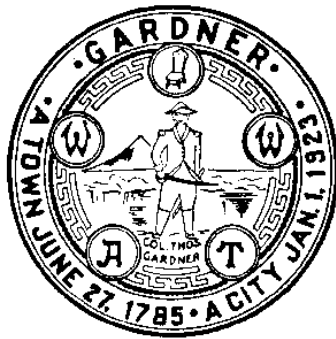


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# Gardner Retirement System



## Actuarial Valuation January 1, 2008





**S T O N E**  
**CONSULTING, INC.**

November 20, 2008

Gardner Retirement Board  
City Hall  
95 Pleasant Street  
Gardner, MA 01440

Dear Gardner Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2008 actuarial valuation of the Gardner Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Gardner Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable

contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is twelve years (fully funded by 2021) and the amortization increase is 3.09%. The amortization increase cannot exceed 4.50% annually. The maximum length of the amortization is until Fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal Year 2010 is \$2,572,070 which is very similar to the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Gardner Retirement Board conducted their previous actuarial valuation effective January 1, 2007. This satisfies these guidelines.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,  
*STONE CONSULTING, INC.*  
Actuaries for the Plan

Lawrence B. Stone  
Member, American Academy of Actuaries





# GARDNER RETIREMENT SYSTEM

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## GARDNER RETIREMENT SYSTEM

### INTRODUCTION

This report presents the results of the actuarial valuation of the Gardner Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2008 for the purpose of determining the contribution requirements for Fiscal Year 2010 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2007
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2008);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (e.g., withdrawals, retirement, death, etc.)

### JANUARY 1, 2008 VALUATION SUMMARY

	January 1, 2008	January 1, 2007	Change
<b>Contribution Fiscal 2010</b>	\$2,572,070	\$2,572,004	\$66
<b>Funding Schedule Length</b>	12 years	15 years	-3 years
<b>Amortization Increase</b>	3.09%	1.44%	1.65%
<b>Funding Ratio</b>	71%	67%	3% (rounding)
<b>Interest Rate Assumption</b>	8.00%	8.00%	0.00%
<b>Salary Increase Rate Assumption</b>	4.25%	4.25%	0.00%

- The Fiscal Year 2010 contribution is \$66 more than the planned 2010 contribution. Stone Consulting, with agreement from the Retirement Board, values assets using market value of assets.



## GARDNER RETIREMENT SYSTEM

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The System experienced an 11.6% annual return on the market value of assets versus our assumption of an 8.00% return which resulted in a \$1.4 million net actuarial gain. The System's asset portfolio, effective December 31, 2007 is approximately 80% equities and 20% fixed income and short-term investments. The assets are invested in Pension Reserves Investment Trust (PRIT). The interest rate assumption was maintained at 8.00% to reflect anticipated market performance.

- We have kept the salary increase rate at 4.25%, consistent with the 2007 actuarial valuation. Total compensation changed by 3.7% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 5.5%. This assumption is based on expected future experience.
- The funding level of the Gardner Retirement System is 71% compared to 67% for the January 1, 2007 actuarial valuation. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "under performing system". The funding level is estimated to be in the second quartile of Massachusetts' Contributory Retirement Systems.

The schedule length is twelve (12) years. The maximum period permitted under Chapter 32 of the Massachusetts General Laws is 19 years (2028). The amortization percentage was changed from 1.44% to 3.09%, while maintaining a FY2010 contribution level consistent with the prior valuation. The maximum amortization permitted under Chapter 32 is 4.5%.

- Non-economic assumptions were changed from the January 1, 2007 actuarial valuation. The retirement age assumption was extended to age 70 for Group 1 and 2 employees and the disability mortality assumption uses a 2 year set forward instead of a 7 year set forward. This implies that disabled participants will live an additional 5 years on average. The net effect of these changes increased the accrued liability by \$25,000.





