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**TOWN OF AMESBURY
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report

January 1, 2010

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Report Summary:

<u>Highlights</u>	<u>January 1, 2008</u>	<u>January 1, 2010</u>
<u>Contributions</u>		
Funding Schedule FY 2011	\$2,837,492	\$2,837,492
Funding Schedule FY 2012	2,948,744	2,982,902
<u>Funded Ratios</u>		
GAS No. 25	65.3%	51.9%
<u>Participants</u>		
Actives	292	268
Retirees and Beneficiaries	206	202
Inactives	85	76
Disabled	<u>17</u>	<u>17</u>
Total	600	563
<u>Payroll</u>		
Payroll of Active Members	\$11,374,648	\$12,048,107
Average Payroll	38,954	44,956
<u>Normal Cost</u>		
Employer	616,338	414,691
Employee	937,023	1,005,685
Administrative Expenses	<u>125,000</u>	<u>120,000</u>
Total	1,678,361	1,540,376
<u>Actuarial Accrued Liabilities</u>		
Actives	28,127,584	34,764,138
Retirees, Beneficiaries, Disabilities and Inactives	<u>31,925,570</u>	<u>34,246,440</u>
Total	60,053,154	69,010,578
<u>Actuarial Value of Assets</u>	<u>39,214,087</u>	<u>35,793,709</u>
<u>Unfunded Actuarial Accrued Liabilities</u>	\$20,839,067	\$33,216,869

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2010, of Amesbury Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2010
- Chapter 188 of the Acts of 2010, An Act Relative to Municipal Relief
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Town of Amesbury Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L., and Chapter 188 of the Acts of 2010, as of January 1, 2010:

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last two years, the total unfunded actuarial accrued liability increased by 59.4% to \$33,216,869. The increase is the result of net unfavorable actuarial experience during the preceding years. The market value of assets had returns of -28.60% and 16.20% for 2008 and 2009, respectively. The actuarial value of assets had returns of -19.36% and 16.19% for 2008 and 2009, respectively. The combined net return was less than the assumed annual investment return of 8.25%. The System adopted an asset smoothing method for 2010. The sources of the (gain)/loss are as follows:

Assets (gain)/loss	12,230,130
Salary Increases	1,214,503
New Participants	665,404
Active - Retirements	(338,009)
Active - Terminations	(69,653)
Active - Mortality	(133,625)
Active - Disabilities	162,903
Inactive - Mortality and data adjustments	1,414,396
Contributions	101,145
Other, including data and interest on employee deductions	<u>922,452</u>
Total (gain)/loss before asset method change	16,169,646
Change in asset method	<u>(3,253,974)</u>
Total	12,915,672

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Superannuation	\$1,066,311	\$924,096
Termination	136,502	99,613
Death	125,685	122,291
Disability	224,863	274,376
Administrative Expenses	<u>125,000</u>	<u>120,000</u>
Total Normal Cost	1,678,361	1,540,376
% of Pay	14.8%	12.8%
Employee Contributions	937,023	1,005,685
% of Pay	8.2%	8.3%
Employer Normal Cost	\$741,338	\$534,691
% of Pay	6.5%	4.4%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactive. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Actives		
Superannuations	\$24,710,445	\$31,210,368
Termination	502,043	456,239
Death	856,260	1,142,811
Disability	2,058,836	1,954,720
Retirees and Inactives		
Retirees and Beneficiaries	26,972,015	28,091,685
Terminated (Refund)	1,106,526	1,464,717
Disabled	<u>3,847,029</u>	<u>4,690,038</u>
Total	<u>\$60,053,154</u>	<u>\$69,010,578</u>

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Actives		
Superannuation	\$34,474,729	\$39,840,971
Termination	1,012,989	881,571
Death	1,843,980	2,046,821
Disability	4,382,017	4,643,844
Retirees and Inactives		
Retirees and Beneficiaries	26,972,015	28,091,685
Terminated (Refund)	1,106,526	1,464,717
Disabled	<u>3,847,029</u>	<u>4,690,038</u>
Total	\$73,639,285	\$81,659,647

