7.5		
7	6.7		
8	6.3		
9	5.9		

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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<b>Years of Service</b>	<b>Groups 1 and 2</b>
10	5.4
11	5.0
12	4.6
13	4.1
14	3.7
15	3.3
16 – 20	2.0
21 – 29	1.0
30+	0.0

<b>Age</b>	<b>Teachers – Rate (%)</b>					
	<b>0 – 4 Years of Service</b>		<b>5 – 9 Years of Service</b>		<b>10+ Years of Service</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
20	12.0	10.0	4.5	9.0	1.0	5.0
30	11.4	12.0	4.5	9.0	1.0	5.0
40	9.7	11.0	5.4	6.5	1.7	2.9
50	10.0	8.2	4.8	4.2	2.2	2.1

Previous assumption:

<b>Age</b>	<b>Teachers – Rate per year (%)</b>					
	<b>0 – 4 Years of Service</b>		<b>5 – 9 Years of Service</b>		<b>10+ Years of Service</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
20	9.0	6.0	4.0	9.0	1.0	4.0
30	10.8	11.6	4.3	9.0	1.0	4.0
40	9.3	11.4	4.9	7.0	1.5	3.1
50	5.9	6.8	4.2	4.5	1.9	1.9

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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**Retirement Rates:**

Age	Rate per year (%)		
	Groups 1 and 2 (excluding Teachers)		
	Male	Female	Group 4
45 – 49	--	--	1.0
50 – 54	1.0	1.5	2.0
55 – 59	2.0	5.5	15.0
60 – 61	12.0	5.0	20.0
62 – 64	30.0	15.0	25.0
65 – 68	40.0	15.0	100.0
69	50.0	20.0	--
70	100.0	100.0	--

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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Age	Teachers - Rate (%)					
	Years of Service					
	Less than 20		20 – 29		30 or more	
	Male	Female	Male	Female	Male	Female
50 – 53	0.0	0.0	1.0	1.5	2.0	2.0
54	0.0	0.0	1.0	1.5	2.0	2.0
55	3.0	2.0	3.0	3.0	6.0	6.0
56	8.0	2.0	5.0	3.0	20.0	15.0
57	15.0	8.0	8.0	7.0	35.0	30.0
58	15.0	10.0	10.0	7.0	50.0	35.0
59	20.0	15.0	20.0	11.0	50.0	35.0
60	15.0	20.0	20.0	16.0	50.0	35.0
61	30.0	20.0	25.0	20.0	50.0	35.0
62	20.0	25.0	30.0	30.0	40.0	40.0
63	30.0	24.0	30.0	30.0	40.0	30.0
64	40.0	20.0	30.0	30.0	40.0	35.0
65	40.0	30.0	40.0	30.0	50.0	35.0
66	40.0	30.0	30.0	30.0	50.0	35.0
67	40.0	30.0	30.0	30.0	50.0	30.0
68	40.0	30.0	30.0	30.0	50.0	30.0
69	40.0	30.0	30.0	30.0	50.0	30.0
70	100.0	100.0	100.0	100.0	100.0	100.0

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

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Previous assumption:

Age	Teachers				
	Rate per year (%)				
	Years of Service				
	Less than 20	20 - 29		30 or more	
		Male	Female	Male	Female
50 – 53	--	1.0	1.0	1.0	1.0
54	--	2.0	1.0	3.5	3.5
55	2.0	3.0	4.0	6.0	6.0
56	4.0	3.0	4.0	18.0	18.0
57	7.0	5.0	5.0	30.0	30.0
58	8.0	7.0	7.0	40.0	40.0
59	9.0	10.0	11.0	40.0	40.0
60	12.0	20.0	16.0	35.0	35.0
61	15.0	30.0	20.0	35.0	35.0
62	18.0	35.0	25.0	40.0	40.0
63	15.0	35.0	25.0	35.0	25.0
64	25.0	30.0	30.0	30.0	30.0
65	40.0	50.0	40.0	50.0	40.0
66	40.0	30.0	30.0	30.0	30.0
67	40.0	30.0	25.0	30.0	25.0
68	40.0	30.0	35.0	30.0	35.0
69	40.0	40.0	35.0	40.0	35.0
70	100.0	100.0	100.0	100.0	100.0

**Dependents:**

Demographic data was available for spouses of current retirees. For future retirees, husbands were assumed to be three years older than their wives. For future retirees who elect to continue their health coverage at retirement, 50% were assumed to have an eligible spouse who also opts for health coverage at that time.

**SECTION 4: Supporting Information for the Town of Bedford July 1, 2010 Measurement under GASB**

**Per Capita Health Costs:**

Fiscal 2011 medical and prescription drug claims costs are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.