## GARDNER RETIREMENT SYSTEM

### JANUARY 1, 2008 ACTUARIAL VALUATION RESULTS

	January 1, 2008	January 1, 2007	Percentage Change
<b>Funding</b>			
• Contribution for Fiscal 2010	\$2,572,070		
• Contribution for Fiscal 2010 based on current schedule		\$2,572,004	0%
<b>Members *</b>			
• <b>Actives</b>			
a. Number	291	296	-1.7%
b. Annual Compensation	\$10,442,179	\$10,072,270	3.7%
c. Average Annual Compensation	\$35,884	\$34,028	5.5%
d. Average Attained Age	48.0	47.3	1.5%
e. Average Past Service	13.0	12.3	5.7%
• <b>Retired, Disabled and Beneficiaries</b>			
a. Number	235	232	1.3%
b. Total Benefits*	\$3,876,125	3,743,750	3.5%
c. Average Benefits*	\$ 16,494	\$16,137	2.2%
c. Average Age	72.3	71.7	0.8%
• <b>Inactives</b>			
a. Number	23	26	-11.5%
<b>Normal Cost</b>			
a. Total Normal Cost as of January 1, 2008	\$1,191,159	\$1,142,067	4.3%
b. Less Expected Members' Contributions	<u>886,635</u>	<u>837,582</u>	5.9%
c. Normal Cost to be funded by the Municipality	\$304,524	\$304,485	0.0%
d. Adjustment to July 1, 2009	19,618	19,616	0.0%
e. Administrative Expense Assumption	<u>121,410</u>	<u>135,660</u>	-10.5%
f. Normal Cost Adjusted to July 1, 2009	\$445,552	\$459,761	-3.1%

\*Excluding State reimbursed COLA





## GARDNER RETIREMENT SYSTEM

### SUMMARY OF JANUARY 1, 2008 VALUATION (Continued)

	January 1, 2008	January 1, 2007	Percentage Change
<b>Actuarial Accrued Liability as of January 1, 2008</b>			
a. Active Members	\$26,418,685	\$24,845,608	6.3%
b. Inactive Members	152,383	185,153	-17.7%
c. Retired Members and Beneficiaries	<u>36,205,593</u>	<u>35,145,622</u>	3.0%
d. Total	\$62,776,661	\$60,176,383	4.3%
<b>Unfunded Actuarial Accrued Liability</b>			
a. Actuarial Accrued Liability as of January 1, 2008	\$62,776,661	\$60,176,383	4.3%
b. Less Actuarial Value of Assets as of January 1, 2008	<u>44,332,578</u>	<u>40,546,581</u>	9.3%
c. Unfunded Actuarial Accrued Liability as of January 1, 2008	\$18,444,083	\$19,629,802	-6.0%
d. Adjustment to July 1, 2009	<u>\$ 262,786</u>	<u>\$485,755</u>	
e. Unfunded Actuarial Accrued Liability as of July 1, 2009	\$18,706,869	\$20,115,557	





## GARDNER RETIREMENT SYSTEM

### DEMOGRAPHIC INFORMATION

<b>Members</b>	<b>January 1, 2008</b>	<b>Percentage Change</b>
• <i>Actives</i>		
a. Number	291	-1.7%
b. Annual Compensation	\$10,442,179	3.7%
c. Average Annual Compensation	\$35,884	5.5%
d. Average Attained Age	48.0	1.5%
e. Average Past Service	13.0	5.7%
• <i>Retired, Disabled and Beneficiaries</i>		
a. Number	235	1.3%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$3,876,125	3.5%
• <i>Inactives</i>		
a. Number	23	-11.5%

- The data was supplied by the Gardner Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Gardner Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 3.7% over the course of the past year. Average annual compensation changed by 5.5% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.