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Cash equivalents	\$5,598,074	\$1,661,563
Short term investments	0	0
Fixed income securities	0	0
Equities	33,641,272	30,809,040
International	0	0
Real Estate	86,146	0
Venture Capital	0	0
Other	0	0
Accounts receivable	13,872	72,127
Accounts payable	(125,277)	(2,995)
Accrued income	<u>0</u>	<u>0</u>
Total Market Value	\$39,214,087	\$32,539,735
Total Actuarial Value	\$39,214,087	\$35,793,709

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.25%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of January 1, 2010 is presented in Table V.

Table V

	<u>January 1, 2010</u>
(1) Market value at January 1, 2009	\$28,042,925
(2) 2009 Contributions	\$4,057,595
(3) 2009 Payments	(\$4,101,428)
(4) Net interest adjustment at 8.25% on (1), (2), and (3) to December 31, 2009	\$2,311,734
(5) Expected market value on January 1, 2010	\$30,310,826
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2010	\$32,539,735
(7) 2009 (Gain) / Loss	(\$2,228,909)
(8) 80% of 2009 (Gain) / Loss	(\$1,783,127)
(9) 2008 (Gain) / Loss	\$14,459,040
(10) 60% of 2008 (Gain) / Loss	\$8,675,424
(11) 2007 (Gain) / Loss	\$20,845
(12) 40% of 2007 (Gain) / Loss	\$8,338
(13) 2006 (Gain) / Loss	(\$1,881,034)
(14) 20% of 2006 (Gain) / Loss	(\$376,207)
(15) Actuarial value on January 1, 2010, (6) + (8) + (10) + (12) + (14)	\$39,064,163
(16) but not less than 90% nor greater than 110% of (6)	\$35,793,709
(17) Ratio of actuarial value to market value	110.00%
(18) Actuarial Value Return for 2008	-19.36%
(19) Actuarial Value Return for 2009	16.19%
(20) Market Value Return for 2008	-28.60%
(21) Market Value Return for 2009	16.20%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Actuarial Accrued Liability	\$60,053,154	\$69,010,578
Actuarial Assets	<u>39,214,087</u>	<u>35,793,709</u>
Unfunded Actuarial Accrued Liability	\$20,839,067	\$33,216,869
Funded Status	65.3%	51.9%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws, and Chapter 188 of the Acts of 2010, An Act Relative to Municipal Relief. These amounts were calculated to comply with the June 30, 2040, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2034
 \$ 30,443,983 over 24 years with 4.0% increasing payments
- Increasing amortization of the 2002 Early Retirement Incentive unfunded liability by June 30, 2020
 \$ 511,918 over 10 years with 4.36% increasing payments
- Increasing amortization of the 2003 Early Retirement Incentive unfunded liability by June 30, 2025
 \$ 2,260,968 over 15 years with 4.5% increasing payments
- Interest adjustment for payments made from July through December

The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
Normal cost	\$741,338	\$534,691
Amortization payment of unfunded accrued liability	1,212,339	1,935,365
Amortization payment of 2002 ERI liability	55,113	60,024
Amortization payment of 2003 ERI liability	174,633	190,703
Total cost	\$2,183,423	\$2,720,784
% of Pay	19.2%	22.6%
Fiscal 2011 cost	\$2,837,492	\$2,837,492
Fiscal 2012 cost	\$2,948,744	\$2,982,902

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost, as a percentage of payroll, is expected to increase during the next 24 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. For FYE 2011, the total cost represents 23.6% of payroll, decreasing to 17.7% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 2.4% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast

<u>Fiscal Year Ending</u>	<u>Payroll*</u>	<u>Employee Contribution</u>	<u>Employer Normal Cost with Interest</u>	<u>Amortization Payments with Interest</u>	<u>Employer Total Cost with Interest</u>	<u>Employer Total Cost % of Payroll</u>	<u>Funded Ratio %**</u>
2011	\$12,048,107	\$1,005,685	\$565,538	\$2,271,954	\$2,837,492	23.6	51.8
2012	\$12,590,272	\$1,066,884	\$574,124	\$2,408,778	\$2,982,902	23.7	53.4
2013	\$13,156,834	\$1,131,555	\$582,337	\$2,506,422	\$3,088,759	23.5	55.1
2014	\$13,748,892	\$1,199,885	\$590,128	\$2,608,029	\$3,198,157	23.3	56.8
2015	\$14,367,592	\$1,272,074	\$597,440	\$2,713,761	\$3,311,201	23.0	58.5
2016	\$15,014,133	\$1,348,330	\$604,215	\$2,823,785	\$3,428,000	22.8	60.3
2017	\$15,689,769	\$1,428,874	\$610,390	\$2,938,276	\$3,548,666	22.6	62.0
2018	\$16,395,809	\$1,513,935	\$615,897	\$3,057,416	\$3,673,313	22.4	63.8
2019	\$17,133,620	\$1,603,759	\$620,664	\$3,181,393	\$3,802,057	22.2	65.6
2020	\$17,904,633	\$1,698,602	\$624,613	\$3,310,404	\$3,935,017	22.0	67.4
2021	\$18,710,342	\$1,798,732	\$627,660	\$3,347,374	\$3,975,034	21.2	69.3
2022	\$19,552,307	\$1,904,435	\$629,717	\$3,482,836	\$4,112,553	21.0	71.2
2023	\$20,432,161	\$2,016,008	\$630,687	\$3,623,786	\$4,254,473	20.8	73.1
2024	\$21,351,608	\$2,133,766	\$630,470	\$3,770,447	\$4,400,917	20.6	75.0
2025	\$22,312,431	\$2,258,041	\$628,957	\$3,923,053	\$4,552,010	20.4	77.1
2026	\$23,316,490	\$2,389,179	\$626,030	\$3,691,486	\$4,317,516	18.5	79.2
2027	\$24,365,732	\$2,527,547	\$621,566	\$3,839,146	\$4,460,712	18.3	81.1
2028	\$25,462,190	\$2,673,530	\$615,433	\$3,992,712	\$4,608,145	18.1	83.1
2029	\$26,607,988	\$2,793,839	\$643,128	\$4,152,420	\$4,795,548	18.0	85.1
2030	\$27,805,348	\$2,919,562	\$672,069	\$4,318,517	\$4,990,586	17.9	87.3
2031	\$29,056,589	\$3,050,942	\$702,312	\$4,491,258	\$5,193,570	17.9	89.6
2032	\$30,364,135	\$3,188,234	\$733,916	\$4,670,908	\$5,404,824	17.8	92.0
2033	\$31,730,521	\$3,331,705	\$766,942	\$4,857,744	\$5,624,686	17.7	94.5
2034	\$33,158,395	\$3,481,631	\$801,454	\$5,052,054	\$5,853,508	17.7	97.2
2035	\$34,650,522	\$3,638,305	\$837,520	\$0	\$837,520	2.4	100.0
2036	\$36,209,796	\$3,802,029	\$875,208	\$0	\$875,208	2.4	100.0
2037	\$37,839,237	\$3,973,120	\$914,592	\$0	\$914,592	2.4	100.0
2038	\$39,542,002	\$4,151,910	\$955,749	\$0	\$955,749	2.4	100.0
2039	\$41,321,392	\$4,338,746	\$998,758	\$0	\$998,758	2.4	100.0
2040	\$43,180,855	\$4,533,990	\$1,043,702	\$0	\$1,043,702	2.4	100.0
2041	\$45,123,994	\$4,738,019	\$1,090,669	\$0	\$1,090,669	2.4	100.0
2042	\$47,154,573	\$4,951,230	\$1,139,749	\$0	\$1,139,749	2.4	100.0

* Calendar basis

** Beginning of Fiscal Year

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GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to \$0. The required disclosure information is shown in Table VIII.