Age	Non-Medicare Plans				Medicare Plans			
	Retiree		Spouse		Retiree		Spouse	
	Male	Female	Male	Female	Male	Female	Male	Female
45	\$7,614	\$9,552	\$4,723	\$7,130	N/A	N/A	N/A	N/A
50	9,037	10,294	6,313	8,265	N/A	N/A	N/A	N/A
55	10,733	11,081	8,447	9,567	N/A	N/A	N/A	N/A
60	12,746	11,944	11,308	11,096	N/A	N/A	N/A	N/A
65	15,138	12,867	15,138	12,867	\$4,302	\$3,657	\$4,302	\$3,657
70	17,545	13,866	17,545	13,866	4,986	3,941	4,986	3,941
75	18,907	14,926	18,907	14,926	5,373	4,242	5,373	4,242
80	20,361	16,092	20,361	16,092	5,786	4,573	5,786	4,573

**Health Care Cost Trend Rates:**

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are “net” and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that must be applied to that year’s cost to yield the next year’s projected cost.

Year Ending June 30	Medical/Drug	Part B Premium
2010	9.00%	6.00%
2011	8.25%	6.00%
2012	7.50%	6.00%
2013	6.75%	6.00%
2014	6.00%	6.00%
2015	5.25%	6.00%
2017 & later	5.00%	6.00%

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<b>Retiree Contribution Increase Rate:</b>	Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend.
<b>Participation and Coverage Election:</b>	<p>100% of active employees with coverage are assumed to elect retiree coverage. We have loaded active liabilities by 10% to account for current employees who have waived health coverage but are expected to receive coverage through the Town as retirees.</p> <p>100% of retirees over age 65 are assumed to remain in their current medical plan for life.</p> <p>For future retirees hired prior to 1986 and current retirees under age 65, 90% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare Supplement plan upon reaching age 65 and 10% are assumed to remain enrolled in a non-Medicare plan.</p> <p>For future retirees hired in 1986 or later, 100% are assumed to enroll in a Medicare Supplement plan upon reaching age 65.</p> <p>60% of future retirees with medical coverage are assumed to have life insurance coverage.</p>
<b>Plan Design:</b>	Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.
<b>Administrative Expenses:</b>	Administrative expenses are assumed to be included in the fully insured premium rates.
<b>Annual Maximum Benefits:</b>	No increase in the annual maximum benefit levels was assumed.
<b>Lifetime Maximum Benefits:</b>	No information was available regarding accumulations toward lifetime maximum benefits and no such accumulations were assumed.
<b>Missing Participant Data:</b>	A missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.

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**EXHIBIT III**

**Summary of Plan**

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This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

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<b>Eligibility:</b>	Retired and receiving a pension from the Middlesex County Retirement System or Massachusetts State Teachers Retirement System. <b>Group 1 and Group 2 (including Teachers):</b> <ul style="list-style-type: none"><li>➤ Retirees with at least 10 years of creditable service are eligible at age 55;</li><li>➤ Retirees with at least 20 years of creditable service are eligible at any age.</li></ul> <b>Group 4:</b> <ul style="list-style-type: none"><li>➤ Retirees with at least 10 years of creditable service are eligible at age 45;</li><li>➤ Retirees with at least 20 years of creditable service are eligible at any age.</li></ul> <b>Disability:</b> Accidental (job-related) Disability has no age or service requirement. Ordinary (non-job related) Disability has no age requirement but requires 10 years of creditable service. <b>Pre-Retirement Death:</b> Surviving spouses of members who die in active service on Accidental (job-related) Death are eligible at any age. Surviving spouses of members who die in active service on Ordinary (non-job related) Death are eligible after two years of service. <b>Post-Retirement Death:</b> Surviving spouse is eligible.
<b>Benefit Types:</b>	Medical and prescription drug benefits are provided to all eligible retirees through a variety of plans offered by Tufts Health Plan. The Town of Bedford also pays 50% of the retiree life insurance premium and 50% of the Medicare Part B premium and reimburses the Medicare Part B penalty for 8 retirees.
<b>Duration of Coverage:</b>	Lifetime.

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<b>Dependent Benefits:</b>	Medical and Prescription Drugs.
<b>Dependent Coverage:</b>	Benefits are payable to a spouse for their lifetime, regardless of when the retiree dies. Upon the death of a retiree, the surviving spouse's contribution (for the Tufts HMO plan) increases to 50%.
<b>MGL Chapter 32B, Section 18:</b>	Adopted, 2005.
<b>Retiree Contributions:</b>	Premium rates and retiree contributions as of July 1, 2010 are summarized on the following page:

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**Summary of Benefit Plans**

	Subscribers			<i>Retirees 65 and over*</i>	Monthly Premium (eff. 7/1/2010)	Town Cost	Retiree cost	Retiree Cost %	Surviving Spouse Cost %
	Active	Retiree	Total						
<b><u>Non-Medicare Actives and Retirees</u></b>									
Tufts HMO									
Individual	198	31	229	7	\$629.72	\$522.66	\$107.06	17.0%	50.0%
Family	172	18	190	3	\$1,700.36	\$1,037.22	\$663.14	39.0%	50.0%
Tufts PPO									
Individual	3	12	15	6	\$698.92	\$349.46	\$349.46	50.0%	50.0%
Family	8	3	11	0	\$1,887.08	\$943.54	\$943.54	50.0%	50.0%
<b><u>Non-Medicare Total</u></b>	381	64	445	16					

	Subscribers				Monthly Premium (eff. 7/1/2010)	Town Cost	Retiree cost	Retiree Cost %	Surviving Spouse Cost %
	Active	Retiree	Total						
<b><u>Medicare Supplement Plans</u></b>									
Tufts Medicare Complement	N/A	154	154		\$376.48	\$188.24	\$188.24	50.0%	50.0%
<b><u>Retiree Total**</u></b>		218							

\* 16 of 170 over-65 retirees are in a non-Medicare plan

\*\* In addition, there are 119 spouses of retirees covered under an individual or family policy.