## GARDNER RETIREMENT SYSTEM

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### *HISTORY OF ACTIVE PARTICIPANTS*

<b>Valuation Year</b>	<b>Number</b>	<b>Average Age</b>	<b>Average Past Service</b>	<b>Average Ann'l Compensation</b>
2008	291	48.0	13.0	\$35,884
2007	296	47.3	12.3	\$34,028
2006	284	47.0	12.3	\$33,532
2005	296	46.7	11.7	\$30,087
2004	327	46.4	11.3	\$29,813

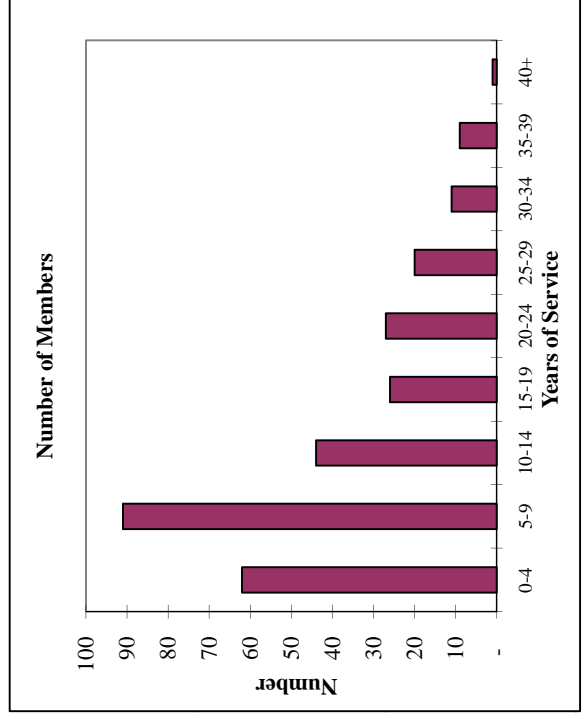
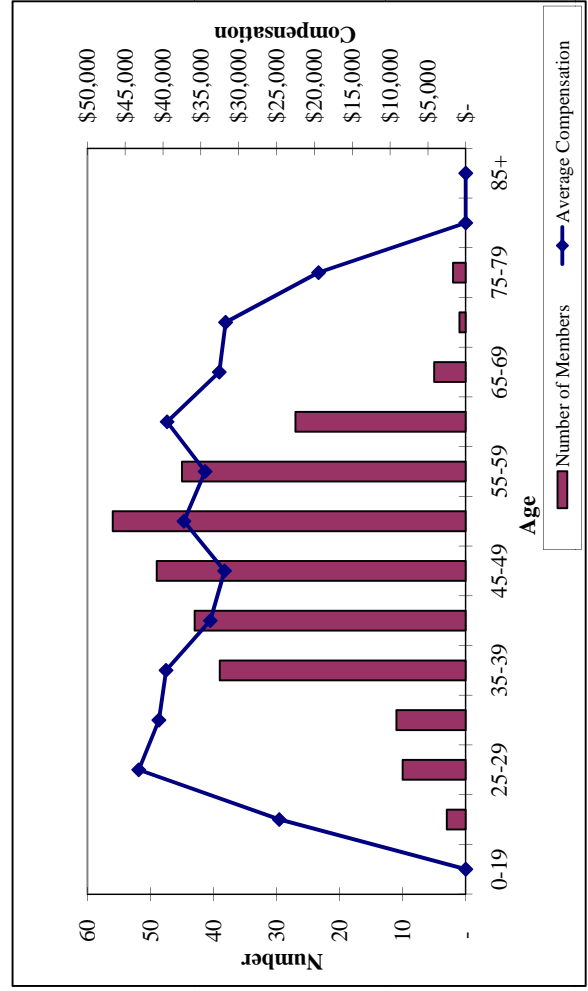
- Employee age has increased by 1.6 years and service has increased by 1.7 years over the course of the past four years. This is consistent with the trend in the Commonwealth towards an aging of the employee population. Average annual compensation has grown by 20.4% (4.7% annually) over the same time period.

The charts on the following pages summarize demographic information regarding active and retiree members.