Table VIII

	<u>January 1, 2008</u>	<u>January 1, 2010</u>
(1) Actuarial Accrued Liability	\$60,053,154	\$69,010,578
(2) Actuarial Value of Assets	<u>39,214,087</u>	<u>35,793,709</u>
(3) Unfunded Actuarial Accrued Liability	20,839,067	33,216,869
(4) Funded Ratio (2)/(1)	65.3%	51.9%
(5) Covered Payroll	\$11,374,648	\$12,048,107
(6) UAAL as a percentage of payroll: (3)/(5)	183.2%	275.7%
(7) Annual Required Contribution (ARC)	\$2,717,707	\$2,837,492
(8) Net Pension Obligation	\$0	\$0

PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2010.

The normal cost for employees on that date was:	\$1,005,685	8.3% of pay
The normal cost for the employer was:	534,691	4.4% of pay
The actuarial liability for active members was:		\$34,764,138
The actuarial liability for retired and inactive members was:		34,246,440
Total actuarial accrued liability:		69,010,578
System assets as of that date:		35,793,709
Unfunded actuarial accrued liability:		\$33,216,869
The ratio of system's assets to total actuarial liability was		51.9%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.25%
Rate of Salary Increase:	4.5%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/10	\$35,793,709	\$69,010,578	\$33,216,869	51.9%	\$12,048,107	275.7%
01/01/08	39,214,087	60,053,154	20,839,067	65.3%	11,374,648	183.2%
01/01/06	31,892,926	56,634,407	24,741,481	56.3%	11,652,440	212.3%
01/01/04	27,735,259	47,405,492	19,670,233	59.0%	10,572,920	186.0%
01/01/03	23,420,773	43,172,723	19,751,950	54.0%	10,873,793	182.0%
01/01/02	25,271,096	40,814,053	15,542,957	62.0%	10,380,709	150.0%
01/01/01	26,423,203	33,559,596	7,136,393	79.0%	10,111,418	71.0%

EXHIBITS

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Age/Service Distribution with Salary as of January 1, 2010

Attained Age	Average Salary	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
20-24	4	0	0	0	0	0	0	0	0	0	4
	27,820	0	0	0	0	0	0	0	0	0	27,820
25-29	9	3	0	0	0	0	0	0	0	0	12
	46,544	37,926	0	0	0	0	0	0	0	0	44,390
30-34	4	4	3	0	0	0	0	0	0	0	11
	43,573	52,431	26,437	0	0	0	0	0	0	0	42,121
35-39	7	6	9	3	0	0	0	0	0	0	25
	28,765	43,233	61,747	62,442	0	0	0	0	0	0	48,152
40-44	11	11	10	8	1	0	0	0	0	0	41
	39,385	49,871	46,174	58,123	55,902	0	0	0	0	0	47,913
45-49	4	8	11	1	8	10	0	0	0	0	42
	22,854	27,092	41,072	81,030	53,262	73,258	0	0	0	0	47,611
50-54	5	13	12	12	6	3	6	0	0	0	57
	11,530	30,994	35,828	38,071	47,845	63,014	79,948	0	0	0	40,406
55-59	4	3	12	5	5	4	9	2	0	0	44
	6,502	42,142	33,425	45,273	51,832	62,410	80,269	54,850	0	0	48,200
60-64	0	3	2	6	6	3	2	2	0	0	24
	0	40,358	30,135	37,955	45,929	34,406	143,197	48,482	0	0	48,801
65-69	1	3	2	0	0	0	0	0	0	0	6
	25,857	24,061	21,876	0	0	0	0	0	0	0	23,632
70+	1	0	0	0	1	0	0	0	0	0	2
	18,655	0	0	0	17,286	0	0	0	0	0	17,970
Total Employees	50	54	61	35	27	20	17	4	-	-	268
Average Salary	31,173	38,349	40,715	46,980	48,929	63,724	87,559	51,666	-	-	44,956