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**Benefit Descriptions:**

<b>Tufts HMO</b>		
<b>Medical</b>		
<i>Annual Deductible</i>	None	
<i>Coinsurance</i>	100%	
<i>Physicians Office Visit Copay</i>	\$15	
<i>Emergency Room Copay</i>	\$50	
<i>High-tech Imaging Copay</i>	\$75	
<i>Inpatient Hospital Copay</i>	\$500	
<i>Outpatient Hospital Copay</i>	\$100	
<i>Out-of-Pocket Maximum</i>	\$2,000 individual/\$4,000 family	
<b>Prescription Drugs</b>		
<i>Retail Copay</i>	\$10 Tier 1/\$20 Tier 2/\$35 Tier 3	
<i>Mail Copay</i>	\$20 Tier 1/\$40 Tier 2/\$70 Tier 3	
<b>Tufts PPO</b>		
	<b>In-Network</b>	<b>Out-of-Network</b>
<b>Medical</b>		
<i>Annual Deductible</i>	None	\$200 individual/\$400 family
<i>Coinsurance</i>	100%	80%
<i>Physicians Office Visit Copay</i>	\$15	Deductible and coinsurance
<i>Emergency Room Copay</i>	\$50	\$50
<i>High-tech Imaging Copay</i>	\$15	Deductible and coinsurance
<i>Inpatient Hospital Copay</i>	\$500	Deductible and coinsurance
<i>Outpatient Hospital Copay</i>	\$100	Deductible and coinsurance
<i>Out-of-Pocket Maximum</i>	\$2,000 inpatient/\$400 outpatient	\$1,000 individual/\$2,000 family
<b>Prescription Drugs</b>		
<i>Retail Copay</i>	\$10 Tier 1/\$20 Tier 2/\$35 Tier 3	
<i>Mail Copay</i>	\$20 Tier 1/\$40 Tier 2/\$70 Tier 3	

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<b>Tufts Medicare Complement</b>	
<b>Medical</b>	
<i>Hospital Inpatient</i>	Medicare Part A Deductible and Hospital Coinsurance
<i>Outpatient and Physician Services</i>	Medicare Part B Deductible and 20% Coinsurance
<b>Prescription Drugs</b>	
<i>Retail Copay</i>	5% Tier 1/20% Tier 2/30% Tier 3
<i>Mail Copay</i>	3% Tier 1/13% Tier 2/20% Tier 3

**Retiree Life:** \$5,000

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**EXHIBIT IV**

**Definitions of Terms**

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The following list defines certain technical terms for the convenience of the reader:

**Assumptions or Actuarial**

**Assumptions:**

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age;
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Actuarial Present Value of Total Projected Benefits (APB):**

Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

**Normal Cost:**

The amount of contributions required to fund the benefit allocated to the current year of service.

**Actuarial Accrued Liability For Actives:**

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

**Actuarial Accrued Liability For Retirees:**

The single sum value of lifetime benefits to existing retirees. This sum takes account of life expectancies appropriate to the ages of the retirees and of the interest which the sum is expected to earn before it is entirely paid out in benefits.

**Actuarial Value of Assets (AVA):**

The value of assets used by the actuary in the valuation. These may be at market value or some other method used to smooth variations in market value from one valuation to the next.

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<b>Funded Ratio:</b>	The ratio AVA/AAL.
<b>Unfunded Actuarial Accrued Liability (UAAL):</b>	The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.
<b>Amortization of the Unfunded Actuarial Accrued Liability:</b>	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
<b>Investment Return (discount rate):</b>	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next. If the plan is funded on a pay-as-you-go basis, the discount rate is tied to the expected rate of return on day-to-day employer funds.
<b>Covered Payroll:</b>	Annual reported salaries for all active participants on the valuation date.
<b>ARC as a Percentage of Covered Payroll:</b>	The ratio of the annual required contribution to covered payroll.
<b>Health Care Cost Trend Rates:</b>	The annual rate of increase in net claims costs per individual benefiting from the Plan.
<b>Annual Required Contribution (ARC):</b>	The ARC is equal to the sum of the normal cost and the amortization of the unfunded actuarial accrued liability.
<b>Net OPEB Obligation (NOO):</b>	The NOO is the cumulative difference between the ARC and actual contributions made. If the plan is not pre-funded, the actual contribution would be equal to the annual benefit payments less retiree contributions. There are additional adjustments in the NOO calculations to adjust for timing differences between cash and accrual accounting, and to prevent double counting of OPEB plan costs.

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