**GARDNER RETIREMENT SYSTEM**  
**Distribution of Plan Members as of January 1, 2008**  
**Active Members**

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	-	-
20-24	3	-	-	-	-	-	-	-	-	3	73,894	24,631
25-29	8	2	-	-	-	-	-	-	-	10	432,058	43,206
30-34	3	7	1	-	-	-	-	-	-	11	445,939	40,540
35-39	14	15	10	-	-	-	-	-	-	39	1,544,280	39,597
40-44	12	11	6	7	7	-	-	-	-	43	1,451,288	33,751
45-49	9	21	6	5	5	3	-	-	-	49	1,561,362	31,865
50-54	6	18	7	7	6	7	5	-	-	56	2,085,030	37,233
55-59	3	13	5	1	5	6	4	7	1	45	1,549,649	34,437
60-64	4	3	6	3	3	4	2	2	-	27	1,065,226	39,453
65-69	-	1	1	2	2	1	-	-	-	5	162,830	32,566
70-74	-	-	-	-	1	-	-	-	-	1	31,727	31,727
75-79	-	-	2	-	-	-	-	-	-	2	38,897	19,449
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>62</b>	<b>91</b>	<b>44</b>	<b>26</b>	<b>27</b>	<b>20</b>	<b>11</b>	<b>9</b>	<b>1</b>	<b>291</b>	<b>10,442,179</b>	<b>35,884</b>

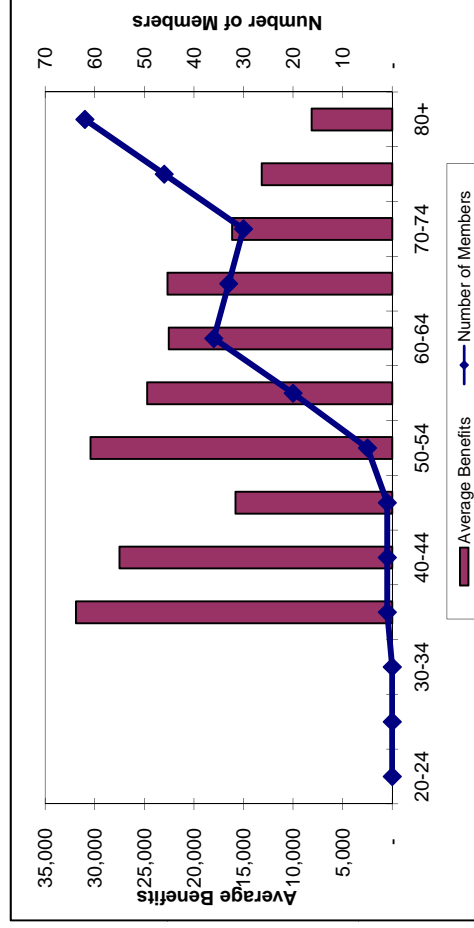




**GARDNER CONTRIBUTORY RETIREMENT SYSTEM**  
**Distribution of Plan Members as of January 1, 2008**  
**Retired Members**

Age	<u>Disabled Member</u>		<u>Retired Members and Beneficiaries</u>	
	Number	Total Benefit	Number	Total Benefit
20-24	-	-	-	-
25-29	-	-	-	-
30-34	-	-	-	-
35-39	1	31,896	-	-
40-44	1	27,517	-	-
45-49	-	-	1	15,812
50-54	3	32,383	2	27,527
55-59	5	21,567	15	25,773
60-64	6	24,907	30	22,071
65-69	7	21,288	26	23,037
70-74	3	18,174	27	15,936
75-79	5	15,414	41	12,887
80+	1	16,738	61	7,996
<b>TOTAL</b>	<b>32</b>	<b>22,225 \$</b>	<b>203</b>	<b>15,591 \$</b>
				<b>3,164,941</b>

Age	<u>Total</u>	
	Number	Total Benefit
20-24	-	-
25-29	-	-
30-34	-	-
35-39	1	31,896
40-44	1	27,517
45-49	1	15,812
50-54	5	30,441
55-59	20	24,722
60-64	36	22,544
65-69	33	22,666
70-74	30	16,159
75-79	46	13,162
80+	62	8,137
<b>TOTAL</b>	<b>235</b>	<b>16,494 \$</b>
		<b>3,876,125</b>



Benefits shown are net of State reimbursed COLA.



STONE  
CONSULTING, INC.