Retiree Distribution as of January 1, 2010

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	17,559	0	17,559
50-54	2	3	5	19,970	32,541	52,512
55-59	10	9	19	286,984	99,394	386,378
60-64	16	13	29	594,372	163,314	757,686
65-69	13	22	35	298,591	311,682	610,274
70-74	8	22	30	150,223	256,907	407,130
75-79	6	20	26	142,173	253,995	396,168
80-84	3	26	29	25,890	224,100	249,990
85-89	4	20	24	48,582	188,033	236,615
90-94	1	2	3	20,463	16,848	37,311
95-99	0	1	1	0	16,953	16,953
Total	64	138	202	1,604,806	1,563,769	3,168,575
Average (Age/Payment)	67.8	74.7	72.5	25,075	11,332	15,686
Frequency Percent	31.7	68.3	100	50.6	49.4	100

Disabled Retiree Distribution as of January 1, 2010

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	1	0	1	43,808	0	43,808
45-49	0	0	0	0	0	0
50-54	3	0	3	98,730	0	98,730
55-59	2	1	3	64,148	6,182	70,330
60-64	3	0	3	103,938	0	103,938
65-69	2	0	2	28,583	0	28,583
70-74	2	0	2	58,392	0	58,392
75-79	0	1	1	0	6,008	6,008
80-84	0	0	0	0	0	0
85-89	2	0	2	45,900	0	45,900
90-94	0	0	0	0	0	0
95-99	0	0	0	0	0	0
Total	15	2	17	443,499	12,190	455,689
Average (Age/Payment)	64.1	65.9	64.3	29,567	6,095	26,805
Frequency Percent	88.2	11.8	100	97.3	2.7	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2010	\$3,833,382	\$1,005,685	\$2,837,492	\$2,855,491	\$2,865,287
2011	4,016,441	1,066,884	2,982,902	3,046,057	3,079,403
2012	4,243,746	1,131,555	3,088,759	3,292,635	3,269,202
2013	4,459,374	1,199,885	3,198,157	3,555,451	3,494,119
2014	4,690,888	1,272,074	3,311,201	3,836,299	3,728,686
2015	4,997,055	1,348,330	3,428,000	4,133,604	3,912,879
2016	5,306,729	1,428,874	3,548,666	4,446,095	4,116,905
2017	5,620,683	1,513,935	3,673,313	4,775,383	4,341,947
2018	5,953,992	1,603,759	3,802,057	5,122,600	4,574,424
2019	6,263,704	1,698,602	3,935,017	5,490,107	4,860,022
2020	6,600,811	1,798,732	3,975,034	5,877,951	5,050,906
2021	6,956,455	1,904,435	4,112,553	6,283,148	5,343,681
2022	7,294,486	2,016,008	4,254,473	6,713,392	5,689,387
2023	7,687,504	2,133,766	4,400,917	7,170,123	6,017,302
2024	8,101,698	2,258,041	4,552,010	7,653,251	6,361,603
2025	8,538,208	2,389,179	4,317,516	8,154,938	6,323,426
2026	8,998,237	2,527,547	4,460,712	8,661,494	6,651,516
2027	9,483,051	2,673,530	4,608,145	9,194,334	6,992,957
2028	9,993,987	2,793,839	4,795,548	9,752,574	7,347,974
2029	10,532,452	2,919,562	4,990,586	10,339,060	7,716,757
2030	11,099,928	3,050,942	5,193,570	10,954,871	8,099,455
2031	11,697,979	3,188,234	5,404,824	11,601,094	8,496,173
2032	12,328,252	3,331,705	5,624,686	12,278,821	8,906,960
2033	12,992,484	3,481,631	5,853,508	12,989,145	9,331,800
2034	13,692,504	3,638,305	837,520	13,609,500	4,392,821
2035	14,430,240	3,802,029	875,208	13,939,659	4,186,656
2036	15,207,725	3,973,120	914,592	14,251,094	3,931,081
2037	16,027,099	4,151,910	955,749	14,539,635	3,620,194
2038	16,890,621	4,338,746	998,758	14,800,624	3,247,507
2039	17,457,531	4,533,990	1,043,702	15,042,735	3,162,896

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2010, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

- (i) Group 1: Most general employees in State and local government
- (ii) Group 2: Certain specified hazardous duty positions
- (iii) Group 3: State police officers and inspectors
- (iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. **Salary**

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. **Member Contributions**

Member contributions vary depending upon date hired as follows:

<u>Date of Hire</u>	<u>Member Contribution Rate</u>
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of \$30,000

5. **Average Salary**

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. **Creditable Service**

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. **Service Retirement**

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

- (i) completion of 20 years of service
- (ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member
- (iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For Group 3 (State Police), the benefit is 50% of the participant's final year's rate of regular salary, plus an additional 1% for each year of service in excess of 20 years. In addition, for veterans (all groups) there is an additional benefit of \$15 per year for each year of service, up to a maximum of 20 years of service.

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus \$450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. **Ordinary Disability**

a. **Eligibility:**

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. **Benefit Amount:**

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. **Survivor Benefits**

a. **Occupational Death:**

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. **Non-Occupational Death:**

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of \$250 per month to the surviving spouse, plus \$120 for the first child, plus \$90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of \$250 per month plus \$120 for the first child and \$90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

- (i) Option A – Life annuity
- (ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member
- (iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2010.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.25% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase according to the following table:

<u>Year</u>	<u>Rate</u>
2010	4.5%
2011	4.5%
2012+	5.0%

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). The actuarial value of assets is set equal to the market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

<u>Service</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
20	0.0001	0.0001
30	0.0003	0.0003
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 50% of all disabilities are ordinary (50% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2010 is \$120,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

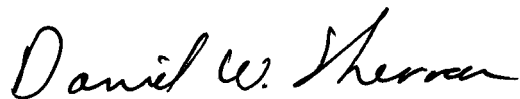
9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the Town of Amesbury Retirement System contributing as of January 1, 2010, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC



Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 08-4086

August 2010

BREAKOUTS

Breakouts - Payroll Based

	<u>Total</u>	<u>All Others</u>	<u>Housing</u>	<u>School</u>	<u>Sewer</u>	<u>Water</u>
(1) Participants						
(a) Actives	268	122	8	122	6	10
(b) Inactives	76	34	2	33	2	5
(c) Retirees	202	124	5	67	1	5
(d) Disabled Retirees	<u>17</u>	<u>16</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total	563	296	16	222	9	20
(2) Payroll of Active Participants	\$ 12,048,107	\$ 7,109,303	\$ 378,085	\$ 3,547,568	\$ 431,875	\$ 581,276
(3) Percentage of Payroll	100.00%	59.01%	3.14%	29.45%	3.58%	4.82%
(4) Fiscal 2010 Cost						
(a) ERI	\$ 250,727	\$ 240,911	\$ -	\$ 9,816	\$ -	\$ -
(b) Remaining Amortizations*	1,935,366	1,142,014	60,734	569,869	69,375	93,374
(c) Employer Normal Cost*	414,691	244,699	13,014	122,106	14,865	20,007
(d) Administrative Expenses*	<u>120,000</u>	<u>70,808</u>	<u>3,766</u>	<u>35,334</u>	<u>4,302</u>	<u>5,790</u>
(e) Total	\$ 2,720,784	\$ 1,698,432	\$ 77,514	\$ 737,125	\$ 88,542	\$ 119,171
(5) Fiscal 2011 Cost	\$ 2,837,492	\$ 1,771,286	\$ 80,839	\$ 768,744	\$ 92,340	\$ 124,283
(6) Fiscal 2012 Cost	\$ 2,982,902	\$ 1,862,057	\$ 84,982	\$ 808,139	\$ 97,072	\$ 130,652
(7) Fiscal 2013 Cost	\$ 3,088,759	\$ 1,928,139	\$ 87,997	\$ 836,818	\$ 100,517	\$ 135,288
(8) Percentage of Total Cost	100.00%	62.42%	2.85%	27.09%	3.25%	4.38%

*Appropriations are allocated based on the ratio of the division payroll to the total payroll.