## GARDNER RETIREMENT SYSTEM

### VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

#### NORMAL COST

		<b>January 1, 2008</b>	<b>% of Payroll*</b>
Gross Normal Cost (GNC)	\$	1,191,159	11.4%
Employees Contribution		<u>886,635</u>	<u>8.5%</u>
Net Normal Cost (NNC)	\$	304,524	2.9%
Adjusted to Beginning of Fiscal Year 2010	\$	19,618	
Administrative Expense	\$	<u>121,410</u>	1.2%
Adjusted Net Normal Cost With Admin. Expense	\$	445,552	

\*Payroll paid in 2007 for employees as of January 1, 2008 is \$10,442,179. Payroll for new hires in 2007 was annualized.

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that 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 withdrawals) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.





## GARDNER RETIREMENT SYSTEM

### ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		<b>January 1, 2008</b>	<b>Percentage Change</b>
<b>Active Actuarial Accrued Liability</b>		\$ 26,418,685	6.3%
Superannuation	\$ 21,883,163		
Death	\$ 904,115		
Disability	\$ 2,883,451		
Withdrawal	\$ 747,956		
<b>Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability</b>		<u>36,357,976</u>	2.9%
Retirees and Beneficiaries	\$ 28,521,224		
Disabled	\$ 7,684,369		
Inactive	\$ 152,383		
<b>Total Actuarial Accrued Liability (AAL)</b>		\$ <u>62,776,661</u>	4.3%
<b>Actuarial Value of Assets (AVA)</b>		\$ <u>44,332,578</u>	9.3%
<b>Unfunded Actuarial Accrued Liability</b>		\$ 18,444,083	-6.0%
<b>Funded Ratio (AVA / AAL)</b>			
2008 (8.00% interest rate):	71%		
2007 (8.00% interest rate):	67%		

- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$62,776,661. This along with an actuarial value of assets of \$44,332,578 produces a funded status of 71%. This compares to a funded status of 67% for the 2007 valuation.

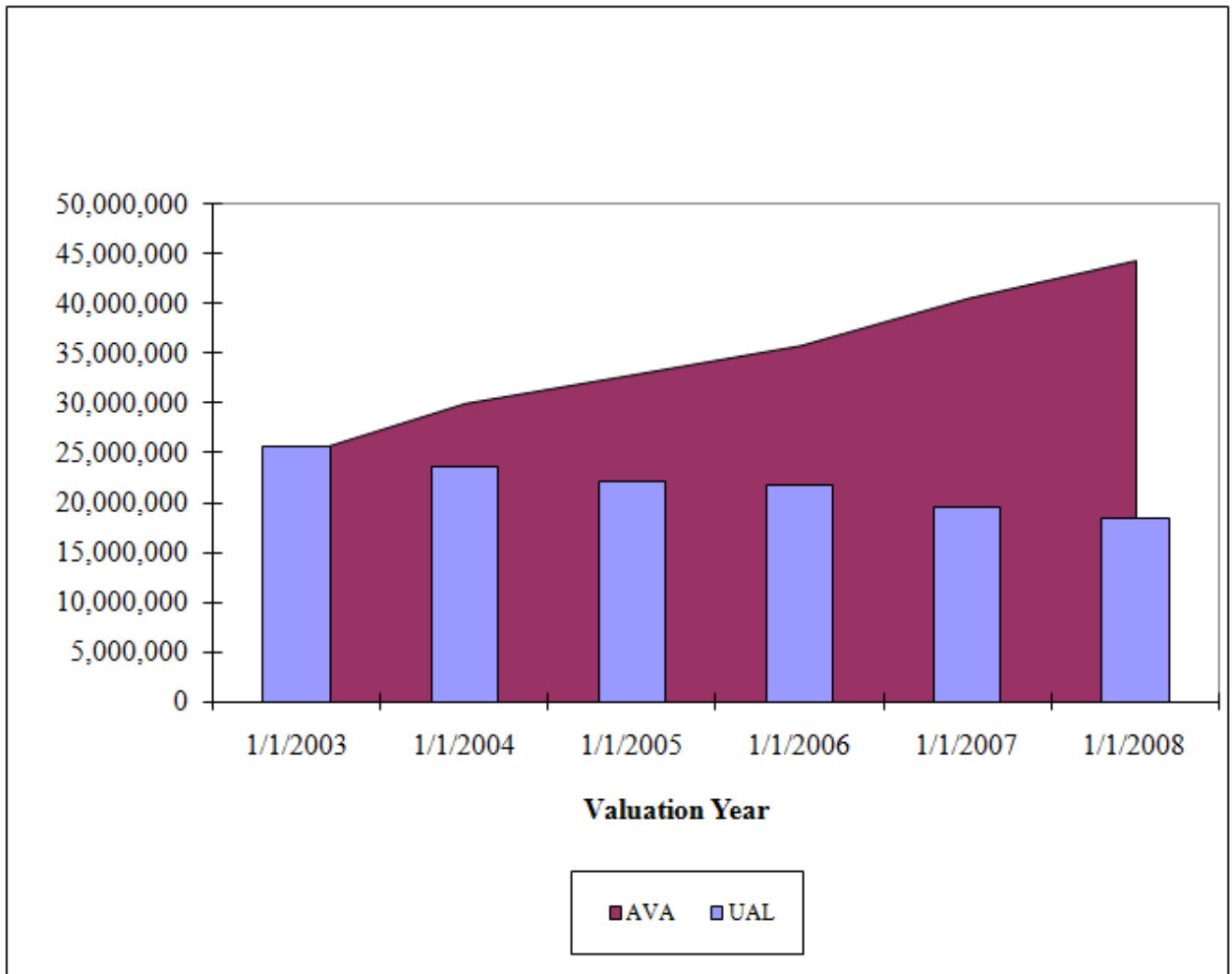
The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past six actuarial valuations.





## GARDNER RETIREMENT SYSTEM

### HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)





## GARDNER RETIREMENT SYSTEM

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### DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2010	\$	445,552
Amortization		<u>2,029,424</u>
Total Appropriation	\$	2,474,976
Adjustment for mid-year payment		<u>97,094</u>
Total Appropriation required for Fiscal 2010	\$	2,572,070

- The funding schedule is composed of the normal cost and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made in the middle of the Fiscal Year (January 1).
- The contribution amount for Fiscal 2010 is \$2,572,070. The funding schedule is presented on page 14. The schedule's length is twelve (12) years (for the fresh start base) which is the same as the January 1, 2007 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is nineteen years to 2028.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability (UAAL), other than the UAAL due to past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage changed from 1.44% from the January 1, 2007 valuation to 3.09%. The maximum amortization increase allowed under Chapter 32 is 4.50%.





## GARDNER CONTRIBUTORY RETIREMENT SYSTEM

### FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution	Adjusted for Midyear Payment
2010	445,552	18,706,869	2,029,424	2,474,976	2,572,070
2011	464,488	18,011,641	2,044,118	2,508,606	2,607,019
2012	484,229	17,244,925	2,107,281	2,591,510	2,693,176
2013	504,808	16,348,656	2,172,396	2,677,204	2,782,232
2014	526,263	15,310,361	2,239,523	2,765,786	2,874,289
2015	548,629	14,116,505	2,308,724	2,857,353	2,969,448
2016	571,946	12,752,403	2,380,064	2,952,009	3,067,818
2017	596,253	11,202,127	2,453,608	3,049,861	3,169,509
2018	621,594	9,448,400	2,529,424	3,151,018	3,274,634
2019	648,012	7,472,494	2,607,583	3,255,595	3,383,314
2020	675,552	5,254,104	2,688,158	3,363,710	3,495,670
2021	704,263	2,771,222	2,771,222	3,475,485	3,611,830
2022	734,195	-	-	734,195	762,997
2023	765,398	-	-	765,398	795,425

#### Amortization of Unfunded Liability as of July 1, 2009

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
1996	ERI	46,576	0.00%	15	46,576	1
2010	Fresh Start	1,982,848	3.09%	12	1,982,848	12