Breakouts - Actuarial Based

	<u>Total</u>	<u>All Others</u>	<u>Housing</u>	<u>School</u>	<u>Sewer</u>	<u>Water</u>
(1) Participants						
(a) Actives	268	122	8	122	6	10
(b) Inactives	190	148	2	33	2	5
(c) Retirees	202	124	5	67	1	5
(d) Disabled Retirees	<u>17</u>	<u>16</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total	563	296	16	222	9	20
(2) Payroll of Active Participants	\$ 12,048,107	\$ 7,109,303	\$ 378,085	\$ 3,547,568	\$ 431,875	\$ 581,276
(3) Normal Cost						
(a) Total Normal Cost	\$ 1,540,376	\$ 997,894	\$ 43,646	\$ 427,439	\$ 35,079	\$ 36,318
(b) Expected Employee Contributions	1,005,685	600,229	30,571	290,935	36,747	47,203
(c) Administrative Expenses	<u>120,000</u>	<u>77,739</u>	<u>3,400</u>	<u>33,299</u>	<u>2,733</u>	<u>2,829</u>
(d) Net Employer Normal Cost (a) - (b)	\$ 534,691	\$ 397,665	\$ 13,075	\$ 136,504	\$ (1,668)	\$ (10,885)
(4) Actuarial Accrued Liability	\$ 69,010,578	\$ 48,051,641	\$ 2,331,200	\$ 14,140,765	\$ 1,598,102	\$ 2,888,870
(5) Assets*	<u>35,793,709</u>	<u>24,922,940</u>	<u>1,209,123</u>	<u>7,334,389</u>	<u>828,887</u>	<u>1,498,370</u>
(6) Unfunded Actuarial Accrued Liability (4) - (5)	\$ 33,216,869	\$ 23,128,701	\$ 1,122,077	\$ 6,806,376	\$ 769,215	\$ 1,390,500
(7) ERI	\$ 250,727	\$ 240,911	\$ -	\$ 9,816	\$ -	\$ -
(8) Remaining Amortizations*	<u>1,935,366</u>	<u>1,347,585</u>	<u>65,377</u>	<u>396,569</u>	<u>44,818</u>	<u>81,017</u>
(9) Total Amortizations	\$ 2,186,093	\$ 1,588,496	\$ 65,377	\$ 406,385	\$ 44,818	\$ 81,017
(10) Fiscal 2010 Cost (3d) + (9)	\$ 2,720,784	\$ 1,986,161	\$ 78,452	\$ 542,889	\$ 43,150	\$ 70,132
(11) Fiscal 2011 Cost	\$ 2,837,492	\$ 2,071,358	\$ 81,817	\$ 566,176	\$ 45,001	\$ 73,140
Percentage of Total Cost	100.0%	73.0%	2.9%	20.0%	1.6%	2.6%
(12) Fiscal 2012 Cost	\$ 2,982,902	\$ 2,177,507	\$ 86,010	\$ 595,190	\$ 47,307	\$ 76,888
Percentage of Total Cost	100.0%	73.0%	2.9%	20.0%	1.6%	2.6%
(13) Fiscal 2013 Cost	\$ 3,088,759	\$ 2,254,782	\$ 89,062	\$ 616,312	\$ 48,986	\$ 79,617
Percentage of Total Cost	100.0%	73.0%	2.9%	20.0%	1.6%	2.6%

* Allocation is based on the ratio of the Unfunded Actuarial Accrued Liability