#### Notes on Amortization of Unfunded Liability

**Year** is the year the amortization base was established.

**Type** is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

**Original Amortization Amount** is the annual amortization amount when the base was established.

**Percentage Increasing** is the percentage that the Original Amortization Amount increases per year.

**Original # of Years** is the number of years over which the base is being amortized.

**Current Amortization Amount** is the amortization payment amount for this year.

**Years Remaining** is the number of years left to amortize the base.

**Years Remaining** is the number of years left to amortize the base.



## GARDNER RETIREMENT SYSTEM

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### ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2008 Valuation</u>
Interest Rate	8.00% (same as prior valuation)
Salary Increase	4.25% (same as prior valuation)
COLA	3% of \$12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table, ages set forward 2 years. <i>(Prior valuation used a 7 year set forward.)</i>
Overall Disability	<u>Groups 1 and 2</u> 45% ordinary disability 55% accidental disability  <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 70 <i>(Prior valuation 55 – 65)</i>  <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$121,410 budget estimated for FY 2010 provided by Gardner Retirement Board.





## GARDNER RETIREMENT SYSTEM

### ASSETS

a.	PRIT Cash	\$	168,500.07
b.	PRIT Fund		41,695,713.64
c.	Sub-Total:	\$	41,864,213.71
d.	Accounts Receivable		2,616,701.30
e.	Accounts Payable		(148,337.03)
f.	Sub-Total:	\$	2,468,364.27
g.	Market Value of Assets [(c) + (f)]	\$	44,332,577.98

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2007 (adjusted for payables and receivables) is \$44,332,577.98.
- The asset allocation is approximately 21% cash, receivables, payables and fixed income and 79% equities. The PRIT Fund allocation is shown below.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 8.00% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

#### PRIT Allocation as of December 31, 2007

Domestic Equity	21.0%
Portable Alpha	6.0%
International Equity	20.0%
Emerging Markets	5.0%
Fixed Income	10.0%
TIPS/ILBS	3.0%
High Yield Debt	6.0%
Alternative Investments	9.0%
Real Estate	11.0%
Timber/Natural Resources	4.0%
Absolute Return	5.0%
<b>Total</b>	<b>100.0%</b>





## GARDNER RETIREMENT SYSTEM

### DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

#### *Schedules of Funding Progress*

(Dollars In Thousands)

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liability</b>	<b>Unfunded AAL (UAAL)</b>	<b>Funded Ratio</b>	<b>Covered Payroll</b>	<b>UAAL as a % of Covered Payroll (B-A)/C</b>
	<b>A</b>	<b>B</b>	<b>B-A</b>	<b>A/B</b>	<b>C</b>	
1/1/2008	\$44,333	\$62,777	\$18,444	71%	\$10,442	177%
1/1/2007	\$40,547	\$60,176	\$19,630	67%	\$10,072	195%
1/1/2006	\$35,799	\$57,564	\$21,765	62%	\$9,523	229%
1/1/2005	\$32,866	\$55,001	\$22,135	60%	\$8,906	249%
1/1/2004	\$29,993	\$53,608	\$23,615	56%	\$9,749	242%

#### *Notes to Schedules*

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2008
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	12 years for the fresh start base; 1 year for the 1996 ERI.
Asset valuation method	Market value of assets (adjusted by accounts payable and receivable)
Actuarial assumptions:	
Investment Rate of Return	8.00% per year
Projected Salary Increases	4.25% per year





## GARDNER RETIREMENT SYSTEM

### PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2008

The normal cost for employees on that date was: \$886,635 8.5% of payroll

The normal cost for the employer was: \$304,524 2.9% of payroll

The actuarial liability for active members was: \$26,418,685

The actuarial liability for retired members was (includes inactives): \$36,357,976

Total actuarial accrued liability: \$62,776,661

System assets as of that date: 44,332,578

Unfunded actuarial accrued liability: \$18,444,083

The ratio of system's assets to total actuarial liability was: 71%

As of that date the total covered employee payroll was: \$10,442,179

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

Investment Return: 8.00% per annum

Rate of Salary Increase: 4.25% per annum

#### SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2008	\$44,333	\$62,777	\$18,444	71%	\$10,442	177%
1/1/2007	\$40,547	\$60,176	\$19,630	67%	\$10,072	195%
1/1/2006	\$35,799	\$57,564	\$21,765	62%	\$9,523	229%
1/1/2005	\$32,866	\$55,001	\$22,135	60%	\$8,906	249%
1/1/2004	\$29,993	\$53,608	\$23,615	56%	\$9,749	242%



## GARDNER RETIREMENT SYSTEM

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### ACTUARIAL METHODS AND ASSUMPTIONS

#### Actuarial Methods

1. Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
2. Asset Valuation Method

Market value of assets (adjusted by payables and receivables).
3. Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2010. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

#### Actuarial Assumptions

1. Investment Return

8.00% per year net of investment expenses. (Same as the prior valuation)
2. Salary Increases

4.25% per year. (Same as the prior valuation)



## GARDNER RETIREMENT SYSTEM

### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

<i>Age</i>	<b>Rate of Withdrawal</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	<b>Rate of Disability</b>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	0.03%	0.10%
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.





## GARDNER RETIREMENT SYSTEM

### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Age	Rates of Retirement	
	Group 1 and 2	Group 4
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	50%	100%
66	35%	N/A
67	35%	N/A
68	35%	N/A
69	35%	N/A
70	100%	N/A

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time. *(Prior valuation used RP-2000 mortality table set-forward 7 years.)*

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year.





## GARDNER RETIREMENT SYSTEM

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### ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

- |                              |   |
|------------------------------|---|
| 9. Family Composition        | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$12,000 of a member's retirement allowance is assumed to be granted every year.   |
| 11. Administrative Expenses  | Estimated budgeted amount of \$121,410 for the Fiscal Year 2010 excluding investment management fees and custodial fee is added to the Normal Cost.                                 |
| 12. Step Increases           | Step increases are assumed to be part of the salary increase assumption.  |
| 13. Credited Service         | All service is assumed to be due to employment with the municipality.   |
| 14. Contribution Timing      | Contributions are assumed to be made in the middle of the fiscal year (January 1).  |
| 15. Valuation Date           | January 1, 2008.  |





# GARDNER RETIREMENT SYSTEM

## SUMMARY OF PRINCIPAL PROVISIONS

1. Participant Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

*Group 1:* general employees

*Group 2:* employees in specified hazardous occupations (e.g., electricians)

*Group 4:* police and firefighters

2. Member Contributions Member contributions vary depending upon date hired as follows:

<b>Date of Hire</b>	<b>Member Contribution Rate</b>
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay
- a. Pay Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
- b. Average Pay The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.
4. Credited Service Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.





## GARDNER RETIREMENT SYSTEM

### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

#### 5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

<b>Benefit Percentage</b>	<b>Group 1</b>	<b>Group 2</b>	<b>Group 4</b>
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

#### 6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).





## GARDNER RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

6. Deferred Vested Retirement (*continued*)
- b. Retirement Allowance
- Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.
- Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.
7. Ordinary Disability Retirement
- a. Eligibility
- Non-job related disability after completion of 10 years of credited service.
- b. Retirement Allowance
- Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.
8. Accidental Disability Retirement
- a. Eligibility
- Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance
- 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).





## GARDNER RETIREMENT SYSTEM

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### SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. Non-Occupational Death

- a. Eligibility Dies while in active service, but not due to occupational injury. 2 years of service.
- b. Retirement Allowance Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90.

10. Occupational Death

- a. Eligibility Dies as a result of an occupational injury.
- b. Benefit Amount Same as 8b.

11. Cost-of-Living Increases

An increase of up to 3% applied to the first \$12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

- a. Option A Allowance payable monthly for the life of the member.
- b. Option B Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
- c. Option C Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.



## GARDNER RETIREMENT SYSTEM

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### GLOSSARY OF TERMS

1. Present Value of Benefits Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets Market value of assets (adjusted by payables and receivables).
7. Unfunded Actuarial Accrued Liability That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9. PRIT Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10. GASB Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).





## GARDNER RETIREMENT SYSTEM

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### Acknowledgement of Qualification

Acknowledgement of Qualification for January 1, 2008 actuarial valuation of the Gardner Retirement System:

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone  
Member, American Academy of Actuaries

